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for Health Sciences

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Foreword

This scientific publication book includes the abstracts of 294 publications produced by Faculty, Scientists, Clinicians and Students at the College of Medicine (COM-R), King Saud bin Abdulaziz University for Health Sciences, (KSAU-HS) Riyadh, Saudi Arabia in the academic year 2021-2022.



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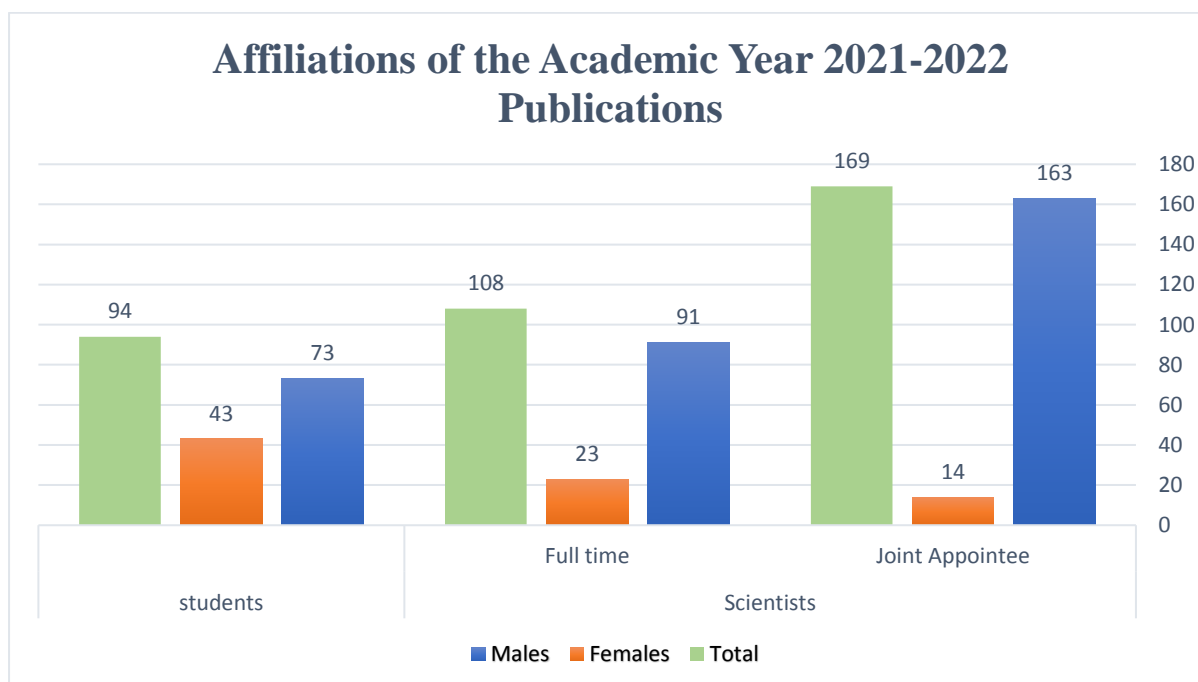
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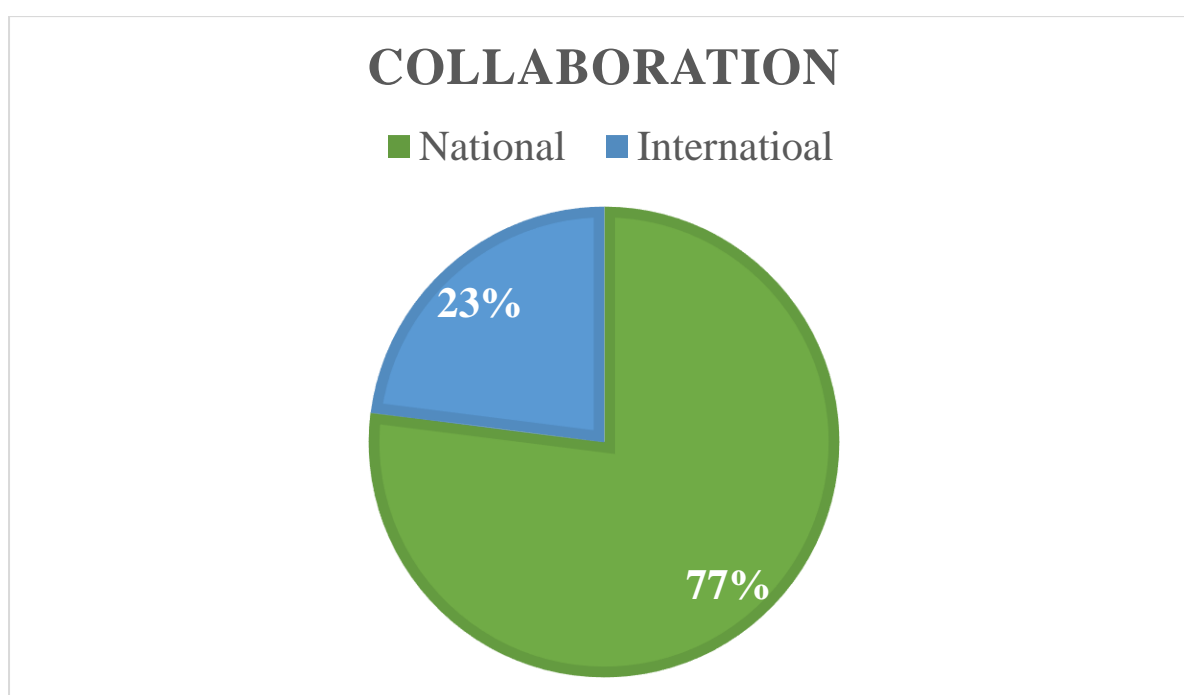


Affiliations of the Academic Year 2021-2022 Publications.

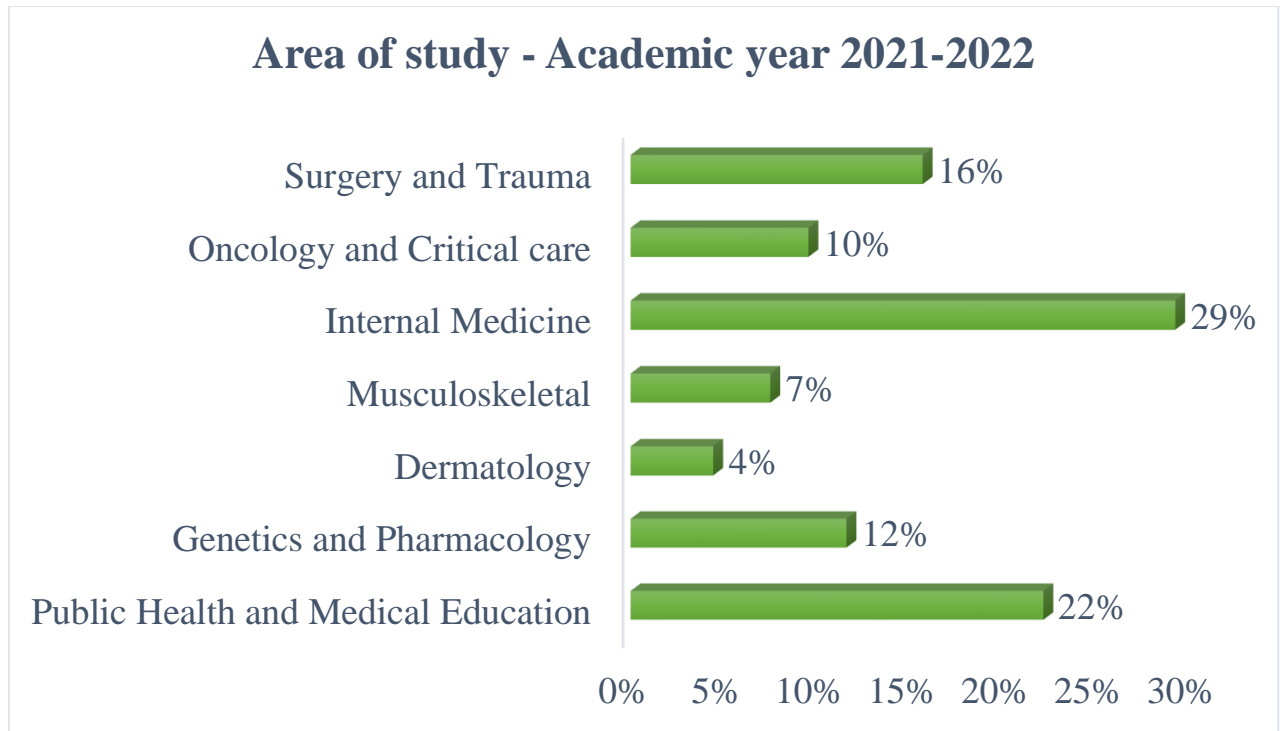


*Total numbers shown excluding the shared published articles from affiliations.

National and International Collaboration in the Publication in the Academic Year 2021-2022.



Area of Study for the Publications in the Academic Year 2021-2022.



Internal Medicine:

Endocrinology, Cardiovascular Diseases, Gastroenterology, Infectious Diseases, Neurology, Nephrology and Pulmonology Diseases.

Surgery and Trauma:

Ophthalmology, Otorhinology, Urology, General Surgery, and Transplant.

Genetics and Pharmacology:

Physiology, Molecular and Genetics.

Public Health and Medical Education:

Epidemiology, Public Health, Health Informatics and Medical Education.

Tob 10 highest Impact factor of the Publication in the Academic Year 2021-2022.

Title	Author	Journal	Impact factor
Intravenous vitamin C in adults with sepsis in the intensive care unit	Arabi, Yaseen M; et al.	New England Journal of Medicine	110.5
Criteria and definitions for the radiological and clinical diagnosis of bronchiectasis in adults for use in clinical trials: international consensus recommendations	Al-Jahdali, Hamdan; et al.	The Lancet Respiratory Medicine	61.6
Loss of FOCAD, operating via the SKI messenger RNA surveillance pathway, causes a pediatric syndrome with liver cirrhosis	AlMutairi, Fuad; et al.	Nature Genetics	56.3
Epidemiology, Management, and Outcomes of Sepsis in Intensive Care Units Among Countries of Differing National Wealth Across Asia	Arabi, Yaseen M; et al.	American Journal of Respiratory and Critical Care Medicine	26.5
Machine-assisted nutritional and metabolic support	Arabi, Yaseen M; et al.	Intensive Care Medicine	22.4
Safety and Efficacy of Rifampin or Isoniazid Among People with Mycobacterium tuberculosis Infection and Living with Human Immunodeficiency Virus or Other Health Conditions: Post Hoc Analysis of 2 Randomized Trials	Al-Jahdali, Hamdan; et al.	Clinical Infectious Diseases	17.3
Efficacy of favipiravir in adults with mild COVID-19: a randomized, double-blind, multicentre, placebo-controlled clinical trial	Bosaeed, Mohammad; et al.	Clinical Microbiology and Infection	16.5
Expanding the genotype and phenotype spectrum of SYT1-associated neurodevelopmental disorder	Majid Alfadhel; et al.	Genetics in Medicine	13.8
DeepSVP: integration of genotype and phenotype for structural variant prioritization using deep learning	Majid Alfadhel, AlMutairi, Fuad; et al.	Bioinformatics	13.4
An expert perspective on phosphate dysregulation with a focus on chronic hypophosphatemia	Aljuraibah, Fahad; et al.	Journal of Bone and Mineral Research	11.3

1. Ascorbic acid as an adjunctive therapy in critically ill patients with COVID-19: a propensity score matched study

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Abstract: Background: Due to its supposed clinical efficacy, relative safety, and low cost, ascorbic acid represents an appealing option for clinicians to utilize in the context of a global health pandemic of COVID-19 patients. Objectives: The aim of this study was to evaluate the efficacy and safety of using ascorbic acid as adjunctive therapy in critically ill patients with COVID-19. Methods: This was a multi-center, non-interventional, retrospective cohort study. All critically ill adult patients admitted to ICU with a confirmed COVID-19 between March 1st to December 31 st , 2020 were included in the final analysis. The study was conducted at two large governmental tertiary hospitals in Saudi Arabia. The purpose was to investigate the association between clinical outcomes with ascorbic acid use as an adjunctive therapy in COVID-19 after propensity score matching using baseline severity scores, systemic use of corticosteroids and study centers. Results: A 739 patients were included in this study; 296 patients were included after propensity score matching. There was no association between the administration of ascorbic acid and in-hospital mortality nor 30-day ICU mortality (OR (95%CI): 0.77 (0.476, 1.234), p-value=0.2738 and OR (95%CI): 0.73 (0.438 ,1.204), p-value=0.215 respectively). Using ascorbic acid was associated with lower incidence of thrombosis compared with the non-ascorbic acid group (6.1% vs. 13% respectively); OR (95%CI): 0.42 (0.184, 0.937), p-value=0.0342). Conclusion: Ascorbic acid use as an adjunctive therapy in COVID19 critically ill patients was not associated with mortality benefits; but associated with lower incidence of thrombosis. Further studies are required to confirm these findings.

Journal: Scientific Reports

Publication date: September 2021

Short link: <https://rb.gy/85hsu9>



2. Seroprevalence of SARS-CoV-2 among high-risk healthcare workers in a MERS-CoV endemic area

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Abstract Introduction: Healthcare workers (HCWs) in Saudi Arabia are a unique population who have had exposures to the Middle East Respiratory Syndrome coronavirus (MERS-CoV) and Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). It follows that HCWs from this country could have pre-existing MERS-CoV antibodies that may either protect from coronavirus disease 2019 (COVID-19) infection or cause false SARS-CoV-2 seropositive results. In this article, we report the seroprevalence of MERS-CoV and SARS-CoV-2 among high-risk healthcare workers in Riyadh city, Saudi Arabia. Methods: This is a cross-sectional study enrolling 420 high-risk HCWs who are physically in contact with COVID-19 patients in three tertiary hospitals in Riyadh city. The participants were recruited between the 1st of July to the end of December 2020. A 3 ml of the venous blood samples were collected and tested for the presence of IgG antibodies against the spike proteins of SARS-CoV-2 and MERS-CoV using enzyme-linked immunosorbent assay (ELISA). Results: The overall prevalence of SARS-CoV-2 in high-risk HCWs was 14.8% based on SARS-CoV-2 IgG testing while only 7.4% were positive by Polymerase Chain Reaction (PCR) for viral RNA. Most of the SARS-CoV-2 seropositive HCWs had symptoms and the most frequent symptoms were body aches, fever, cough, loss of smell and taste, and headache. The seroprevalence of MERS-CoV IgG was 1% (4 participants) and only one participant had dual seropositivity against MERS-CoV and SARS-CoV-2. Three MERS-CoV positive samples (75%) turned to be negative after using in-house ELISA and none of the MERS-CoV seropositive samples had detectable neutralization activity. Conclusion: Our SARS-CoV-2 seroprevalence results were higher than reported regional seroprevalence studies. This finding was expected and similar to other international findings that targeted high-risk HCWs. Our results provide evidence that the SARS-CoV-2- seropositivity in Saudi Arabia similar to other countries was due to exposure to SARS-CoV-2 rather than MERS-CoV antibody.

Journal: Journal of Infection and Public Health

Publication date: September 2021

Short link: <https://rb.gy/wznphk>



3. Semi-mechanistic PK/PD modelling of meropenem and sulbactam combination against carbapenem-resistant strains of *Acinetobacter baumannii*

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Abstract Due to limited treatment options for carbapenem-resistant *Acinetobacter baumannii* (CR-AB) infections, antibiotic combinations are commonly used. In this study, we explored the potential efficacy of meropenem-sulbactam combination (MEM/SUL) against CR-AB. The checkerboard method was used to screen for synergistic activity of MEM/SUL against 50 clinical CR-AB isolates. Subsequently, time-kill studies against two CR-AB isolates were performed. Time-kill data were described using a semi-mechanistic pharmacokinetic/pharmacodynamic (PK/PD) model. Subsequently, Monte Carlo simulations were performed to estimate the probability of 2-log kill, 1-log kill or stasis at 24-h following combination therapy. The MEM/SUL demonstrated synergy against 28/50 isolates. No antagonism was observed. The MIC₅₀ and MIC₉₀ of MEM/SUL were decreased fourfold, compared to the monotherapy MIC. In the time-kill studies, the combination displayed synergistic killing against both isolates at the highest clinically achievable concentrations. At concentrations equal to the fractional inhibitory concentration, synergism was observed against one isolate. The PK/PD model adequately delineated the data and the interaction between meropenem and sulbactam. The effect of the combination was driven by sulbactam, with meropenem acting as a potentiator. The simulations of various dosing regimens revealed no activity for the monotherapies. At best, the MEM/SUL regimen of 2 g/4 g every 8 h demonstrated a probability of target attainment of 2-log₁₀ kill at 24 h of 34%. The reduction in the MIC values and the achievement of a moderate PTA of a 2-log₁₀ reduction in bacterial burden demonstrated that MEM/SUL may potentially be effective against some CR-AB infections.

Journal: European Journal of Clinical Microbiology & Infectious Diseases

Publication date: September 2021

Short link: <https://rb.gy/kvf3z2>



4. Dermoscopy of Eruptive Syringoma

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Abstract Syringoma is a benign adnexal tumor of eccrine origin. Eruptive syringoma (ES) is a rare variant and can mimic other diseases especially lichen planus (LP). The dermoscopic observation of ES is not well described. We report here a case of ES, initially misdiagnosed as LP. The dermoscopic findings showed fine reticulate brown lines on a light brown background contrarily to the findings usually seen in LP. These findings prompt a skin biopsy which subsequently confirmed the diagnosis of ES. The use of dermoscopy in ES can be useful and may help differentiate it from other diseases.

Journal: Skin Appendage Disorders

Publication date: September 2021

Short link: <https://rb.gy/30n1xq>



5. Helmet Non-invasive Ventilation in Acute Hypoxemic Respiratory Failure Due to COVID-19

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Abstract During the COVID-19 pandemic, helmet non-invasive ventilation was proposed to provide respiratory support for patients with the promise of reducing the need for invasive mechanical ventilation. Other potential advantages of the helmet interface include better patient tolerability and decreased risk of aerosolization. However, limited data are currently available to guide its clinical use. The objective of this article is to review the current evidence on helmet non-invasive ventilation, including the pathophysiological rationale, and clinical data from acute hypoxemic respiratory failure in general, and from COVID-19 in particular.

Journal: Journal of family medicine and primary care

Publication date: 4 September 2021

Short link: <https://rb.gy/4u0t9v>



6. The Relationship Between Cerebrovascular Injuries and Craniomaxillofacial Fractures: Findings From a Tertiary Hospital in Saudi Arabia

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Abstract

Background and objective Blunt cerebrovascular injuries (BCVIs) can lead to serious outcomes, particularly because they are difficult to detect in the acute phase. There are studies that have described the association between cerebrovascular injuries and craniomaxillofacial (CMF) fractures; however, no such study has been conducted among a Saudi population. In light of this, we conducted this study to evaluate the correlation between BCVI and CMF fractures among the local population in Saudi Arabia. In addition, the most common types of fractures associated with BCVI were identified. Methods This retrospective cohort study was conducted at the King Abdulaziz Medical City, a tertiary hospital in Riyadh, Saudi Arabia. All eligible patients with CMF fractures who were hospitalized at the King Abdulaziz Medical City were included. Consecutive patients were screened; no sampling or randomization was required. Patients with penetrating or avulsive mechanisms of injury were excluded. Results Out of a total of 1,560 patients included in the study, 1,537 (98.5%) had CMF fractures, while 23 (1.5%) had BCVIs. None of the patients with CMF fractures had BCVIs. Among the patients with BCVIs, 12 (52.2%) were men and 11 (47.8%) were women. The mean age of these patients was 46.91 ± 17.04 years. Among patients with CMF fractures, 1,071 (69.7%) were men and 466 (30.3%) were women. Their mean age was 23.93 ± 17.36 years. Conclusion The study did not identify any correlation between BCVI and CMF fractures; however, further studies with larger samples across multiple centers are needed to validate our findings and gain deeper insight into the relationship between BCVI and CMF fractures.

Journal: Cureus

Publication date: 14 September 2021

Short link: <https://rb.gy/dmenvj>



7. Assessment of dermatologists' perception of utilizing teledermatology during COVID-19 pandemic in Saudi Arabia

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Abstract: Objectives: To assess teledermatology (TD) perception among dermatologists in the Kingdom of Saudi Arabia during the COVID-19 pandemic and to identify the most common advantages and disadvantages of TD. Methods: We conducted a cross-sectional survey-based study to address Saudi dermatologist perceptions of TD from July 2020 to December 2020, during Covid-19 pandemic. Results: Out of 664 emails sent, 107 complete responses were returned. Approximately 40.2% used TD through phone calls, followed by those who used a virtual clinic (32.7%). Also, the best way to use TD, according to respondents, was for triage before inpatient and outpatient visits. When we compared the use of TD in the outpatient and inpatient settings, outpatient responses always had more positive attitudes than inpatients. The most important benefit of TD is to reduce the risk of pandemic infections (69%). More than half of the participants sometimes used TD for diagnosis (n=63, 58.9%) and management (n=59, 55.1%), and 69 (64.5%) considered using it in the future. Conclusion: Our survey-based study indicates that TD is an important part in the future dermatology because our participants agreed that TD decreases cost, increases access to dermatology care, and reduces the risk of pandemic infections. And it is necessary to establish an infrastructure for TD that protects patient's privacy and ensures accurate diagnosis.

Journal: Saudi Medical Journal

Publication date: September 2021

Short link: <https://rb.gy/1f1ns1>



8. Do ward rounds offer effective teaching and training? Obstacles to learning and what makes good teaching in a large tertiary care hospital from trainee doctor's perspective

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Abstract Background: Ward rounds (WR) have been integral to the process of teaching and learning medicine and also provides a vital opportunity to communicate with the patient, their relatives, and other healthcare professionals. Yet in recent years trainees' perception of the educational value of WRs seems to have declined. Objectives: The aim of this study to assess trainees' perception of the educational value of WRs at King Abdulaziz Medical City(KAMC), Riyadh, a 1500 bed academic hospital in Saudi Arabia. Methods: A self-administered, paper-based survey was distributed to physicians in training at KAMC between October and December 2019. Result: The study targeted 250 residents in specialties that routinely performed WRs. Only 166 residents returned the questionnaire (response rate of 66.4%). Male 89 (53.6%), medical 108 (65.1%), surgical 58 (34.9%), resident in first year 81 (48.8%). The overall average time spent on WR was 13 (\pm 11 SD) hours per week. The WR was perceived as a good opportunity to learn about diagnostic investigation 138 (83%) and patient management 133(80.1%), history taking 114 (68.7%) physical examination 103 (62.0%), and time management skills 86 (51.8%). The majority of our trainees felt that the WR was educationally very useful to 86 (52%) and attribute to at least a third of the education they receive during their training. They also reported that about the quarter of the time spent on WRs is devoted to teaching. The good teacher described as enthusiastic to teach 137 (82.5%), provide feedback to trainees 135 (81%), do not rush 139(83.7), communicate to trainee 144 (86.7), and consultant level,101 (60.8). Trainees also identify a few factors that hinder their training such as lack of time 130 (79%), and the number of patients 129 (78.3). Conclusion: This study identifies the strengths and weaknesses of WR in our institution. Finding will help training supervisors in addressing and rectifying these shortcoming and factors hinder training. Keywords: ward round, training, medical education, perception
Journal: GMS Journal for Medical Education

Publication date: 15 September 2021

Short link: <https://rb.gy/1qt3po>



9. Dynamic right-to-left interatrial shunt may complicate severe COVID-19

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Abstract Right-to-left (RTL) interatrial shunt (IAS) may complicate select cases of COVID-19 pneumonia. We describe the use of serial imaging to monitor shunt in critically ill patients. A 52-year-old man presented with COVID-19 pneumonia. Hypoxia worsened despite maximal medical therapy and non-invasive ventilation. On day 8, saline microbubble contrast-enhanced transthoracic echocardiography revealed a patent foramen ovale (PFO) with RTLIAS. Invasive ventilation was initiated the next day. The course was complicated by intermittent severe desaturation without worsening aeration or haemodynamic instability, so PFO closure was considered. However, on day 12, saline microbubble contrast-enhanced transoesophageal echocardiography excluded RTLIAS. The patient was extubated on day 27 and discharged home 12 days later. Thus, RTLIAS may be dynamic and changes can be detected and monitored by serial imaging. Bedside echocardiography with saline microbubble contrast, a simple, minimally invasive bedside test, may be useful in the management of patients with severe hypoxia.

Journal: BMJ Case Reports CP

Publication date: 16 September 2021

Short link: <https://rb.gy/yn5c69>



10. Severe COVID-19 pneumonia complicated by cardiomyopathy and a small anterior pneumothorax

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Abstract Although, cardiac injury, pneumothorax and pneumomediastinum are associated with COVID-19, differentiation of their symptoms and signs from those of COVID-19 itself is challenging. Without a high index of suspicion, cardiomyopathy and anterior pneumothorax are easily missed. These complications may be underdiagnosed in patients with COVID-19. Cardiomyopathy and pneumothorax may cause or exacerbate respiratory failure. If their management is delayed, cardiac arrest can occur. To increase the awareness of these issues, we describe the course and imaging of a 39-year-old woman with severe COVID-19 who developed cardiomyopathy and a small anterior pneumothorax with pneumomediastinum. Transthoracic echocardiography is technically challenging in the presence of anterior pneumothorax. Furthermore, although CT is the gold standard for the diagnosis of pneumothorax, this is not always feasible in critically ill patients. Lateral decubitus chest X-rays and lung ultrasound may facilitate the diagnosis of pneumothorax at the bedside of patients with COVID-19.

Journal: BMJ Case Reports CP

Publication date: 21 September 2021

Short link: <https://rb.gy/fnmisr>



11. Neurological complications in children with infective endocarditis: Incidence, risk factors, and outcome: A 10-year single-center experience

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Abstract: Background: Despite improvement in medical management, infective endocarditis (IE) remains a serious disease that may affect children with and without preexisting cardiac conditions with significant morbidity and mortality. Neurological complications of IE represent the worst with guarded prognosis. The aim of this study is to describe the incidence, etiology, characteristics, risk factors, and outcome of children with neurological complications associated with IE. Material and methods: A retrospective cohort study was conducted from 2009 to 2019 where all pediatric patients who fulfilled the modified Duke criteria for IE were included. We divided the cases into 2 groups: IE with neurological complications and IE without neurological complications control group. We compared the two groups statistically and analyzed the results. Results: We identified 31 (17 male, 14 female) patients with IE. Neurological complications occurred in 7/31 (23%) patients, mainly in the form of a stroke. Gram-positive microbes were the main causative agents for IE (52%) followed by gram-negative (14%), then fungal organisms (3%). Univariate analysis identified the following risk factors for neurological complications: lower body weight, higher C- reactive protein (CRP) level, and left-sided valvular lesions with *P* values of (0.0003, 0.0001, and 0.04), respectively. Although mortality was higher in the neurological complications group, it was 43% in comparison to 21% in the control group and it did not reach statistical significance (*P* = .49). Large vegetation size (more than 10 mm) was seen in 57% of patients with neurological complications as compared to 16% in the control group (*P* = .052). Conclusion: Neurological complications occurred in almost a quarter of children with IE. Possible risk factors include lower body weight, left-sided valvular lesion, and higher levels of inflammatory markers (CRP). Stroke was the most common neurological complication encountered with possible increased risk of mortality.

Journal: International Journal of Pediatrics and Adolescent Medicine

Publication date: September 2021

Short link: <https://rb.gy/gmwxs8>



12. Effect of socio-emotional factors on the subjective wellbeing of medical students in Saudi Arabia

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Abstract Background: The high demands and pressures from the physical environment impact the psychological wellbeing of an individual. Very few studies have been published so far from Saudi Arabia. The aim of the present study was to evaluate the effect of socio-emotional factors on the subjective wellbeing of medical students in Saudi Arabia. Methods: This cross-sectional study included 440 medical students (male and female) from Phase II (pre-clinical years) & Phase III (clinical years) in the College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh. Two self-administered validated questionnaires, the Multidimensional Scale of Perceived Social Support to assess the social support, and the Depression Anxiety Stress Scale-21 to measure the negative emotional states of depression, anxiety, and stress, were used. The Kruskal-Wallis and Mann-Whitney U tests, Pearson's correlation analysis, and regression analysis were used to analyze data. A p-value < 0.05 was considered to be significant. Result: Overall, depression, anxiety, and stress were found at 44%, 61%, and 35% among the students, respectively. There was a positive association between social support and emotional wellbeing ($r = 0.868$, $r = -0.208$). Overall, females were higher on emotional wellbeing than males ($p < 0.001$). Furthermore, the study found that graduate entrants students experience less negative emotions compared to school entrants ($p < 0.002$), and married students show fewer negative emotions compared to single students ($p = 0.021$). On perceived social support subscales, no significant difference between gender ($p = 0.937$), stream ($p = 0.50$), and marital status ($p = 0.073$) was observed. Conclusion: In conclusion, the study found an association between perceived social supports the emotional state. Moreover, females experience more emotional problems and receive less social support than males. Avenues for future research and academic advisors' role were discussed. Keywords: Perceived social support, socio-emotion, stress, depression, wellbeing.

Journal: International Journal of Medicine in Developing Countries

Publication date: 27 September 2021

Short link: <https://rb.gy/ihcqmw>



13. Case Report: Homozygous DNAJC3 Mutation Causes Monogenic Diabetes Mellitus Associated With Pancreatic Atrophy

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Abstract Introduction DNAJC3, abundant in the pancreatic cells, attenuates endoplasmic reticulum stress. Homozygous DNAJC3 mutations have been reported to cause non-immune juvenile-onset diabetes, neurodegeneration, hearing loss, short stature, and hypothyroidism. Case Description We report a case of homozygous DNAJC3 mutation in two siblings of a consanguineous family. A 3-year-old boy presented with short stature and a thyroid nodule. Laboratory findings confirmed hypothyroidism. Subsequently, levothyroxine was administered. Growth hormone (GH) stimulation test results were within the normal limits. His stature was exceedingly short (80.5 cm) (−3.79 SDS). The patient developed sensorineural hearing loss at age 6 years; his intellectual functioning was impaired. Recombinant Human Growth Hormone (rhGH) treatment was postponed until the age of 6.9 years due to a strong family history of diabetes. At age 9 years, he developed an ataxic gait. Brain magnetic resonance imaging (MRI) revealed neurodegeneration. The patient developed diabetes at the age of 11 years—5 years after the initiation of rhGH treatment. Tests for markers of autoimmune diabetes were negative. Lifestyle modification was introduced, but insulin therapy was eventually required. Whole-exome-sequencing (WES) revealed a homozygous DNAJC3 mutation, which explained his clinical presentation. MRI revealed a small, atrophic pancreas. At the age of 17, his final adult height was 143 cm (−4.7 SDS). His elder brother, who had the same mutation, had a similar history, except that he had milder ataxia and normal brain MRI finding at the age of 28 years. Conclusion We propose that DNAJC3 mutation can be considered as a cause of maturity onset diabetes of the young. Patients with DNAJC3 mutations may possess a small atrophic pancreas.

Journal: Frontiers in endocrinology

Publication date: September 2021

Short link: <https://rb.gy/1uhayc>



14. Quercetin alleviates cadmium chloride-induced renal damage in rats by suppressing endoplasmic reticulum stress through SIRT1-dependent deacetylation of Xbp-1s and eIF2 α

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Abstract Endoplasmic reticulum (ER) stress plays a key role in cadmium chloride (CdCl₂)-induced nephrotoxicity. Sirtuin-1 (SIRT1) is a potent inhibitor of ER stress. In this study, we examined whether the protective effect of quercetin (QUR) against CdCl₂-induced nephrotoxicity in rats involved modulation of SIRT1 and/or ER stress. Adult male rats were divided into five groups (n = 8, each) and treated for eight weeks as follows: control, control + QUR, CdCl₂, CdCl₂ + QUR, and CdCl₂ + QUR + EX-527 (a SIRT1 inhibitor). Treatment of rats with QUR preserved the glomerulus and tubule structure, attenuated interstitial fibrosis, increased creatinine excretion, and reduced urinary levels of albumin, N-acetyl- β -D-glucosaminidase, and β 2-microglobulin in CdCl₂-treated rats. Concomitantly, QUR increased renal levels of Bcl-2, reduced mRNA levels of CHOP, and protein levels of Bax, caspase-3, and cleaved caspase-3, but failed to reduce the mRNA levels of GRP78, PERK, eIF2 α , ATF-6, and xbp-1. QUR also reduced the renal levels of reactive oxygen species, tumour necrosis factor, and interleukin-6 and the nuclear activity of NF- κ B in the control and CdCl₂-treated rats but increased the nuclear activity of Nrf2 and levels of glutathione and manganese superoxide dismutase. Additionally, QUR increased the total levels and nuclear activity of SIRT1 and reduced the acetylation of eIF2 α and xbp-1. The nephroprotective effects of QUR were abrogated by treatment with EX-527. Thus, QUR ameliorated CdCl₂-induced nephrotoxicity through antioxidant and anti-inflammatory effects and suppressed ER stress mediated by the upregulation or activation of SIRT1-induced deacetylation of Nrf2, NF- κ B p65, eIF2 α , and xbp-1.

Journal: Biomedicine & Pharmacotherapy

Publication date: September 2021

Short link: <https://rb.gy/aqayus>



15. Cochlear implantation in post-lingual adults. A 25-year experience at King Abdullah Ear Specialist Center, Riyadh, Saudi Arabia

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Abstract Objectives: To demonstrate the efficacy of cochlear implants (CI) in post-lingual adults, including surgical and auditory outcomes based on a 25-year experience at a tertiary referral hospital. Methods: This study was a retrospective, descriptive chart review of post-lingual adults, aged ≥ 18 years, implanted at King Abdullah Ear Specialist Center (KAESC), Kingdom of Saudi Arabia (KSA), between September 1994 and March 2020. The study included 176 cochlear implantations performed in 144 patients. Data retrieval included patient demographics, clinical evaluation, operative details, postoperative course, and audiological evaluation parameters. The main outcome measures were surgical procedures, including techniques and complication rates, and audiological parameters as evaluated by pure tone audiometry average (PTA), speech reception threshold (SRT), and word recognition score (WRS). Student's t-test and Chi-square tests were used for statistical analysis and a p-value.

Journal: Saudi Medical Journal

Publication date: 1 October 2021

Short link: <https://rb.gy/s64tra>



16. Sequestered Lumbar Disc Herniation Mimicking Spinal Neoplasm

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Abstract: Sequestered disc fragments do not have indistinctive features and often share the clinical and radiological presentation as spinal neoplasms making their diagnosis and treatment a clinical challenge.

We report a rare case of sequestered lumbar disc fragment at the level of L2-L3 in a 70-year-old male who presented to the ER complaining of six years' history of low back pain with acute onset lower extremities weakness for six days, associated with right foot drop. He was admitted for tumor workup as the MRI showed diffuse bone high signal intensity throughout the spine with a soft tissue epidural mass at L2/3, causing severe compression on the cauda equina nerve roots. The patient underwent L2-L3 decompression and fixation, mass excision, multiple open biopsies. Soft tissue biopsy of the mass revealed fibrocartilaginous tissue consistent with the intervertebral disc, while the bone biopsy was diagnostic of acute leukemia. The patient was observed postoperatively with unremarkable complications. He did well with physiotherapy, and there was a remarkable improvement of his right lower extremity power reaching 4/5.

Our case presented a rare phenomenon in which sequestered disc fragments manifested clinically and radiologically as a spinal neoplasm. Vigilant history taking and physical examination are paramount; a physician should be watchful for any red flags that may warrant further investigation such as in our case.

Journal: Cureus

Publication date: 6 October 2021

Short link: <https://rb.gy/w0iwbd>



17. Prevalence of depressive symptoms and excessive daytime sleepiness in a cohort of Saudi doctors under training: A cross sectional study

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Abstract Objectives :Recent studies have highlighted an increasing prevalence of depression and sleep problems among physicians during their residency training in the medical field. The study aims to explore the prevalence of depressive symptoms and sleepiness among the residents of different medical specialties in the two regions of KSA and describe the factors that potentially cause depression and sleepiness. **Methods:** A survey was distributed to the residents of King Abdulaziz Medical City in the Riyadh province, and to the residents of King Fahad Specialist Hospital Buraidah and Maternity and Children's Hospital Buraidah in the Qassim province. The Patients' Health Questionnaire-2 was used to determine the prevalence of depression and the Epworth Sleepiness Scale was used to measure sleepiness. **Results:** One hundred and eighty-one residents completed the survey. While depressive symptoms were prevalent among 93% of the residents, 49% of the residents reported excessive daytime sleepiness. Depressive symptoms were more common in the residents of King Abdulaziz Medical City, with the prevalence being 94.5%. There was a significant association between depressive symptoms and excessive sleepiness ($p = 0.046$). **Conclusion:** Depressive symptoms and excessive sleepiness are highly prevalent in postgraduate trainees. Residents with depression were found to be sleepier during their work. Given the negative effect on patient safety, the high prevalence of both depressive symptoms and sleepiness is alarming. There is an urgent need to improve residents' wellness through well-structured well-being programs.

Journal: Journal of Taibah University Medical Sciences

Publication date: October 2021

Short link: <https://rb.gy/tworuo>



18. Stroke Seasonality and Weather Association in a Middle East Country: A Single Tertiary Center Experience

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Abstract Background: Stroke is a medical condition that leads to major disability and mortality worldwide. Some evidence suggests that weather and seasonal variations could have an impact on stroke incidence and outcome. However, the current evidence is inconclusive. Therefore, this study examines the seasonal variations and meteorological influences on stroke incidence and outcome in the largest city in Saudi Arabia. **Methods:** From February 2016 to July 2019, we retrospectively reviewed data from all patients with acute ischemic (AIS) or hemorrhagic stroke (HS) admitted to the stroke unit in a tertiary academic center in Saudi Arabia. The corresponding daily meteorological data were obtained for the same period. We considered the months from November to March as the cold season and April to October as the hot season. **Results:** The final cohort included 1,271 stroke patients; 60.89% ($n = 774$) cases occurred in the hot season, while 39.1% ($n = 497$) in the cold season. Males accounted for 69.6% ($n = 884$) of the cases. The proportion of ischemic stroke was 83.2% [hot season 83.9% ($n = 649$) vs. cold season 82.3% ($n = 409$)]. We found no statistically significant difference between seasons (hot or cold) in stroke incidence, severity [National Institutes of Health Stroke Scale (NIHSS)], hospital course (pneumonia, thromboembolism, intensive care stay, or length of stay), or outcome [modified Rankin scale (mRS) on discharge and death]. **Conclusions:** In Riyadh, Saudi Arabia, our study found no impact of weather or seasonal variations on stroke incidence, hospital course, or outcomes. However, our findings warrant further research in different country regions.

Journal: Frontiers in Neurology

Publication date: 18 October 2021

Short link: <https://rb.gy/ben3zd>



19. Preparedness of Primary Health Care Leaders During COVID-19 Outbreak, Riyadh, Saudi Arabia: A Qualitative Study

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Abstract Purpose: Our study aims to explore the preparedness of the frontline leaders of the primary health care (PHC) centres in dealing with the COVID-19 pandemic and to understand their experiences in implementing preventive interventions necessary to routinise health care service delivery. Methods: A qualitative exploratory study was conducted using in-depth interviews with the participants in English. The interviews were transcribed verbatim, and inductive coding followed by thematic analysis was performed using NVivo version 12. Participants: Six participants in charge of managing their respective primary health care settings were included in the study. Purposive sampling was used to identify participants until saturation was reached. After agreement, the interviews were scheduled as per availability. Results: The results were grouped into three major themes and nine subthemes. Most leaders reported that they were trained in pandemic preparedness, but there was a lack of focused readiness to handle a massive-scale, infectious disease outbreak or pandemic. The initial lack of guidelines specific to COVID-19 was a barrier in making decisions related to staff and patient care. Services were interrupted initially and there was lack of staff since many acquired COVID-19 and were isolated. The shortage of the staff was delt by repurposing staff from other departments to the essential care services. Fears related to pandemic was one of the main concerns reported among staff and patients. Several initiatives were taken to ensure staff safety and uninterrupted service delivery to patients. The use of technology was an effective mechanism in preparing for the pandemic. Conclusion: This qualitative study helped in understanding the experiences of primary health care leaders during the COVID-19 pandemic. The facilities lacked overall preparedness at the beginning of the pandemic; however, many initiatives were taken in course of time to ensure smooth operations and continued service delivery to the patients.

Journal: Risk Management and Healthcare Policy

Publication date: 19 October 2021

Short link: <https://rb.gy/bydjqm>

20. *Vibrio alginolyticus* tympanostomy tube otorrhea in a child newly diagnosed with primary ciliary dyskinesia with no seawater exposure



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Abstract: *Vibrio alginolyticus* is a rare pathogenic organism that has been associated with seawater contact causing gastrointestinal disease in most cases and in a narrower spectrum, otitis media, and externa. Here, we report an 8-year-old male child who presented with tympanostomy tube otorrhea caused by *V. alginolyticus* although his family reported strict water precaution adherence without any exposure to swimming pools nor seawater. Before this presentation, he had multiple otological and respiratory complaints since his birth, and he was investigated for primary ciliary dyskinesia (PCD), for which nasal biopsy was done and returned negative. However, genetic panel testing was positive and confirmed PCD.

Journal: Saudi Journal of Otorhinolaryngology Head and Neck Surgery

Publication date: 20 October 2021

Short link: <https://rb.gy/u5zffm>



21. Epidemiology of Abusive Head Trauma Among Children in Saudi Arabia

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Abstract Background and objectives: To examine abusive head trauma (AHT) trends using data obtained from hospital-based child protection centers (CPCs) and the distribution of age in months among young children in Saudi Arabia. **Methods:** A retrospective study was conducted that includes data obtained from 58 hospital-based CPCs in all 13 regions of Saudi Arabia registered in the National Family Safety Registry from 2010 to 2020. AHT cases (n=106) were identified for inclusion in the registry by a daily review of the emergency department logbooks. **Results:** Over the 11-year period, there was a sharp increase in the number of cases, specifically after 2014, from seven cases per year in 2010 to 16 cases in 2020. AHT affects predominantly children aged 0-12 months (72.6%), followed by 13-24 months (17.9%), 25-36 months (3.8%), 37-48 months (3.8%), and 49-60 months (1.9%). Victims were characterized by a predominance of crying infants (23.6%), past history of abuse (13.2%), a child's chronic disease and disability (7.6%), and prematurity (2.8%). **Conclusion:** Different training and educational programs need to be performed to raise awareness of AHT. Enacting the pediatrician's mandatory reporting law will improve the rate of reporting cases.

Journal: Cureus

Publication date: 24 October 2021

Short link: <https://rb.gy/pay7xz>



22.The effects of the COVID-19 lockdown on severe asthma in patients taking biologic therapy and air pollution in Riyadh

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Abstract Background the curfews and lockdowns imposed during the COVID-19 pandemic may decreased the volume of traffic and reduced air pollution. In addition, social distancing measures may contribute to reducing infection and asthma exacerbation. **OBJECTIVE:** The objective of this study was to assess asthma control and asthma medication use among severe asthmatics on biologics before and after the COVID-19 pandemic. **METHODS:** This is a cross-sectional survey study of patients with severe asthma receiving biologic therapy at King Abdulaziz Medical City-Riyadh, Saudi Arabia. We looked at the effects of the COVID-19 lockdown on this cohort of severe asthmatics on biologic therapy from March till June 2020 over a period of 12 weeks. We investigated changes in patients' symptoms and asthma control using the asthma control test (ACT) score and other parameters including emergency department visits, hospitalizations, use of oral prednisolone, changes in inhaler therapy, frequency of bronchodilator use, and patient perception of their symptoms before and after the lockdown period. **RESULTS:** A total of 56, Female 39 (69%), mean age \pm SD 47.4 \pm 13.8 years. The duration of bronchial asthma since diagnosis ranged from 4 to 30 years. Most patients had been treated with omalizumab (47, 84%); the rest received mepolizumab (7, 12.5%) and dupilumab (2, 3.6%). All these patients had been on biologic therapy for 5 months, ranging from 5 to 120 months. Most of the patients (45, 80.4%) agreed that their symptoms of asthma had improved with biologic therapy. Most of the patients felt that overall asthma symptoms are better after curfew and lockdown 28 (50%). Less use of bronchodilators postcurfew was reported in 38% of the patients. Asthma control (≥ 20) using ACT score was significantly higher among patients in postcurfew and lockdown period compared to precurfew period 34 (61.7%) and 23 (41%) ($P = 0.001$), respectively. **CONCLUSIONS:** Asthma control was better postcurfew and lockdown. A decrease in air pollution and social distances may be a contributing factor.

Journal: Annals of Thoracic Medicine

Publication date: 26 October 2021

Short link: <https://rb.gy/sufpin>



23.Generation of induced pluripotent stem cell Line KAIMRCi001-A by reprogramming erythroid progenitors from peripheral blood of a healthy Saudi donor

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Abstract: In this study we isolated and enriched erythroid progenitor cells (EPCs) from a 10 ml peripheral blood sample from a 37-year old healthy Saudi donor. After expansion, these EPCs were reprogrammed using episomal plasmids to generate an induced pluripotent stem (iPS) cell line, KAIMRCi001-A. The pluripotency of this line was confirmed by measuring the expression of typical pluripotency markers and assessing differentiation potential in vitro.

Journal: Stem Cell Research

Publication date: October 2021

Short link: <https://rb.gy/gtxsdf>

24.Methotrexate-associated reduced libido: a case report and review of the literature

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Abstract: Methotrexate (MTX) is an antimetabolite of folate that was originally known as an antimalignancy drug. It was first introduced in the dermatology field by Gubner in 1951 after his incidental finding of psoriatic lesions improvement in a cancer patient.¹ Currently, MTX is used in a vast array of dermatological conditions. It has anti-proliferative properties at a high dose and anti-inflammatory properties at a low dose through the inhibition of dihydrofolate reductase enzyme (DHFR). Reduced libido/impotence considered as a rare adverse effect of MTX. We report a case of a male patient with lymphomatoid papulosis who developed reduced libido after the treatment of MTX. To our knowledge, only a few cases have been reported in the literature regarding loss of libido/impotence side effects.

Journal: Clinical and Experimental Dermatology

Publication date: October 2021

Short link: <https://rb.gy/zgvxjq>



25. Evaluating antimicrobial appropriateness in a tertiary care pediatric ICU in Saudi Arabia: a retrospective cohort study

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Abstract Background: Inappropriate antibiotic utilization is associated with the emergence of antimicrobial resistance (AMR) and a decline in antibiotic susceptibility in many pathogenic organisms isolated in intensive care units. Antibiotic stewardship programs (ASPs) have been recommended as a strategy to reduce and delay the impact of AMR. A crucial step in ASPs is understanding antibiotic utilization practices and quantifying the problem of inappropriate antibiotic use to support a targeted solution. We aim to characterize antibiotic utilization and determine the appropriateness of antibiotic prescription in a tertiary care pediatric intensive care unit. **Methods:** A retrospective cohort study was conducted at King Abdullah Specialized Children's Hospital, Riyadh, Saudi Arabia, over a 6-month period. Days of therapy (DOT) and DOT per 1000 patient-days were used as measures of antibiotic consumption. The appropriateness of antibiotic use was assessed by two independent pediatric infectious disease physicians based on the Centers for Disease Control and Prevention 12-step Campaign to prevent antimicrobial resistance among hospitalized children. **Results:** During the study period, 497 patients were admitted to the PICU, accounting for 3009 patient-days. A total of 274 antibiotic courses were administered over 2553 antibiotic days. Forty-eight percent of antibiotic courses were found to be nonadherent to at least 1 CDC step. The top reasons were inappropriate antibiotic choice (empirical or definitive) and inappropriate prophylaxis durations. Cefazolin and vancomycin contributed to the highest percentage of inappropriate DOTs. **Conclusions:** Antibiotic consumption was high with significant inappropriate utilization. These data could inform decision-making in antimicrobial stewardship programs and strategies. The CDC steps provide a more objective tool and limit biases when assessing antibiotic appropriateness

Journal: Pediatric Critical Care Medicine

Publication date: 03 November 2021

Short link: <https://rb.gy/r0hazb>



26. Public awareness of early symptoms of acute myocardial infarction among Saudi population

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Abstract Introduction: Globally speaking, cardiovascular disease is the leading cause of mortality, with coronary artery disease (CAD) contributing to half of the cases. A major complication of CAD is myocardial infarction (MI). The clinical outcomes of MI are predominantly time-dependent; therefore, it is paramount that the general public is familiar with the early symptoms of MI. Aim: The main objective is to gauge the local public awareness of the early symptoms of MI, and their knowledge of the best course of action to be taken from the onset of symptoms. Method: A cross-sectional study was conducted using google forms. Participants were randomly selected through multiple social media platforms. The study included Saudi citizens who were 18 years or older, with no current or prior experience in the health care field. The questionnaire assessed the participants' awareness of 14 risk factors for CAD. The variables investigated were participants' knowledge of the symptoms, causes, appropriate course of action to be taken, and the risk factors of CAD. Results: A total of 1689 participants were involved in this study. Sixty percent were females, and 29.2% were in the age group of 18–24 years. Seventy-three percent of the participants knew the definition of heart attack, and 90% knew that chest pain is a symptom of a heart attack. Approximately, 75% of the participants recognized that hypertension, cigarette smoking, and high cholesterol are the risk factors of MI. In terms of knowledge, Al Madinah province obtained the highest score when compared with other regions. Conclusion: This study showed the overall knowledge and awareness of CAD was suboptimal, indicating that awareness initiatives and patient education of CAD need more work in Saudi Arabia, especially in high-risk groups and lower education groups. More studies are needed to identify the efficiency and population access of different approaches for CAD awareness.

Journal: Journal of Family Medicine and Primary Care

Publication date: 5 November 2021

Short link: <https://rb.gy/pu85f7>



27. Epidemiological characteristics of traumatic musculoskeletal injuries during the COVID-19 pandemic at a single tertiary hospital

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Abstract: Background: Musculoskeletal (MSK) injuries are common but can lead to devastating outcomes. During the COVID-19 pandemic in Saudi Arabia, it is thought that the burden of traumatic MSK injuries is minimized. Objective: This study aimed to assess the epidemiological characteristics of traumatic MSK injuries during the lockdown period in Saudi Arabia. Materials and Methods: This retrospective descriptive study included all patients who were admitted to the orthopedic department at a single tertiary hospital level 1 trauma center due to traumatic injuries from March 23 to June 21, 2020. Results: The study included 92 patients. The majority were male (68.5%). The most common comorbidity was hypertension (30.4%). Falls were the most common mechanism of injury (47%). The most common sites to be fractured were the proximal femur (22.8%) followed by the distal tibia/fibula (14%). Skull fractures (12%), rib fractures (6.5%), and pneumothorax (6.5%) were the most common associated injuries. Age and the number of injuries were significant predictors of increased length of hospital stay. Conclusions: Major considerations for primary prevention must be taken into account during long periods of time with no direct patient interaction. Patient education is important to help avoid any burden that might be caused by otherwise preventable injuries. Further studies should be conducted to assess this phenomenon more in depth and to establish the appropriate method of educating patients on primary prevention.

Journal: Journal of family medicine and primary care

Publication date: 5 November 2021.

Short link: <https://rb.gy/rsvp0f>



28. Prevalence and Clinical Characteristics of Lacunar Stroke: A Hospital-Based Study

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Abstract Lacunar stroke (LS) is responsible for one-quarter of the overall number of ischemic strokes with long-term complications and carries health and economic issues for patients and health care systems. Therefore, we aimed to investigate lacunar versus non-lacunar strokes in a tertiary academic center. From February 2016 to July 2019, all patients admitted to the stroke unit were retrospectively reviewed. We included LS patients and compared them to other TOAST subtypes. Hemorrhagic stroke and conditions mimicking stroke were excluded. Regression analysis was done to determine LS predictors and outcomes. A 35.5% rate of LS among 989 ischemic stroke patients was found. Most patients (71.9%) were males. Lower National Institutes of Health Stroke Scale (NIHSS) scores at admission and negative history for cardiac diseases were predictors for LS in our population. At discharge, LS patients had low NIHSS scores and shorter hospitalization periods compared to non-LS patients. In conclusion, LS was prevalent among ischemic stroke patients in our cohort. Future studies are highly needed with long follow-up intervals to identify the stroke recurrence, complications, and outcomes.

Journal: Brain Sciences

Publication date: 5 November 2021

Short link: <https://rb.gy/knqbjp>



29. Prevalence of Pediatric Onset Multiple Sclerosis in Saudi Arabia

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Abstract: Background: The prevalence of multiple sclerosis (MS) appears to be increasing worldwide. However, data on the pediatric onset of MS is lacking, particularly in developing countries. Objective: This study is aimed at reporting the current burden of the pediatric onset of MS in the five regions of Saudi Arabia. Methods: This study used relevant data from the National Saudi MS Registry that was operational between 2015 and 2018. The data on patients with pediatric onset MS from all the hospitals included in the registry was retrospectively analyzed using the age of diagnosis. Patients who were 1-18 years old when diagnosed were included in the analysis. Results: The registry included 287 patients with pediatric onset MS, with a mean age of diagnosis at 15.7 (SD: 2.06). 74.2% of the participants were females. For the included hospitals, the estimated prevalence of pediatric MS was at 2.73/100,000 pediatric Saudi population. The prevalence of pediatric MS in the remaining nonparticipant hospitals was then projected taking into account both the size of pediatric population in the Kingdom per region and the number of facilities treating and managing MS in each of the corresponding regions. The overall projected prevalence was found to be 14.33/100,000 Saudi pediatric population. Conclusion: To the best of our knowledge, this study reported the latest epidemiological data of pediatric onset of MS in Saudi Arabia. The current prevalence of MS among the pediatric Saudi population was found to be 2.73/100,000, and the overall projected prevalence was estimated at 14.33/100,000. Our findings were similar to those in other pediatric MS cohorts. Further studies are needed to understand the long-term prognosis, response to treatment, and disease course

Journal: Multiple Sclerosis International

Publication date: 9 November 2021

Short link: <https://rb.gy/xzuh5r>



30. Students' perspectives on the use of smart devices during problem-based learning sessions: whether it is helping or obstructing the learning

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Abstract Background: Problem-based learning (PBL) is a teaching method that promotes student learning of principles, improves problem-solving abilities, and provides opportunities for working in groups. Use of mobile devices has recently increased by undergraduate students to access online information during PBL process. Objectives: This study aimed to assess whether using of electronic devices during PBL sessions benefit students and tutors or not. Methods: A cross-sectional study was conducted among students (males and females) from, College of Medicine, King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS). The participants were selected using a non-probability convenience sampling technique. A self-administered questionnaire consisting of five points Likert scale was used. Results: Out of 231 participants, 74.5% were males, most of them (86%) were undergraduate entry-level students from fourth year of the medical program. Most of the students thought that electronic devices during PBL sessions should be made optional (81.6%); however, 75% thought that using electronic devices is important, and 72.3% indicated that it enhances group learning. However, 19.3% students perceived a negative impact on the group dynamics and 15.3% reported that it decreases the participation level. Conclusion: Most of students at KSAU-HS preferred the use of electronic devices during PBL sessions. It is recommended to conduct more studies regarding this topic in more than one university at Saudi Arabia and worldwide, due to lack of these studies locally and globally.

Journal: International Journal of Medicine in Developing Countries

Publication date: 15 November 2021

Short link: <https://rb.gy/z9ighi>



31. Indications for exchange or explantation of phakic implantable collamer lens with central port in patients with and without keratoconus

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Abstract AIM To evaluate the causes of phakic implantable collamer lens (ICL) exchange/explantation in patients with and without keratoconus (KC) at two tertiary hospitals in Riyadh, Saudi Arabia. METHODS A retrospective chart review of all patients who underwent ICL (model V4c with central port) exchange/explantation was performed using the electronic medical record systems. All available preoperative and postoperative data were documented for each patient. RESULTS Over 7y, 2283 ICL implantation procedures were performed; 46 implants (2%) required exchange (21 implants)/explantation (25 implants), of which 14 cases (30.4%) were patients with KC. Indications for ICL exchange/explantation in non-KC group were vault measurement, cataract formation, increased intraocular pressure, inaccurate refraction, and patient dissatisfaction in 22 (68.75%), 4 (12.5%), 3 (9.37%), 2 (6.25%), and 1 (3.12%) case, respectively. The most common indication for ICL exchange/explantation in the KC group was inaccurate vault sizing in 11 patients (78.57%), inaccurate refraction in 2 patients (14.28%), and patient dissatisfaction postoperatively in 1 (7.14%) case. CONCLUSION ICL implantation results in predictable refractive outcomes over the long term with exchange/explantation rates comparable to previous literature. Improper vault size is the most common cause of ICL exchange/explantation among patients with or without KC.

Journal: International Journal of Ophthalmology

Publication date: 18 November 2021

Short link: <https://rb.gy/ey01bh>



32.Efficacy and Safety of Thromboprophylaxis Post-Orthopedic Surgery

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Abstract Given the high risk of venous thromboembolism (VTE) post-orthopedic surgery and the vital role of thromboprophylaxis in preventing VTEs, this meta-analysis aimed to assess the efficacy of thromboprophylaxis post major orthopedic surgery and the relevant safety measures. In this review, we conducted a computer-aided search of Google Scholar, PubMed, CINAHL, Cochrane, Medline, and EMBASE databases. We included all published randomized clinical trials (RCTs) that utilized enoxaparin, fondaparinux, dabigatran, rivaroxaban, apixaban, and aspirin for VTE prophylaxis in patients undergoing total hip arthroplasty (THA), hip fracture surgery, and total knee arthroplasty (TKA) based on primary and secondary outcomes. The Cochrane Collaboration tool was used to evaluate the risk of bias. All statistical analyses were performed using Review Manager Software. A total of 23 RCTs were included with a total sample of 48,424 patients and an overall low risk of bias. The efficacy of enoxaparin in preventing VTEs in the TKA group was significantly better than fondaparinux. In the THA group, the efficacy of enoxaparin was significantly better than apixaban. The efficacies of fondaparinux, dabigatran, rivaroxaban, apixaban, and aspirin were comparable to that of enoxaparin in reducing VTE-associated mortality, major bleeding, and adverse events. In conclusion, we found that all included drugs were non-inferior to enoxaparin in VTE-associated mortality, major bleeding, and adverse events.

Journal: Cureus

Publication date: 18 November 2021

Short link: <https://rb.gy/sd4ekj>



33. Kinetics of antibody response in critically ill patients with Middle East respiratory syndrome and association with mortality and viral clearance

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Abstract The objective of this study is to examine the IgG antibody response in critically ill patients with the Middle East respiratory syndrome (MERS) and to examine the association of early antibody response with mortality and viral clearance. We collected blood samples from 40 consecutive real-time reverse transcription-polymerase chain reaction (rRT-PCR) confirmed critically ill MERS patients on ICU days 1, 3, 7, 14 and 28. MERS-CoV antibodies were detected by enzyme-linked immunosorbent assay (ELISA), using wells coated with MERS-CoV S1 antigen. Patients were admitted to ICU after a median (Q1, Q3) of 9 (4, 13) days from onset of symptoms with an admission Sequential Organ Failure Assessment (SOFA) score of 11 (6.5, 12). Among the study cohort, 38 patients (95%) received invasive ventilation, 35 (88%) vasopressors, 21 (53%) renal replacement therapy and 17 (43%) corticosteroids. Median (Q1,Q3) ELISA optical density (OD) ratio significantly increased with time ($p < 0.001$) from 0.11 (0.07, 1.43) on day 1; to 0.69 (0.11, 2.08) on day 3, 2.72 (1.84, 3.54) on day 7, 2.51 (0.35, 3.35) on day 14 and 3.77 (3.70, 3.84) on day 28. Early antibody response (day 1-3) was observed in 13/39 patients (33%) and was associated with lower mortality (hazard ratio: 0.31, 95% CI 0.10, 0.96, $p = 0.04$) but was not associated with faster clearance of MERS-CoV RNA. In conclusion, among critically ill patients with MERS, early antibody response was associated with lower mortality but not with faster clearance of MERS-CoV RNA. These findings have important implications for understanding pathogenesis and potential immunotherapy.

Journal: Scientific Reports

Publication date: 19 November 2021

Short link: <https://rb.gy/noqt9t>



34. Antrochoanal Polyp in Anterior Nasal Cavity: A Case Report

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Abstract: We report a case of antrochoanal polyp, which has unusual presentation according to the location of the polyp in a 15-year-female patient. The patient came complaining of nasal obstruction, headache, and postnasal drip for a two-week period. The antrochoanal polyp measured 2.5 x 2 cm in the left maxillary sinus and extended to the anterior part of the nasal cavity. CT imaging demonstrated a total opacified left maxillary sinus, maxillary ostium with widening of the left maxillary ostium by polypoid mucosal thickening suggesting an antrochoanal polyp obstructing the left anterior nasal cavity. This case is reported as there are not many articles in world literature describing an antrochoanal polyp presented in the anterior nasal cavity.

Journal: Cureus

Publication date: 22 November 2021

Short link: <https://rb.gy/bkfbuj>



35. Epidemiological Features and Clinical Manifestations of Patients With Somatoform Disorder at a Tertiary Medical City in Riyadh, Saudi Arabia

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Abstract Background Somatoform disorder (SD), known as the presence of physical symptoms suggesting a physical condition, for which there are no demonstrable organic findings or established physiological mechanisms with positive evidence that the symptoms are related to psychological causes. The aim of this study was to highlight the epidemiological characteristics, demographic features, comorbidities, and clinical presentations of patients with SD. Materials and methods This was a retrospective study of SD patients at King Abdulaziz Medical City in Riyadh, Saudi Arabia. We reviewed the patients' electronic health records from January 2015 to December 2020 for collecting the patients' demographic information, including gender, age, marital status, and occupation. The types of SD, presenting symptoms of each disorder, department to which patients initially presented, comorbidities, and management were also documented. The diagnosis of SD was based on the International Classification of Diseases, Tenth Revision (ICD-10).

Results In total, 89 patients were included in the study. The majority (n=50, 56.2%) were female, with a mean age of 42.7±17.1 years. More than half of the sample was married (n=54, 60.7%). The most common subtype of SD was somatization disorder followed by conversion disorder, pain disorder, and hypochondriasis, diagnosed in 69 (77.5%), 12 (13.5%), 5 (5.6%), and three (3.4%) patients, respectively. Neurological symptoms and pain were the most frequent presenting symptoms for all the somatoform patients. More than half of the sample (n=48, 53.9%) initially presented at an outpatient clinic.

Conclusions The number of SD patients was less than expected, and a third did not receive any treatment. This emphasizes the need for more SD awareness among clinicians in various medical specialties. Appropriate SD and other mental disorders education for physicians may support achieving a better identification of SD and subsequently an improved quality of life for the patients.

Journal: Cureus

Publication date: 22 November 2021

Short link: <https://rb.gy/o0jvjj>



36. The outcome and complications of total parenteral nutrition in pediatric hematopoietic stem cell transplantation

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Abstract Background: Nutritional support posthematopoietic stem cell transplantation (HSCT) with total parenteral nutrition (TPN) or nasogastric tube feeding (NGT) in pediatric patients is associated with benefits and risks. Methods: We retrospectively reviewed the indication of TPN use in our pediatric HSCT patients and its impact on survival and possible related complications. Results: A total of 228 HSCTs were performed during the study period. TPN was used in 144 patients (63.2%) for a median of 14 days, while 8.8% had NGT feeding and 28% were able to tolerate oral feeding. Severe mucositis was seen in 104 TPN patients (72.2%) in comparison with 22 patients (26.2%) who were on Enteral Nutrition (EN) ($p = <.001$). Sinusoidal obstruction syndrome (SOS) was seen in 19 (13.2%) patients who had TPN compared to none in the patients who received EN ($p = .001$). The majority of patients who had SOS received myeloablative conditioning (MAC) therapy for hemoglobinopathy. Acute graft-versus-host disease (aGVHD) was seen in 24.8% of TPN patients and 9.1% of non-TPN patients ($p = .01$). However, there were no statistically significant differences in chronic GVHD, bacteremia, and patients' survival between both groups. Conclusions: TPN is commonly used after pediatric HSCT in cases of severe mucositis. NGT feeding was found to be the least used nutritional support method. SOS and aGVHD were associated more frequently in TPN patients compared to EN patients. This suggests the possible disadvantages of TPN and importance of SOS preventative measures in high-risk patients.

Journal: Pediatric Transplantation

Publication date: May 2022

Short link: <https://rb.gy/f8ix4l>



37. Parvovirus B19 Infection due to over Immunosuppression in Kidney Transplant Recipients: Case Reports and Literature Review

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Abstract Parvovirus B19 (PB19) is a single-stranded DNA virus that belongs to the Erythrovirus genus within the *Parvoviridae* family. Clinical presentations associated with PB19 infection vary greatly, depending on the infected individual's age and hematologic and immunologic status. The limited data available regarding consensus on screening algorithms and indications in donors and recipients prior to kidney transplantation makes diagnosis and management challenging. We presented 3 cases of pure red cell aplasia due to parvovirus B19 after kidney transplant. These patients were diagnosed with severe normocytic, normochromic anemia (hemoglobin below 60 g/L) in the 1st 6 months posttransplant. A complete anemia work-up revealed low reticulocyte count and was otherwise inconclusive. All patients were diagnosed with pure red cell aplasia due to parvovirus B19. Two patients improved after receiving intravenous immunoglobulin 2 gm/kg given over 4 doses. Unfortunately, they relapse after few weeks and required additional doses of intravenous immunoglobulin in conjunction with reduction of their immunosuppressive medication. The third patient improved after holding mycophenolate mofetil (MMF) and did not require intravenous immunoglobulin. Whereas PB19 infection is typically self-limiting and associated with positive IgM serology in immunocompetent hosts, these cases highlight the importance of considering PB19 infection in the differential diagnosis of persistent anemia in immunocompromised patients and the challenges in confirming the diagnosis. Intravenous immunoglobulin (IVIG) can be an effective treatment in immunocompromised patients with primary or relapsed PB19 infection in conjunction with minimizing immunosuppressive medication. Further research and consideration are required to determine appropriate and targeted screening in donors and recipients in the peritransplantation period.

Journal: Case Reports in Transplantation

Publication date: 29 November 2021

Short link: <https://rb.gy/dgpxw3>

38. Effect of Convalescent Plasma on Organ Support-Free Days in Critically Ill Patients With COVID-19: A Randomized Clinical Trial

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Abstract: Main outcomes and measures: The primary ordinal end point was organ support-free days (days alive and free of intensive care unit-based organ support) up to day 21 (range, -1 to 21 days; patients who died were assigned -1 day). The primary analysis was an adjusted bayesian cumulative logistic model. Superiority was defined as the posterior probability of an odds ratio (OR) greater than 1 (threshold for trial conclusion of superiority >99%). Futility was defined as the posterior probability of an OR less than 1.2 (threshold for trial conclusion of futility >95%). An OR greater than 1 represented improved survival, more organ support-free days, or both. The prespecified secondary outcomes included in-hospital survival; 28-day survival; 90-day survival; respiratory support-free days; cardiovascular support-free days; progression to invasive mechanical ventilation, extracorporeal mechanical oxygenation, or death; intensive care unit length of stay; hospital length of stay; World Health Organization ordinal scale score at day 14; venous thromboembolic events at 90 days; and serious adverse events. **Results:** Among the 2011 participants who were randomized (median age, 61 [IQR, 52 to 70] years and 645/1998 [32.3%] women), 1990 (99%) completed the trial. The convalescent plasma intervention was stopped after the prespecified criterion for futility was met. The median number of organ support-free days was 0 (IQR, -1 to 16) in the convalescent plasma group and 3 (IQR, -1 to 16) in the no convalescent plasma group. The in-hospital mortality rate was 37.3% (401/1075) for the convalescent plasma group and 38.4% (347/904) for the no convalescent plasma group and the median number of days alive and free of organ support was 14 (IQR, 3 to 18) and 14 (IQR, 7 to 18), respectively. The median-adjusted OR was 0.97 (95% credible interval, 0.83 to 1.15) and the posterior probability of futility (OR <1.2) was 99.4% for the convalescent plasma group compared with the no convalescent plasma group. The treatment effects were consistent across the primary outcome and the 11 secondary outcomes. Serious adverse events were reported in 3.0% (32/1075) of participants in the convalescent plasma group and in 1.3% (12/905) of participants in the no convalescent plasma group. **Conclusions and relevance:** Among critically ill adults with confirmed COVID-19, treatment with 2 units of high-titer, ABO-compatible convalescent plasma had a low likelihood of providing improvement in the number of organ support-free days.

Journal: The Journal of the American Medical Association

Publication date: November 2021

Short link: <https://rb.gy/feo4z6>

39. A cross-sectional study on the impact of first-aid and basic life support courses on Saudi undergraduate medical students' knowledge, attitudes, and skills confidence



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ABSTRACT Background: Despite its importance, most universities worldwide do not offer separate first-aid courses. To evaluate such courses' efficacy, we assessed the knowledge, attitudes, and confidence pertaining to first aid among undergraduate medical students. Methods: A cross-sectional study was conducted among students at King Saud bin Abdulaziz University, Riyadh. Data were collected using a pre-tested questionnaire and convenience sampling was used. The relationship between sociodemographic factors and knowledge, attitudes, and confidence levels was calculated using a chi-square test. Results: Of the students, 54.7% were male and 45.3% were female; the average age was 22 ± 0.11 years. Regarding attitudes, most participants strongly agreed that it was important to obtain first-aid knowledge in daily life and were positive toward first-aid courses. Regarding participants' confidence in their skills, a moderate number showed confidence in performing basic life support (BLS) interventions. There were significant differences among study years ($p = 0.025$), having previously attended BLS courses ($p = 0.001$), and level of knowledge. A higher knowledge level was significantly associated with final-year students and students who had previously attended BLS courses. Conclusions: Knowledge and attitude regarding first-aid courses need improvement; only 26.4% had a high knowledge level. Final-year students had higher knowledge levels than those in other study years. Most students had a high awareness level and positive attitudes toward first aid. More first-aid training programs should be provided to all medical students.

Journal: International Journal of Medicine in Developing Countries

Publication date: November 2021

Short link: <https://rb.gy/hvardn>



40. Distinguishing between Fatigue and Fatigability in Multiple Sclerosis

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Abstract: Fatigue is one of the most common debilitating symptoms reported by persons with multiple sclerosis (MS). It reflects feelings of tiredness, lack of energy, low motivation, and difficulty in concentrating. It can be measured at a specific instant in time as a perception that arises from interoceptive networks involved in the regulation of homeostasis. Such ratings indicate the state level of fatigue and likely reflect an inability to correct deviations from a balanced homeostatic state. In contrast, the trait level of fatigue is quantified in terms of work capacity (fatigability), which can be either estimated (perceived fatigability) or measured (objective fatigability). Clinically, fatigue is most often quantified with questionnaires that require respondents to estimate their past capacity to perform several cognitive, physical, and psychosocial tasks. These retrospective estimates provide a measure of perceived fatigability. In contrast, the change in an outcome variable during the actual performance of a task provides an objective measure of fatigability. Perceived and objective fatigability do not assess the same underlying construct. Persons with MS who report elevated trait levels of fatigue exhibit deficits in interoceptive networks (insula and dorsal anterior cingulate cortex), including increased functional connectivity during challenging tasks. The state and trait levels of fatigue reported by an individual can be modulated by reward and pain pathways. Understanding the distinction between fatigue and fatigability is critical for the development of effective strategies to reduce the burden of the symptom for individuals with MS.

Journal: Neurorehabilitation and Neural Repair

Publication date: November 2021

Short link: <https://rb.gy/hei47w>



41. Managing critical care during COVID-19 pandemic: The experience of an ICU of a tertiary care hospital

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Abstract: Background: The COVID-19 pandemic has strained ICUs worldwide. To learn from our experience, we described the critical care response to the outbreak. **Methods:** This is a case study of the response of the Intensive Care Department (75-bed capacity) at a tertiary-care hospital to COVID-19 pandemic, which resulted in a high number of critically ill patients. **Results:** Between March 1 and July 31, 2020, 822 patients were admitted to the adult non-cardiac ICUs with suspected (72%)/confirmed (38%) COVID-19. At the peak of the surge, 125 critically ill patients with COVID-19 were managed on single day. To accommodate these numbers, the bed capacity of 4 ICUs was increased internally from 58 to 71 beds (+40%) by cohorting 2 patients/room in selected rooms; forty additional ICU beds were created in 2 general wards; one cardiac ICU was converted to managed non-COVID-19 general ICU patients and one ward was used as a stepdown for COVID-19 patients. To manage respiratory failure, 53 new ICU ventilators, 90 helmets for non-invasive ventilation and 47 high-flow nasal cannula machines were added to the existing capacity. Dedicated medical teams cared for the COVID-19 patients to prevent cross-contamination. The nurse-to-patient and RT-to-patient ratio remained mostly 1:1 and 1:6, respectively. One-hundred-ten ward nurses were up-skilled to care for COVID-19 and other ICU patients using tiered staffing model. Daily executive rounds were conducted to identify patients for transfer and at least 10 beds were made available for new COVID-19 admissions/day. The consumption of PPE increased multiple fold compared with the period preceding the pandemic. Regular family visits were not allowed and families were updated daily by videoconferencing and phone calls. **Conclusions:** Our ICU response to the COVID-19 pandemic required almost doubling ICU bed capacity and changing multiple aspects of ICU workflow to be able to care for high numbers of affected patients.

Journal: Journal of Infection and Public Health

Publication date: November 2021

Short link: <https://rb.gy/5vcsbe>



42. Short stature with low insulin-like growth factor 1 availability due to pregnancy-associated plasma protein A2 deficiency in a Saudi family

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Abstract In 2016 a new syndrome with postnatal short stature and low IGF1 bioavailability caused by biallelic loss-of-function mutations in the gene encoding the metalloproteinase pregnancy-associated plasma protein A2 (PAPP-A2) was described in two families. Here we report two siblings of a third family from Saudi Arabia with postnatal growth retardation and decreased IGF1 availability due to a new homozygous nonsense mutation (p.Glu886* in exon 7) in PAPP2. The two affected males showed progressively severe short stature starting around 8 years of age, moderate microcephaly, decreased bone mineral density, and high circulating levels of total IGF1, IGFBP3, and the IGF acid-labile subunit (IGFALS), with decreased free IGF1 concentrations. Interestingly, circulating IGF2 and IGFBP5 were not increased. An increase in growth velocity and height was seen in the prepubertal patient in response to rhIGF1. These patients contribute to the confirmation of the clinical picture associated with PAPP-A2 deficiency and that the PAPP2 gene should be studied in all patients with short stature with this characteristic phenotype. Hence, pediatric endocrinologists should measure circulating PAPP-A2 levels in the study of short stature as very low or undetectable levels of this protein can help to focus the diagnosis and treatment.

Journal: Clinical Genetics

Publication date: November 2021

Short link: <https://rb.gy/cha27j>



43. Prognostic utility of various multidimensional grading scales among Saudi patients with bronchiectasis

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Abstract: Introduction: A number of multidimensional scoring systems, including the Bronchiectasis Severity Index (BSI), the FACED score, and the Exacerbation-FACED (Exa-FACED, a derivative of FACED), have been proposed and validated to assess the severity and prognosis in patients with bronchiectasis. Although these metrics have been validated through large multicenter efforts in Europe and Latin America, there have been no attempts at external validation in other populations. **Objectives:** The aim of this study was to validate specific multidimensional grading scales (BSI, FACED, and Exa-FACED) in predicting mortality, future exacerbations, and hospitalizations among Saudi patients with bronchiectasis. **Methods:** A prospective observational cohort study was conducted at a tertiary care centre. The three multidimensional grading scales (BSI, FACED, and Exa-FACED) were calculated for each patient. Future frequent acute exacerbations (≥ 2 /year) and severe acute exacerbations leading to hospitalization were recorded for 1 year, and all-cause mortality was monitored for up to 5 years. **Results:** A total of 301 patients with bronchiectasis (mean age of 60 ± 17 years and 66% female) were included. All Grading scales performed well in predicting 5-year survival. Area under the curve (AUC) values for BSI (0.86, 95% CI: 0.82-0.90), FACED (0.81, 95% CI: 0.76-0.85), and Exa-FACED (0.83, 95% CI: 0.78-0.87). The BSI (AUC=0.98, 95% CI: 0.96-0.99) performed better than FACED scoring (AUC=0.77, 95% CI: 0.71-0.81; $P < 0.0001$) in predicting hospitalization. Exa-FACED scoring (AUC=0.84, 95% CI: 0.80-0.88) improved upon FACED scores in predicting hospitalization. The BSI (AUC=0.95, 95% CI: 0.91-0.97) fared significantly better than FACED scoring (AUC=0.76, 95% CI: 0.70-0.80; $p < 0.0001$) in predicting frequent acute exacerbations (≥ 2 /year). Again, Exa-FACED scoring (AUC=0.85, 95% CI: 0.81-0.89) improved upon FACED scores in predicting frequent acute exacerbations (≥ 2 /year). **Conclusions:** All scoring systems performed adequately in 5-year mortality projections. Although Exa-FACED scoring improved upon FACED scores in predicting forthcoming frequent acute exacerbations and hospitalization, the BSI outperformed both in this regard.

Journal: Respiratory Medicine and Research

Publication date: November 2021

Short link: <https://rb.gy/32xp7p>



44. Rapid detection of NDM and VIM carbapenemase encoding genes by recombinase polymerase amplification and lateral flow-based detection

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Abstract Carbapenemase-producing organisms (CPOs) pose a serious clinical threat and rapid detection tools are essential to aid in patient management. We developed rapid and simple molecular tests to detect *bla*NDM-type and *bla*VIM-type carbapenemase genes using recombinase polymerase amplification (RPA) combined with a lateral flow detection. The tests could provide results in approximately 15 min when using DNA extracts, with limits of detection of 9.2 copies/μl for the *bla*NDM-type assay and 7.5 copies/μl for *bla*VIM-type assay, and successfully detected all isolates harbouring the carbapenemase encoding genes in a panel of 57 isolates. These RPA tests may be suitable for use in low-resource settings to tailor rapid implementation of infection control precautions and antibiotic stewardship.

Journal: European Journal of Clinical Microbiology & Infectious Diseases

Publication date: November 2021

Short link: <https://rb.gy/xu4ezy>



45. Do We Feel Safe About the Surgical Safety Checklist? A Cross-Sectional Study Between Two Periods

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ABSTRACT: Introduction: The aim of this study was to evaluate the change in the healthcare providers' perceptions regarding the World Health Organization Surgical Safety Checklist (WHO SSC) and patient safety in the operating room (OR) at a tertiary hospital in Riyadh, Saudi Arabia. Methods: This cross-sectional study was conducted at King Abdulaziz Medical City. Data were collected from two years (2011 and 2019) for comparison. The co-investigators distributed a self-administered Likert scale questionnaire in the various operating areas (35 ORs). Results: The total sample was 461. Number of participants enrolled from both years was 235 (51%) and 226 (49%), respectively. The results indicated a statistically significant difference in the attitude of the participants regarding all aspects of patient safety in the OR when the two periods were compared (p , 0.001). Similarly, healthcare providers' perceptions regarding the importance of the WHO SSC increased from 50% (2011) excellent to 68% excellent (2019) (p , 0.001). Conclusions: Currently, more healthcare providers recognize the importance of the WHO SSC, and more have a positive attitude toward teamwork, communication, and feeling free to speak out when surgical safety is compromised. All of these cultural changes have positive impact on the overall safety of the OR; however, there are still aspects requiring improvement to provide a safer OR and surgery. Educational interventions regarding the importance of communication and teamwork would improve the safety of surgical care in the OR.

Journal: Global Journal on Quality and Safety in Healthcare

Publication date: November 2021

Short link: <https://rb.gy/duw2sx>



46. Unmet need in the management of chronic obstructive pulmonary disease in the Middle East and Africa region: An expert panel consensus

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Abstract Chronic obstructive pulmonary disease (COPD) has a significant impact on healthcare systems and health-related quality of life. Increased prevalence of smoking is an important factor contributing to high burden of COPD in the Middle East and Africa (MEA). Several other factors including sedentary lifestyle, urbanization, second-hand smoke, air pollution, and occupational exposure are also responsible for the upsurge of COPD in the MEA. Frequent COPD exacerbations accelerate disease progression, progressively deteriorate the lung function, and negatively affect quality of life. This consensus is based on review of the published evidence, international and regional guidelines, and insights provided by the expert committee members from the MEA region. Spirometry, though the gold standard for diagnosis, is often unavailable and/or underutilized leading to underdiagnosis of COPD in primary care settings. Low adherence to the treatment guidelines and delayed use of appropriate combination therapy including triple therapy are additional barriers in management of COPD in MEA. It is necessary to recognize COPD as a screenable condition and develop easy and simple screening tools to facilitate early diagnosis. Knowledge of the disease symptomatology at patient and physician level and adherence to the international or regional guidelines are important to create awareness about harmful effects of smoking and develop national guidelines to focus on prevention on COPD. Implementation of vaccination program and pulmonary rehabilitation are equally valuable to manage patients with COPD at local and regional level. We present recommendations made by the expert panel for improved screening, diagnosis, and management of COPD in MEA.

Journal: Respiratory Medicine

Publication date: November 2021

Short link: <https://rb.gy/epkvgw>



47. Outcomes of tracheostomy in COVID-19 patients in National Guard Health Affairs, Riyadh, Saudi Arabia

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Abstract: Objectives: To evaluate coronavirus disease 2019 (COVID-19) patient tracheostomy outcomes. Methods: All COVID-19 patients at the National Guard Hospital, Riyadh, Saudi Arabia, were retrospectively recruited. Those who had tracheostomies between April and December 2020 were included. Results: The population was 45 patients, of which 30 (66.7%) were males, 15 (33.3%) were females and the mean age was 66.76 ± 12.74 years. The tracheostomy indications were anticipated prolonged weaning in 40 (88.9%) and failed extubation in 5 (11.1%) of the patients. The mean intubation to tracheostomy duration was 20.62 ± 7.21 days. Mortalities were high, with most attributed to COVID-19. Mortality and a pre-tracheostomy C-reactive protein (CRP) uptrend were significantly related ($p=0.039$). Mortality and intubation to tracheostomy duration were not significantly related. The mean post-tracheostomy time to death was 10.64 ± 6.9 days. Among the survivors, 20 (44.4%) males and 11 (24.4%) females were weaned off mechanical ventilation; 9 (20%) remained on ventilation during the study. The mean ventilation weaning time was 27.92 ± 20 days. Conclusion: The high mortality rate was attributed to COVID-19. Mortality and a pre-tracheostomy CRP uptrend were significantly related; uptrend patients experienced far more mortalities than downtrend patients. Unlike previous findings, mortality and intubation to tracheostomy duration were not significantly related.

Journal: Saudi medical journal

Publication date: November 2021

Short Link: <https://rb.gy/rssijw>



48. Traumatic superficial temporal artery pseudoaneurysm: Successful management using endovascular embolization

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Abstract Superficial temporal artery pseudoaneurysms are uncommon but can be potentially life-threatening. Considering their rarity, the present article outlines the clinical presentation, radiological findings, intervention, and outcome of traumatic pseudoaneurysm of the superficial temporal artery. An 83-year-old female sustained a traumatic injury to the temple, resulting in right-sided swelling of the forehead. Brain computed tomography and cerebral angiogram revealed a right-sided homogenously-enhancing pseudoaneurysm in the frontal region. Successful occlusion of the lesion was achieved utilizing endovascular embolization. Three months after discharge, the patient reported no complaints or recurrence. Subsequent management included reassurance and observation with periodic clinical assessments. The unusual presentation of superficial temporal artery pseudoaneurysms requires clinicians to have thorough knowledge on the clinical presentation, proper steps in diagnosis, and the approach of choice in management. Endovascular embolization of superficial temporal artery pseudoaneurysms remains a valid approach to achieve successful occlusion of the lesion.

Journal: Radiology Case Reports

Publication date: February 2022

Short link: <https://rb.gy/u9t3lb>



49. Prevalence of Coronary Heart Diseases Risk Factors among Healthcare Male Students in KSAU-HS Riyadh, Saudi Arabia

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Abstract Background: Coronary heart disease (CHD) is a condition in which plaque builds up on the inner walls of coronary arteries and can lead to blood clot formation. It is the leading cause of death worldwide. Developing coronary heart disease takes long period and its risk factors can be found in young people. **Objectives:** Study of risk factors that contribute to the pathogenesis of coronary artery disease. **Methods:** A cross-sectional study was done at King Saud bin Abdul-Aziz University in Riyadh. Non-probability convenience sampling was used to select 151 health care students. The data was collected through questionnaire and physical measurements. The data was entered and analyzed by SPSS. **Results:** More than half of the students eat fruits one or less time per week which accounts for 53.6%. Moreover, 28.5% of them eat vegetables one time or less per week. Regarding healthy food containing healthy fat such as fish, 76.2% of the students include healthy fat food in their diet more than two times per week. The percentage of those who eat fast food and consume soft drinks is 80.8% and 70.2% more than two times per week respectively. Furthermore, the percentage of the students who are smokers, either currently or occasionally is 49%. Concerning physical activity, 31.3% of the students exercise more than two times weekly, and only 7.3% of the students watch TV more than four hours per day. On the other hand, the majority which accounts for 54.3% of the students use computer, laptop, or tablet more than four hours per day. Regarding premature CAD, 3.3% of the students reported positive and 16.2% of them reported positive for CHD family history. Finally, 1.3% of the found to have DM.

Journal: Journal of Pharmaceutical Research International

Publication date: 9 December 2021

Short link: <https://rb.gy/whgyjv>



50. The Diagnostic Yield and Safety of Sputum Induction in Suspected Pulmonary Tuberculosis: The Experience of a Single Tertiary Care Center in Saudi Arabia

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Abstract

Original Article Background: Sputum smear microscopy examination and culture for tuberculosis (TB) remain a fundamental tool of diagnosis but may be negative up to 50% case of active pulmonary TB. Bronchoscopy to obtain sputum is invasive and not readily available. Alternative methods of obtaining sputum specimens are crucial in suspected pulmonary TB cases who are unable to expectorate. In this context, it may be beneficial to stimulate sputum production by administering a mist of hypertonic saline produced by ultrasonic nebulization. The aims of the study are to describe the experience of a tertiary center in Saudi Arabia with sputum induction (SI) for the investigation of patients suspected to have sputum scare TB. **Methods:** A retrospective cohort study was performed. All patients suspected of sputum scare TB and investigated with SI were included. Standard descriptive statistics were used. Categorical data presented as frequency were compared using the Chi square test. Continuous data presented as mean \pm standard deviation were compared using Student's t test. Sensitivity, specificity, and predictive values were calculated. **Results:** Of 252 patients with suspected TB who underwent SI, 78 (31%) were ultimately diagnosed to have TB. Culture of induced sputum confirmed the diagnosis of TB in 44 (56.4%) of these patients. However, the diagnosis of TB would have been missed in 13.5% of the cohort if no further investigations were done. The incidence of complications was low. No patients required hospitalization or specialist intervention. **Conclusions:** SI is safe well tolerated and inexpensive. It may reduce the need for bronchoscopy in patients with suspected sputum scare TB. However, around 20% of TB can be missed by SI unless further investigations are performed. Hence, patients suspected to have sputum scare TB in whom the risk of bronchoscopy is high, a clinical decision on the appropriateness of empirical therapy is often required.

Journal: International Journal of Mycobacteriology

Publication date: 13 December 2021

Short link: <https://rb.gy/ilenqr>



51. Novel association of metastatic Crohn's disease and Wolman disease

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Abstract A 39-month-old girl was diagnosed with Wolman disease at the age of 4 months by molecular testing. The disease manifested as hepatosplenomegaly, adrenal calcification, and severe failure to thrive. Plain radiographs of the abdomen showed symmetrically enlarged adrenal glands with maintained triangular shape and extensive calcifications. An ultrasound of the abdomen revealed hepatomegaly with fatty infiltration, splenomegaly, and enlarged adrenal glands with calcification and multiple enlarged mesenteric lymph nodes. A LIPA nucleotide sequence analysis showed the homozygous variant c.260G>T (Gly87Val), and biochemical testing of lipase A activity by liquid chromatography mass spectrometry showed <8.0 limit of detection (reference, ≥ 32.5 mol/L/h), which are, collectively, diagnostic of Wolman disease.

Journal: Journal of the American Academy of Dermatology Case reports

Publication date: February 2022

Short link: <https://rb.gy/wlidd8>

52. Epidemiology and factors associated with all-terrain vehicle accidents in children: A retrospective cross-sectional study of a trauma registry in Saudi Arabia

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Abstract. Background: All-terrain vehicle (ATV) accidents have a substantial impact on the pediatric population in Saudi Arabia; however, few local studies are available. An in-depth study of this issue and adequate implementation of regulations are required to prevent additional casualties. The aim of this study was to describe the epidemiology of ATV injuries in the pediatric population and the outcomes associated with the injuries. Methods: We conducted a retrospective chart review at a Level 1 trauma center in Riyadh. All patients, aged ≤ 14 years and admitted due to an ATV accident, from 2004 to 2018 were included in this study. Demographic information, hospital course, and injury outcomes were extracted from the King Abdulaziz Medical City trauma registry. Each medical record was reviewed for short-term complications and the mechanism of injury. The primary outcome measure was the type of injury associated with ATV accidents; the secondary outcomes were injury site and mechanism of injury, and the association between the impact of injury and the clinical and demographic variable. Results: In total, 165 patients were involved in ATV accidents and met our inclusion criteria. The mean age was 8 ± 4 years, and 79% (131/165) were boys. Over 50% (84/165) of the sample had lower limb injuries. The majority of patients had fracture injuries (37%, 61/165), followed by amputations (30%, 50/165). Of the amputation group, the majority (86%, 43/50) was from 1 to 5 years compared to the no amputation group ($P < 0.001$). For the amputation group, 67% (33/50) had a limb trapped in the chain of the vehicle as to the mechanism of injury. Conclusion: The majority of patients had lower-extremity injuries, specifically fractured (37%) or amputated (30%) with children from age 1-5 years having a significantly higher proportion of hospital admission compared to the rest of the study population. Despite the existing legislation for ATV use in children, they are not enforced. The finding of this study recommends urgent implementation of these regulations for both ATV retailers and users and promotes public awareness about the severity of such injuries.

Journal: International journal of critical illness and injury science

Publication date: 18 December 2021

Short link: <https://rb.gy/4ydhif>



53. A Large Retroperitoneal Ganglioneuroma Presenting With an Abdominal Pain: A Case Report

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Abstract Ganglioneuromas are rare benign neoplasms arising from neural crest tissue. They are a subtype of neurogenic tumors with ganglion cell origin. They are most commonly found in the retroperitoneum and posterior mediastinum. Most ganglioneuromas are found incidentally; most patients are asymptomatic, and it rarely causes symptoms, which are often induced by compression. Here we present a case of a 24-year-old lady, who was investigated for right lower abdominal pain and found to have a right retroperitoneal solid mass at the level of L5-S1, which was displacing the major vessels. The patient underwent open excision of the mass.

Journal: Cureus

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Short link: <https://rb.gy/fttaoe>



54. Significant differences in *FcγRIIa*, *FcγRIIIa* and *FcγRIIIb* genes polymorphism and anti-malarial IgG subclass pattern are associated with severe *Plasmodium falciparum* malaria in Saudi children

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Abstract: Background: The *FcγRs* genotypes have been reported to play a key role in the defence against malaria parasites through both cellular and humoral immunity. This study aimed to investigate the possible correlation between *FcγR* (*Ila*, *IIla*, and *IIlb*) genes polymorphism and the clinical outcome for anti- malarial antibody response of *Plasmodium falciparum* infection among Saudi children. **Methods:** A total of 600 volunteers were enrolled in this study, including 200 malaria- free control (MFC) subjects, 218 patients with uncomplicated malaria (UM) and 182 patients with severe malaria (SM). The *FcγR* genotypes were analysed using PCR amplification methods, and measurements of immunoglobulin were determined using enzyme- linked immunosorbent assay (ELISA) technique. **Results:** The data revealed that the *FcγRIIa-R/R131* showed a statistically significant association with SM patients when compared to UM patients. Furthermore, higher levels of IgG1, IgG2, and IgG4 were associated with the *FcγRIIa-H/H131* genotype among UM patients. Although the *FcγRIIa-F/V176* genotype was not associated with UM, it showed a significant association with severe malaria. Interestingly, the *FcγRIIIa-V/V176* genotype offered protection against SM. Moreover, SM patients carrying the *FcγRIIIa-F/F* genotype showed higher levels of AMA- 1- specific IgG2 and IgG4 antibodies. The *FcγRIIIb-NA1/NA1* and *FcγRIIIb-NA2/NA2* genotypes did not show significant differences between the UM and the MFC groups. However, the genotype *FcγRIIIb-NA2/NA2* was statistically significantly associated with SM patients. **Conclusions:** The data presented in this study suggest that the influence of the *FcγRIIa-R/R131*, *FcγRIIIa-F/F176* and *FcγRIIIb-NA2/NA2* genotypes are statistically significantly associated with SM patients. However, the *FcγRIIa-H/H13* and *FcγRIIIa-V/V176* genotypes have demonstrated a protective effect against SM when compared to UM patients. The impact of the *FcγR* (*Ila*, *IIla* and *IIlb*) gene variants and anti- malaria IgG subclasses play an important role in susceptibility to malaria infection and disease outcome in Saudi children.

Journal: Malaria Journal

Publication date: 22 December 2021

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55. Gaps in moderate plaque psoriasis management: A survey of Saudi dermatologists

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Abstract: Background: There are many barriers that usually lead to under-treatment of moderate psoriasis patients, with subsequent unsatisfactory results and clinical outcomes. **Objective:** Given this lack of consistent guidelines on treating moderate plaque psoriasis patients, the aim of the current study is to define how Saudi dermatologists define and treat such cases in the real-world clinical setting. **Methods:** We conducted an online cross-sectional survey from May 2020 to October 2020, involving all eligible dermatologists working at different academic, governmental, and private sectors in Saudi Arabia. **Results:** Finally, a total of 260 dermatologists were included in the final analysis; out of them, 140 (53.8%) were males and 120 (46.2%) were females. Regarding the tools used by participating dermatologists for diagnosis of moderate psoriasis, most of the participants (86.5%) used Body Surface Area (BSA), 7.3% used Physician Global Assessment (PGA), and 6.2% used Dermatology Life Quality Index (DLQI). Cutoff scores for defining moderate psoriasis varied widely among surveyed dermatologists. The surveyed dermatologists reported that 46% of their patients with moderate plaque psoriasis were receiving biologics as their primary therapy, while 24.1% were receiving prescription topical treatment, 20.3% were receiving an oral systemic therapy, 4.9% were using over-the-counter topical treatment, and 4.7% were receiving phototherapy. **Conclusion:** There is a pervasive lack of consensus regarding the definition of moderate psoriasis, with reported wide ranges among the commonly used severity tools in psoriasis patients.

Journal: Journal of Family Medicine and Primary Care

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Short link: <https://rb.gy/c2sp4d>



56. Management patterns for skin aging among Saudi dermatologists: A questionnaire-based study

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Abstract Background: Skin aging is a complicated process affected by intrinsic, chronological, and extrinsic, environmental, determinants, and it is affected, to a large extent, by exposure to ultraviolet radiation (UVR). The present study aims to assess the antiaging treatment strategies in a real-world setting in Saudi Arabia. Materials and Methods: We conducted an online cross-sectional survey that was conducted from May 2020 to October 2020, involving all eligible dermatologists working at different academic, governmental, and private sectors in Saudi Arabia. Results: A total of 200 dermatologists were included in this study, of them, 33% were aged between 24–35 years. 28.5%, 25.5%, 24.5%, and 21.5% of the participants had 7–10, 4–6, >10, and 0–3 years of practice, respectively. Generally, 80 (40%) of the dermatologists reported that 10–20% of their patients consulting for antiaging, while 50 (25%) reported that 41–60% of their patients consulted for antiaging treatment. Cream products were preferred by 105 (52.5%) of the users. In general, 158 (79%) prescribe growth factors Post-procedures, while 29 (14.5), 24 (12%), and 22 (11%) prescribe them for under-eye dark circles, acne scars, and aging skin, respectively. 124 (62%) prefer to use it in combination with retinoids. Conclusion: The results of this survey indicate the fact that female patients and the age group 31–40 years old are more likely to seek skincare and antiaging therapy. Most dermatologists prescribed growth factors together with retinoids and only a small proportion of them used growth factors are antiaging modalities.

Journal: Journal of Family Medicine and Primary Care

Publication date: 27 December 2021

Short link: <https://rb.gy/44uxgm>



57. Consanguinity and Diabetes in Saudi Population: A Case-Control Study

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Abstract Background and aim: Diabetes mellitus (DM) of both types is a genetically determined disorder and is prevalent in the Saudi population. Furthermore, the rate of consanguineous marriages is also high among Saudis. Therefore, we aimed to determine the prevalence of consanguinity among people with DM and investigate the effect of consanguinity on the occurrence of diabetes at different levels. Methods: A descriptive cross-sectional study was carried out at the Obesity, Metabolism and Endocrine Center of King Fahad Medical City in Riyadh, Saudi Arabia in January 2021. Information on patients' demographics (age, gender), family history of DM, and presence of consanguinity, and degree of consanguineous marriage were collected. Results: We included 324 people with DM, 143 (44.1%) with type 1 diabetes (T1DM), and 181 (55.9%) with type 2 diabetes (T2DM). We included 201 people without DM for T1DM control and 300 people for T2DM control. The mean age was 26.6 ± 11.1 years for the T1DM group and 57.8 ± 11.6 years for the T2DM group. Consanguinity was noted among 73 (51.4%) T1DM patients, but T1DM was not significantly related to consanguinity. T2DM was significantly correlated with consanguinity ($r=0.132$, $p=0.004$) particularly among patients with a degree of consanguinity as first-cousins for both paternal and maternal sides (odds ratio [OR]=1.151 and 1.476). Gender and positive family history for DM and consanguineous marriage between cousins were significant factors for T2DM. After controlling for gender and a positive family history of DM, consanguineous marriage between cousins from both the paternal and maternal sides remained significant. Conclusion: T2DM occurrence increases in presence of consanguinity in the Saudi population. This relationship might contribute to the higher risk of DM prevalence. Further studies are needed to elucidate this relationship deeply. It's unclear whether lowering consanguineous marriages would decrease the prevalence of diabetes or not. However, a clear message about this correlation has to be delivered to the public.

Journal: Cureus

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58. Deficiency in the Treatment Description of mTOR Inhibitor Resistance in Medulloblastoma, a Systematic Review

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Abstract Medulloblastoma is a common fatal pediatric brain tumor. More treatment options are required to prolong survival and decrease disability. mTOR proteins play an essential role in the disease pathogenesis, and are an essential target for therapy. Three generations of mTOR inhibitors have been developed and are clinically used for immunosuppression and chemotherapy for multiple cancers. Only a few mTOR inhibitors have been investigated for the treatment of medulloblastoma and other pediatric tumors. The first-generation mTOR, sirolimus, temsirolimus, and everolimus, went through phase I clinical trials. The second-generation mTOR, AZD8055 and sapanisertib, suppressed medulloblastoma cell growth; however, limited studies have investigated possible resistance pathways. No clinical trials have been found to treat medulloblastoma using third-generation mTOR inhibitors. This systematic review highlights the mechanisms of resistance of mTOR inhibitors in medulloblastoma and includes IDO1, T cells, Mnk2, and eIF4E, as they prolong malignant cell survival. The findings promote the importance of combination therapy in medulloblastoma due to its highly resistant nature.

Journal: International Journal of Molecular Sciences

Publication date: 31 December 2021

Short link: <https://rb.gy/kgaqnm>

59. The Variable Course of Subclavian and Axillary vessels in relation of Thoracic Outlet Syndrome and Breast Cancer Metastases

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Abstract Background: The axillary artery is a standard continuation of subclavian artery. Objectives: The purpose of current study is to identify the variable origin and course of the axillary artery as well as the axillary vein drainage and its course with their clinical significant. Material and method: The present study includes 79 female cadavers have been dissected carefully to observe the anatomical features of axillary artery and vein. Result: The current study showed the axillary artery arises from the subclavian artery as well as the axillary vein drains into subclavian vein in 98.7%. Therefore, 1.3% the axillary artery arose from the brachiocephalic trunk and its vein drained into brachiocephalic vein. In the present variation, the axillary vein and artery as well as the brachial plexuses run below the second ribs from ventral to dorsal direction. Further, the axillary artery originating from subclavian artery penetrated the scalenus anterior in 1.9% in present study. Conclusion: This study presents unusual course of the axillary artery and vein as well as the brachial plexus and accounts their incidences in female Caucasian population. The clinical significant is direct extension of breast cancer to the current neurovascular variations which may present with different clinical pictures. Further, the axillary artery and vein with the brachial plexus may be in high risk of ribs entrapment result in thoracic outlet syndrome. Moreover, radiologists have to be completely aware of the vascular variation to report. This radiologist's report might help the surgeons to avoid iatrogenic injury of the axillary vein and artery leading to threatening hemorrhage.

Journal: World Journal of Research and Review

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60. Volume and flow of trauma team activation patients throughout the 24-hour day over a 3-year period at an academic trauma center

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Abstract: Background: Road traffic accidents are the eighth leading cause of mortality globally and the second in Saudi Arabia. Trauma patients need specialized care and access to health care facilities. Early intervention by a multidisciplinary team results in better outcomes in terms of mortality and morbidity. The aim of this study was to analyze the association between the different mechanisms of injury that resulted in trauma team activations (TTAs) and the time in the 24-hour day over a 3-year period in a tertiary trauma center. Methods: A single center retrospective study with trauma patients triggering the TTA was conducted. The study was conducted over a 3-year period, and the sample size was 587. Results: The highest volume of TTA's during the 3 years occurred from 20:00 and 23:00 and the busiest single hour was 21:00. Pedestrian trauma was more prevalent at the end of the day from 18:00 to 22:00. Our study showed the mechanism of injury for more than half of the sample was a motor vehicle accident, followed by pedestrian trauma. The highest proportion of the sample was admitted from the Emergency Department to an intensive care unit (46.6%) or operation room/angiography (37.5%). After 19:00, there were more severe injuries and unstable patients, who required an intensive care unit or operation room/angiography. The peak occurred after 17:00 for 1 hour. Age, systolic and diastolic blood pressure were not statically significant. The mortality rate was higher in TTA patients' groups with an initial mean heart rate of 118 per minute and a 91% oxygen pulse oximetry. Conclusion: The outcome of trauma patients was affected by the time of the 24-hour day. Severe injuries and unstable patients were more prevalent during nighttime. A higher initial heart rate for TTA patients was linked with increased mortality.

Journal: Saudi Journal of Emergency Medicine

Publication date: December 2021.

Short link: <https://rb.gy/xkmh6u>



61. Incidence, outcomes, and predictors of Acinetobacter infection in Saudi Arabian critical care units

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Abstract Background Acinetobacter is an increasingly-problematic organism, especially in intensive care units (ICUs). In this study, we compared its incidence, outcomes, and predictors spanning eight ICUs in five geographically and climatologically-diverse cities in Saudi Arabia.

Methods Geographic, climatologic, hospital-related, and patient-related factors were collected prospectively on 3179 patients admitted to eight Saudi ICUs from June 2018 through June 2019. These data then underwent both bivariable and multivariable analysis, the latter via hierarchical logistic regression to identify predictors of clinically-manifest Acinetobacter infection. **Results** Overall incidence of Acinetobacter infection was 3.9% ($n = 124$). Of these 124 infections, 122 (98.4%) were cultured as *A. baumannii*. Incidence ranged from 1.0 to 7.9% across the eight ICUs. On bivariable analysis, incident Acinetobacter infection was more common in university and military hospitals, in hospitals with more total beds and ICU isolation rooms, and in 2018 versus 2019, incidence steadily declining over the 13 study months. Mechanically-ventilated patients had ten-fold increased odds of infection. Adjusted (multivariable) analysis revealed the risk of clinically-manifest Acinetobacter infection to increase the longer patients were on mechanical ventilation. Increased risk also existed at certain hospitals over others, especially in university-affiliated and military hospitals, larger hospitals with more isolation rooms, and hospitals with fewer ICU beds. **Conclusion** In our study of eight ICUs across Saudi Arabia, inter-hospital differences did appear to account for inter-hospital differences in Acinetobacter incidence rates. Patients requiring mechanical ventilation for longer periods of time were particularly at risk.

Journal: Journal of Critical Care

Publication date: December 2021

Short link: <https://rb.gy/hk1id6>



62. Association between phosphate disturbances and mortality among critically ill patients with sepsis or septic shock

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Abstract Objective: The aim of this study is to examine the association of hypophosphatemia and hyperphosphatemia on the first day of ICU admission with mortality in septic critically ill patients. **Methods:** In this retrospective cohort study, all adult patients who were admitted to the medical-surgical ICUs between 2014 and 2017 with sepsis or septic shock were categorized as having hypophosphatemia, normophosphatemia and hyperphosphatemia based on day 1 serum phosphate values. We compared the clinical characteristics and outcomes between the three groups. We used multivariate analysis to examine the association of hypophosphatemia and hyperphosphatemia with these outcomes. **Results:** Of the 1422 patients enrolled in the study, 188 (13%) had hypophosphatemia, 865 (61%) normophosphatemia and 369 (26%) had hyperphosphatemia. The patients in the hyperphosphatemia group had significantly lower GCS, higher APACHE II scores, higher serum creatinine, increased use of vasopressors, and required more mechanical ventilation with lower PaO₂/FiO₂ ratio compared with the other two groups. In addition, the hyperphosphatemia group showed significantly higher ICU and hospital mortality in comparison with the other two groups. **Conclusion:** Hyperphosphatemia and not hypophosphatemia on the first ICU admission day was associated with an increase in the ICU and hospital mortality in septic critically ill patients.

Journal: BMC Pharmacology and Toxicology

Publication date: December 2021

Short link: <https://rb.gy/xso9ab>



63. Treatment with electrical stimulation of sensory nerves improves motor function and disability status in persons with multiple sclerosis: A pilot study

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Abstract Declines in motor function are closely associated with decreases in sensory function in multiple sclerosis (MS). The purpose of our study was to assess the changes in motor function and disability status elicited by transcutaneous electrical nerve stimulation (TENS) to limb muscles of individuals with MS. Fifteen persons with MS and 11 age-matched healthy controls were evaluated before and after receiving 9 treatment sessions during which TENS was applied over the tibialis anterior and rectus femoris muscles of each leg, and over the median nerve and the thenar eminence of each hand. Each evaluation session involved completing two questionnaires (fatigue and walking limitations) and assessing walking performance (2-min test and 25-ft test), dynamic balance (chair-rise test), manual dexterity (grooved pegboard test), and muscle function of hands and legs (strength and force steadiness tests). The MS group exhibited improvements in the 25-ft test ($P = 0.001$), 2-min test ($P = 0.002$), chair-rise test ($P = 0.008$), grooved pegboard test ($P = 0.008$), and reductions in the self-reported levels of fatigue and walking limitation scores ($P = 0.02$, $d = 0.52$; $P = 0.008$, $r = 0.50$ respectively). In contrast, there were no statistically significant changes in the Control group. There were no significant changes in either muscle strength or force steadiness for either group. TENS elicited significant improvements in motor function and self-reported disability status in persons with MS. Some improvements reached clinically meaningful levels.

Journal: Journal of Electromyography and Kinesiology

Publication date: December 2021

Short link: <https://rb.gy/exm799>

64. Role of Tissue and Liquid Biopsy in the Clinical Management of Adult Lung Cancer Patients in King Abdul-Aziz Medical City in Riyadh, Saudi Arabia

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Abstract This study aimed to evaluate the role of tissue vs liquid biopsy in the clinical management of adenocarcinoma, at King Abdulaziz Medical City, Riyadh. **Methods** In this cross-sectional study, all adenocarcinoma patients treated between January 2016 to December 2018 were included using consecutive sampling. The participants were ≥ 18 years old patients with histologically confirmed adenocarcinoma (stage IIIb/IV) regardless of the mutation status. This data was collected through chart review. Data analysis was performed using the IBM Statistical Software for Social Sciences (SPSS) software, version 22 (IBM SPSS Statistics for Windows, Armonk, NY). **Results** A total of 58 participants were included in the analysis. All of them had undergone a tissue biopsy, while only 16 patients underwent liquid biopsy. Out of all patients, 26% of patients had tissue biopsy-related complications (TBRC), with pneumothorax being the most common complication. Single gene testing for epidermal growth factor receptor (EGFR) for patients who underwent tissue biopsy showed a 35% mutation rate. For the anaplastic lymphoma kinase (ALK) gene, 13% were found to be mutated; for the ROS proto-oncogene 1 (ROS1) gene, only 7% were seen to be mutated. For a panel of 12 genes, 25% had the tumor protein 53 (TP53) gene mutation and 39% had the gene Kirsten rat sarcoma viral oncogene homolog (KRAS) mutations. For patients who underwent a liquid biopsy, 20% had the TP53 mutation, 43% had the EGFR mutations on a single gene test and 42% on a panel test, and 10% had the KRAS mutation. **Conclusion** We found that tissue and liquid biopsy showed genetic mutations, particularly with EGFR, TP53, and KRAS genes, among adenocarcinoma patients. Identifying genetic changes in adenocarcinoma patients is essential for charting a targeted therapy. Primary EGFR mutations and rearrangements of ALK or ROS1 are the only gene mutations that can be done with specific tyrosine kinase inhibitors available for clinical practice. Therefore, we recommend further studies to evaluate the role of tissue and liquid biopsy in clinical practice.

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65. Undergraduate-level teaching and learning approaches for interprofessional education in the health professions: a systematic review

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Abstract Background: Although most systematic reviews of interprofessional education (IPE) evaluated the impact of IPE on the students' acquisition of knowledge in relation to other professions, the development of teamwork skills, and the changes in collaborative behaviour, the processes involved in IPE (i.e., approaches to teaching and learning) are under-researched. The purpose of the study was to conduct a systematic review to establish how IPE has been implemented in university-based undergraduate curricula, focusing on the teaching and learning approaches. Methods: The systematic review was performed in 2020 with three databases: PubMed, Science Direct, and the Cochrane Library. Titles and abstracts were included based on pre-identified eligibility criteria. We used the article entitled 'Systematic reviews in medical education: a practical approach: AMEE guide 94' as the basis to establish the aim and methods of the current systematic review from 2010 to 2019. Results: We found 16 articles that met the inclusion criteria and reported the implementation process of IPE in universities from Western, Asian, and African countries. A combination of at least two teaching and learning approaches was used to deliver IPE. The findings indicated that of all the teaching and learning approaches, simulation-based education, e-learning, and problem-based learning were the most prevalent approaches used to deliver IPE. This systematic review also revealed a lack of IPE programmes in the Middle East region. Conclusions: The evidence synthesised in the current systematic review could support IPE curriculum planners and educators when planning an IPE programme. More global IPE initiatives are required to meet the global health workforce needs. Further studies are required to identify the effectiveness of the different teaching and learning approaches in the development of IPE competencies.

Journal: BMC medical education

Publication date: 3 January 2022

Short link: <https://rb.gy/cbffnk>



66. Implementation of a sedation protocol: a quality improvement project to enhance sedation management in the paediatric intensive care unit

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Abstract Background Proper sedation is integral to ensuring the safety and comfort of children on mechanical ventilation (MV). Sedation protocols help to achieve this goal and reduce the duration of MV. We have observed varied sedation approaches, sedation score targets and sedative use by our physicians, which were manifested as oversedation and undersedation with associated accidental extubation. Hence, we aimed to implement a standardised sedation protocol and assess its impact on mechanically ventilated paediatric patients. **Methods** A multidisciplinary quality improvement team was formed to develop and implement a standardised sedation protocol for mechanically ventilated paediatric patients. COMFORT-Behaviour (COMFORT-B) Scale score was used to assess the sedation targets and define undersedation, oversedation or adequate sedation. Our goal was to achieve adequate sedation during 90% of the sedation period. Based on the model for improvement methodology, we used plan-do-study-act cycles to develop, test and implement the new sedation protocol. **Results** There was an immediate percentage increase in COMFORT-B Scale scores within the target sedation level, which was associated with a gradual decrease in the need for intermittent sedation doses over sedation infusion in the preimplementation, improvement and control phases (6.3, 4.9 and 3.1 sedation doses/12 hours/patient, respectively) to achieve adequate sedation target. **Conclusions** The standardisation of sedation protocols was safe and efficient, and improved the sedation quality in mechanically ventilated paediatric patients.

Journal: BMJ Open Quality

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67. Adductor canal catheter block after total knee arthroplasty in patients with severe osteoarthritis and limited mobility. A single center study in Riyadh, Saudi Arabia

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Abstract Purpose: Total knee arthroplasty (TKA) is one of the most performed procedures. Postoperative pain control is an important factor for the improvement of patient's quality of life. The aim of this study is to report pain control results and functional outcome scores associated with adductor canal blockade (ACB) usage post-TKA. Methods: A prospective case series study of patients who underwent TKA for degenerative osteoarthritis with ACB postoperatively from 2018 to 2019 in a single center in Saudi Arabia, Riyadh. Assessment of functional outcome scores and pain level were measured preoperatively and postoperatively respectively using Knee injury and Osteoarthritis Outcome Score (KOOS) and the Visual Analog Scale (VAS). Results: Average KOOS score preoperatively for all 5 domains showed a marked improvement at 3 months compared to preoperative values. Pain score postoperatively was measured at 12, 24, and 48 h with an average of 0.7, 1.2, and 0.6 out of 10 on the VAS scale, respectively. The incidence of associated common side effects with the use of analgesic use was included as an add-on in the postoperative questionnaire. Conclusion: In conclusion, by comparing preoperative and postoperative pain levels and functional outcome scores, our study showed a significant pain control and improved functional outcome scores following TKA using ACB.

Journal: Saudi Journal of Anaesthesia

Publication date: 4 January 2022

Short link: <https://rb.gy/6lmegh>



68. Accuracy and Quality of YouTube Videos as a Source of Information on Vitiligo

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Abstract Purpose: Vitiligo is a skin condition characterized by patchy depigmentation in the skin, affecting not just the physical well-being of patients, but also the mental, emotional, and social aspects of their lives. Social media provides a platform where patients can interact and share experiences, and for physicians and experts to disseminate knowledge on the disease. This study aimed to evaluate the accuracy and overall quality of vitiligo-related content on YouTube. **Methods:** Thirty videos were screened by relevance according to the inclusion criteria. Videos were categorized as either healthcare or non-healthcare sources, and viewer engagement ratio was calculated for each. Three independent vitiligo experts rated the content using the following assessment tools: DISCERN, Accuracy in Digital-health Instrument (ANDI), and Global Quality Scale (GQS). Lastly, Cronbach's alpha was used to estimate the inter-rater reliability and consistency. **Results:** Most of the screened videos came from healthcare sources (57%). Non-healthcare sources achieved a slightly higher viewer engagement ratio, although the difference is not statistically significant ($p = 0.23$). DISCERN score was low overall in most videos. However, DISCERN score was higher for health-care sources as compared to non-healthcare sources (30.5 ± 9.4 vs 22.7 ± 4.2 , $p = 0.009$). Scores of ANDI and GQS were higher for health-care sources but not statistically significant. There was a good internal consistency in DISCERN rating among the evaluators (0.86). **Conclusion:** Our study shows a low overall accuracy and quality of YouTube videos on vitiligo. It is recommended that health-care sources improve their information material in terms of quality and viewer engagement, as very little can be done to prevent non-healthcare sources in publishing their own videos. Efforts in educating the public on making distinction between evidence and non-evidence-based claims should also be taken.

Journal: Clinical, Cosmetic and Investigational Dermatology

Publication date: 7 January 2022

Short link: <https://rb.gy/4zosx1>



69. Conventional surgery versus botulinum toxin injections for partially accommodative esotropia

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Abstract: Purpose To compare the effect of botulinum toxin injection (BTX) to bilateral medial rectus recession (BMR) in partially accommodative esotropia (PAET). Methods The medical records of children 1-14 years of age treated for PAET with BMR or BTX between 2010 and 2020 at a single institution were reviewed retrospectively. PAET was defined as residual esotropia of at least 14Δ after 6 weeks of continuous wear of full cycloplegic refraction ($> +2.5$ D). Success was defined as esotropia of 0Δ-10Δ after a single surgery or ≥ 1 BTX injections. Results Of 224 patients, 121 received BTX and 103 underwent BMR. BMR showed a higher success rate than BTX (70.9% vs 53.7% [$P = 0.006$]). BMR was more successful in males, in patients > 5 years of age, and when spherical equivalent was $\leq +5.00$ D (79.2%, 74.3%, and 67.5%, resp. [$P < 0.05$]). Mean follow-up was shorter in the BMR group than in the BTX group (16.7 ± 14.7 vs 31.4 ± 29.5 months [$P = 0.0001$]). Mean duration of surgery was significantly shorter in the BTX group (5.2 ± 4.3 vs 70.5 ± 31.4 min [$P = 0.0001$]). Postoperative inferior oblique overaction was more common in the BTX group (7.4%; $P = 0.02$ [Fisher exact test]), and persistent ptosis was only seen in the BTX group (0.8%); consecutive exotropia was only seen in the BMR group (2%). Conclusions In our study cohort, BMR had a higher success rate than BTX. Conventional surgery allowed for shorter follow-up and fewer complications than BTX in the treatment of PAET.

Journal: Journal of American Association for Pediatric Ophthalmology and Strabismus

Publication date: February 2022

Short link: <https://rb.gy/5asfl0>



70. Efficacy of favipiravir in adults with mild COVID-19: a randomized, double-blind, multicentre, placebo-controlled clinical trial

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Abstract Objective: To evaluate whether favipiravir reduces the time to viral clearance as documented by negative RT-PCR results for severe acute respiratory syndrome coronavirus 2 in mild cases of coronavirus disease 2019 (COVID-19) compared to placebo.

Methods: In this randomized, double-blinded, multicentre, and placebo-controlled trial, adults with PCR-confirmed mild COVID-19 were recruited in an outpatient setting at seven medical facilities across Saudi Arabia. Participants were randomized in a 1:1 ratio to receive either favipiravir 1800 mg by mouth twice daily on day 1 followed by 800 mg twice daily (n = 112) or a matching placebo (n = 119) for a total of 5 to 7 days. The primary outcome was the effect of favipiravir on reducing the time to viral clearance (by PCR test) within 15 days of starting the treatment compared to the placebo group. The trial included the following secondary outcomes: symptom resolution, hospitalization, intensive care unit admissions, adverse events, and 28-day mortality. Results: Two hundred thirty-one patients were randomized and began the study (median age, 37 years; interquartile range (IQR): 32-44 years; 155 [67%] male), and 112 (48.5%) were assigned to the treatment group and 119 (51.5%) into the placebo group. The data and safety monitoring board recommended stopping enrolment because of futility at the interim analysis. The median time to viral clearance was 10 days (IQR: 6-12 days) in the favipiravir group and 8 days (IQR: 6-12 days) in the placebo group, with a hazard ratio of 0.87 for the favipiravir group (95% CI 0.571-1.326; p = 0.51). The median time to clinical recovery was 7 days (IQR: 4-11 days) in the favipiravir group and 7 days (IQR: 5-10 days) in the placebo group. There was no difference between the two groups in the secondary outcome of hospital admission. There were no drug-related severe adverse events. Conclusion: In this clinical trial, favipiravir therapy in mild COVID-19 patients did not reduce the time to viral clearance within 15 days of starting the treatment.

Journal: Clinical Microbiology and Infection

Publication date: 11 January 2022

Short link: <https://rb.gy/p32i4m>



71. Anti-TNF therapy for inflammatory bowel disease in patients with neurodegenerative Niemann-Pick disease Type C

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Abstract Background: Blockade of tumour necrosis factor (anti-TNF) is effective in patients with Crohn's Disease but has been associated with infection risk and neurological complications such as demyelination. Niemann-Pick disease Type C1 (NPC1) is a lysosomal storage disorder presenting in childhood with neurological deterioration, liver damage and respiratory infections. Some NPC1 patients develop severe Crohn's disease. Our objective was to investigate the safety and effectiveness of anti-TNF in NPC1 patients with Crohn's disease. Methods: Retrospective data on phenotype and therapy response were collected in 2019-2020 for the time period 2014 to 2020 from patients in the UK, France, Germany and Canada with genetically confirmed NPC1 defects and intestinal inflammation. We investigated TNF secretion in peripheral blood mononuclear cells treated with NPC1 inhibitor in response to bacterial stimuli. Results: NPC1 inhibitor treated peripheral blood mononuclear cells (PBMCs) show significantly increased TNF production after lipopolysaccharide or bacterial challenge providing a rationale for anti-TNF therapy. We identified 4 NPC1 patients with Crohn's disease (CD)-like intestinal inflammation treated using anti-TNF therapy (mean age of onset 8.1 years, mean treatment length 27.75 months, overall treatment period 9.25 patient years). Anti-TNF therapy was associated with reduced gastrointestinal symptoms with no apparent adverse neurological events. Therapy improved intestinal inflammation in 4 patients. Conclusions: Anti-TNF therapy appears safe in patients with NPC1 and is an effective treatment strategy for the management of intestinal inflammation in these patients.

Journal: Wellcome Open Research

Publication date: 11 January 2022

Short link: <https://rb.gy/qojg5q>



72. Effect of melatonin in children with neurodevelopmental disabilities and sleep disorders

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Abstract Objectives: The aim of this study is to assess the efficacy and side effects of melatonin use in a population of children with neurodevelopmental disabilities who had sleep disorders. **Methods:** This is a cross-sectional study conducted in the pediatric neurology clinic at King Abdulaziz Medical City. A designed questionnaire was given to the parents to inquire about the sleep characteristics of their children before and after using melatonin. The patients' demographic data were collected and different parameters before and after starting melatonin were compared. Categorical variables were summarized and reported in terms of frequency and percent (n%). Continuous variables were reported in terms of mean and standard deviation. **Results:** A total of 23 patients were enrolled in our study, of which 15 (65.22%) were male. The mean age was 5.83 ± 3.07 years. For melatonin dose, 9 (39.13%) received 1 mg, 8 (34.78%) received 2 mg, and 6 (26.09%) received over 3 mg. Regarding melatonin duration of use, 7 (30.43%) received melatonin for 0 to 6 months, 7 (30.43%) received it for 7 to 12 months, and 9 (39.13%) received it for over a year. Significant differences were observed in time taken to fall asleep ($P = 0.046$), the number of times the child woke up at night ($P = 0.071$), total sleep time within 24 hours ($P = .011$), and time taken to wake up ($P = .007$), while no significant difference was observed in the number of naps taken during the daytime ($P = .801$). There were no major side effects reported.

Conclusion: Melatonin had a significant impact on total sleep time and quality during the pre and post assessment of children with neurodevelopmental disabilities and sleep disorders.

Journal: Journal of Family Medicine and Primary Care

Publication date: 11 January 2022

Short link: <https://rb.gy/ahouwu>



73. Hypothalamic Lipoma: Outcome of an Intracranial Developmental Lesion

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Abstract Background. Hypothalamic lipomas are benign developmental lesions that tend to be discovered incidentally. This article describes the radiological features, outcome, and the postulated theories behind hypothalamic lipomas development. Methods. The electronic archive of neurosurgery was retrospectively reviewed. All patients with a neuroradiological diagnosis of hypothalamic lipoma, between 2005 and 2020, were included. Results. Out of 246 patients with intracranial lipomas, a total of six patients with hypothalamic lipomas have been identified. On computed tomography images, one of the hypothalamic lipomas demonstrated calcification. On magnetic resonance imaging, peripheral enhancement after contrast administration was noted in one of the lesions. Considering the benign nature of the lesions, neurosurgical intervention was not indicated. Conclusion. The majority of patients with hypothalamic lipomas are asymptomatic and undergo brain imaging for other indications. Although uncommon, such developmental lesions can be identified in the general population, especially with the advancement of neuroimaging techniques.

Journal: Case Reports in Surgery

Publication date: 15 January 2022

Short link: <https://rb.gy/bne1lj>



74. Safety and Readmission in Pediatric Ambulatory Surgery in a Tertiary Hospital

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Abstract Objectives: To assess the safety and outcome of pediatric ambulatory surgery by measuring the rate of complications and readmission and identifying common risk factors for complications and readmission. Materials and methods: A cross-sectional study was conducted at King Abdullah Specialist Children's Hospital (KASCH), Riyadh, Kingdom of Saudi Arabia, using the BESTCare 2.0 Health Information System (SKHIC, Riyadh, Saudi Arabia). All cases admitted under the pediatric ambulatory surgery unit from June 2015 to May 2018 were included. We reviewed 462 medical charts and recorded the variables of age, sex, American Society of Anesthesiologists (ASA) classification, complications, and readmission within one month of the surgery. SPSS (IBM Corp., Armonk, NY, USA) was used for data analysis. Associations between exposure variables (e.g., age, duration of surgery) and the outcome variables (e.g., rate of readmission and complications) were measured using the Chi-square test for categorical variables, the T-test and analysis of variance (ANOVA) for numerical and categorical variables, and logistic regression for multiple variables to control confounding variables. Results: Approximately, 3.5% of the pediatric ambulatory surgery cases required readmission, and 10.6% of the patients had complications with zero mortality. All the variables had no significant association either with the readmission or complications ($p > 0.05$), except for the duration of surgery in minutes which was associated with complications (OR 1.006, 95% CI, 1.000-1.012, $P = 0.035$). Conclusion: Among pediatric ambulatory surgery cases, the mortality rate is 0%, with low complications and readmission rates. Also, the longer the surgery, the higher the risk of complications.

Journal: Cureus

Publication date: 15 January 2022

Short link: <https://rb.gy/12punl>



75. Long-term Immunity Against Hepatitis B Virus After Routine Immunization Among Adults Visiting Primary Care Centers in Riyadh, Saudi Arabia

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Abstract Objective This study aimed to determine the persistence of induced immunity against hepatitis B virus (HBV) among adults routinely vaccinated during their infancy and correlate the level of induced immunity with participant characteristics. Methodology This was a cross-sectional study conducted among visitors to primary care centers of the Ministry of Health (MOH) in Riyadh, the Kingdom of Saudi Arabia (KSA) during the period from August 2020 to January 2021. The study population included healthy adults of both genders who had received full doses of the HBV vaccine in infancy. Data related to participant characteristics were collected using a self-administered questionnaire. A blood sample was then taken from each participant to measure the serum level of hepatitis B surface antigen (HBsAg), antibodies against HBsAg (anti-HBs), and antibodies against hepatitis B core antigen (anti-HBc). Results A total of 400 subjects participated in the study; the mean age of the cohort was 25 years. Almost all of them were Saudis (99.30%), and more than half (57.50%) were males. Only 24.30% had an anti-HBs antibodies level of ≥ 10 IU/L, and all respondents were negative for HBs antigen. No significant association between participant characteristics and anti-HBs antibody levels was found. Conclusion A decline in immunity many years after HBV vaccinations taken in infancy has been well-documented. However, for low-risk populations, the boosting of HBV vaccines is probably unnecessary since the immune memory provides sufficient protection despite low or undetectable anti-HBs antibodies.

Journal: Cureus

Publication date: 15 January 2022

Short link: <https://rb.gy/yxosqc>



76. Outcomes associated with tocilizumab with or without corticosteroid versus dexamethasone for treatment of patients with severe to critical COVID-19 pneumonia

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Abstract: Introduction: Immunomodulators, including dexamethasone (DEX), have been recommended by the Infectious Disease Society of America (IDSA) to treat moderate, severe, and critical COVID-19. Tocilizumab (TCZ) was added to the treatment recommendations based on recent data from two large randomized controlled trials and its potential synergistic effect with DEX. **Method:** We included adult patients admitted from June until October 2020 with a PCR confirmed SARS-CoV-2 infection. 135 patients with severe to critical COVID-19 and received TCZ and/or corticosteroid or DEX were retrospectively evaluated and followed until hospital discharge or death. **Results:** The cohort was divided into two different groups of patients; TCZ group received TCZ ± corticosteroid, N = 100 and DEX group received DEX, N = 35. Groups were analyzed for hospital mortality. The rate of hospital mortality was 36% in TCZ and 37% in the DEX group, $p = 0.91$. Age of 60 years and above was associated with higher mortality rate with OR = 1.030 and 95% CI = (1.004, 1.057). More than 50% of patients required MV in both groups. Development of bacterial or fungal infection post immunomodulator were similar in TCZ and DEX groups, 29% vs. 31.4%. **Conclusion:** Our study revealed that age of 60 years and above is the only factor associated with higher mortality rate regardless of the type of immunomodulator therapy. Findings of this study also revealed the lack of synergistic effect between TCZ and DEX on the hospital mortality.

Journal: Journal of infection and public health

Publication date: 15 January 2022

Short link: <https://rb.gy/hobgmp>

77. Chronic Kidney Disease Education Class Improves Rates of Early Access Creation and Peritoneal Dialysis Enrollment



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Abstract Background Most patients with end-stage kidney disease begin hemodialysis (HD) in an unplanned fashion at a late stage, necessitating the commencement of HD with a temporary venous catheter, the least favorable option. Alternative modalities of kidney replacement therapy (KRT), peritoneal dialysis (PD), and preemptive transplant offer similar or better outcomes than HD at a lower overall cost, and yet they remain underutilized in Saudi Arabia. Early education may help prepare patients with advanced chronic kidney disease (CKD IV and V) to accept their disease and choose a KRT modality that minimizes complications and matches their lifestyle. The aim of the study is to assess the impact of a pilot educational class on therapy choices and outcomes. Methodology In a cross-sectional study, we conducted phone interviews and reviewed medical records of 81 attendees of the multidisciplinary monthly educational class about KRT that was held at the King Abdulaziz Medical City (KAMC) from January 2017 to October 2021. The interview was conducted at least one year after the participants attended the class. The study proposal, consent, and questionnaire were approved by the King Abdulaziz International Medical Research Center. Patient data was retrieved from KAMC electronic medical record system. Results Volunteer participation in the survey was high (62/81). For the respondents, a preemptive kidney transplant was the most preferred (48/62, 77%) option for KRT. Among the preferred fallback options, HD was the most frequently chosen (29/62, 47%) compared to PD (26/62, 41.9%). At the time of the interview, a great majority of the patients (54/62, 87%) was already on KRT, including about half (26/54, 48%) on HD via a catheter, and the rest about equally divided between those on HD via an arteriovenous (AF) fistula (13/54, 24%) and those on PD (15/54, 28%). Thus, half of the respondents on KRT (28/54, 51%) avoided urgent HD catheter commencement. However, because of an unfortunate shortage of donors, only a small minority (2/62, 3%) of patients received preemptive transplantation. Conclusion The KAMC CKD education class helped boost the fraction of patients, significantly above the national average, who accepted the diagnosis of kidney failure and pursued preemptive native HD access or enrolled in PD.

Journal: Cureus

Publication date: 16 January 2022

Short link: <https://rb.gy/i2i6fb>



78. Bowel Obstruction: A Rare Case of Gallstone Ileus and Colonic Adenocarcinoma

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Abstract Bowel obstruction is a surgical emergency that leads to a high rate of admissions. Twenty percent of patients with acute abdominal pain will be diagnosed with bowel obstruction; eighty percent of them are of small origin. It is classified based on etiology to either mechanical or functional. Mechanical obstruction is a physical barrier that obstructs the passage of bowel content; it could be caused by adhesion, tumors, volvulus, hernias, strictures, and gallstone ileus. Functional obstruction is usually due to impaired peristalsis or metabolic disorders. In this article, we report a case of an 80-year-old gentleman with no previous surgical history who was found to have a bowel obstruction. Diagnostic imaging and colonoscopy showed that his clinical presentation was due to gallstone ileus with cholecysto-enteric fistula and sigmoid mass. He underwent exploratory laparotomy with small bowel resection and sigmoidectomy with primary anastomosis and diverting ileostomy. The final pathology showed early moderately differentiated polyp adenocarcinoma T1N0 and was kept on surveillance. The novelty of this case is the presentation of two different abdominal pathologies, which lead to large and small bowel obstruction. Thus, the management decision was challenging, and a thorough workup is advisable in such cases.

Journal: Cureus

Publication date: 18 January 2022

Short link: <https://rb.gy/cagtda>



79. Melatonin attenuates cerebral hypoperfusion-induced hippocampal damage and memory deficits in rats by suppressing TRPM7 channels

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Abstract This study was conducted to examine if modulating transporters like transient receptor potential cation channels, subfamily M, member 7 (TRPM7) underlies the hippocampal neuroprotection afforded by melatonin (Mel) in rats exposed to cerebral hypoperfusion (CHP). Experimental groups included control, Mel-treated (1.87 g/kg), CHP, and CHP + Mel (1.87 g/kg)-treated rats. CHP was induced by the permanent bilateral occlusion of the common carotid arteries (2VO) method and treatments were conducted for 7 days, orally. Mel prevented the damage of the dental gyrus and memory loss in CHP rats and inhibited the hippocampal reactive oxygen species (ROS), lipid peroxidation levels of tumor necrosis factor- α (TNF- α), interleukine-6 (IL-6), interleukine-1 beta (IL-1 β), and prostaglandin E2 (PGE2). It also reduced the hippocampal transcription of the TRPM7 channels and lowered levels of calcium (Ca²⁺) and zinc (Zn²⁺). Mel Also enhanced the levels of total glutathione (GSH) and superoxide dismutase (SOD) in the hippocampus of the control and CHP-treated rats. In conclusion, downregulation of TRPM7 seems to be one mechanism underlying the neuroprotective effect of Mel against global ischemia and is triggered by its antioxidant potential.

Journal: Saudi Journal of Biological Sciences

Publication date: April 2022

Short link: <https://rb.gy/reuk1y>



80. Hypothyroidism and the risk of coronary artery disease in Saudi patients

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Abstract BACKGROUND: Hypothyroidism has been described in the literature as a risk factor for coronary artery disease (CAD). An association between thyroid-stimulating hormone (TSH) levels and CAD has been confirmed. In Saudi Arabia, there has been no study on the relationship between hypothyroidism and CAD. Therefore, the aim of this study was to investigate the prevalence and risk factors of CAD in patients with hypothyroidism. MATERIALS AND METHODS: This cross-sectional study conducted at King Abdulaziz Medical City in Riyadh (KAMC-R), included 412 adult hypothyroid patients who were followed up between 2013 and 2018. The data was collected on demographics, CAD-related risk factors, and hypothyroidism. In addition, relevant laboratory tests, including thyroid function tests, lipid profile, and hemoglobin A1c, were collected. SPSS version 28.0 was used for data analysis. Categorical data were presented as frequencies and percentages, while mean and standard deviations were computed for the numerical data. Student's *t*-test used to test statistical significance for numerical variables and Chi-square test was performed to test the differences between categorical variables. Multivariate binary logistic regression was used to determine the effects of gender, BMI, family history (CAD), smoking, hypertension, and TSH on CAD. RESULTS: Of the 412 hypothyroid patients, 21.8% were diagnosed with CAD, with more prevalence in men (44.15%) than in women (15.4%). About 46% had hypertension, 2.2% were smokers, and 2.4% had family history of CAD. Older age was significantly associated with a higher prevalence of CAD compared to younger age groups. The mean of TSH was significantly higher in CAD patients than non-CAD patients before and at diagnosis with CAD ($P < 0.001$). For every 1mIU/L increase in the TSH level, the odds of developing CAD increased significantly by 4.8% ($P = 0.014$). The odds ratios for other CAD risk factors were 3.13 for males, 8.1 for smoking, 2.48 for hypertension, and 9.9 for family history of CAD ($P < 0.05$). CONCLUSION: The prevalence of CAD in hypothyroid patients was higher than in the general population. TSH level was significantly associated with CAD. Male gender, older age, smoking, hypertension, family history of CAD, and high TSH level increased the likelihood of developing CAD.

Journal: Journal of Family & Community Medicine

Publication date: 19 January 2022

Short link: <https://rb.gy/spggay>



81. Perspectives of the Key Stakeholders of the Alignment and Integration of the SaudiMEDs Framework into the Saudi Medical Licensure Examination: A Qualitative Study

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Abstract Purpose: The purpose of the Saudi Medical Education Directives Framework (SaudiMEDs) is to assure the essential level of competencies for medical graduates, which should be reflected in the Saudi Medical Licensure Examination (SMLE). This study explored the opinions of key stakeholders of the alignment and integration of the SMLE's blueprint and contents with the SaudiMEDs competency framework's themes and domains. **Participants and methods:** This was a qualitative case study, using a purposive sampling technique. Ten participants participated in the study representing the main stakeholders. The participants were four deans, an assistant dean, two residents, and three interns of various colleges of medicine (COM). In-depth interviews were conducted through a semi-structured format, either online or in-person. The interviews were recorded, transcribed verbatim and analyzed according to the general guidelines of qualitative content analysis. **Results:** Four major themes emerged from the data, including the current alignment practices of the COM, competencies enhanced through preparing according to the SMLE, the SaudiMEDs representation in the SMLE, and finally a roadmap to achieve optimum alignment between the SaudiMEDs and the SMLE. **Conclusion:** The participants were knowledgeable about the SaudiMEDs and perceived the SMLE blueprint and contents to be partially aligned with the themes and domains of the SaudiMEDs competency framework. The responses suggested that additional effort is required to improve the current alignment to assess the competencies of COM graduates appropriately.

Journal: Advances in Medical Education and Practice

Publication date: 19 January 2022

Short link: <https://rb.gy/jymebl>



82. Cost of healthcare rehabilitation services following road traffic injuries: Results from a Level-I trauma center in Saudi Arabia

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Abstract Background: Road traffic injuries (RTIs) are the second leading cause of mortality in Saudi Arabia. The high rate of RTIs puts a strain on rehabilitation services. Yet, little is known of the economic burden of nonfatal RTIs and rehabilitation services. This study, therefore, aims to describe the annual rehabilitation costs associated with RTIs at a local trauma center. **Materials and methods:** This study was conducted among all the 17 years or older patients hospitalized at King Abdulaziz Medical City in Riyadh following RTIs and required rehabilitation care. We included 299 patients who met the inclusion criteria and were followed for one year after discharge from the index hospital. The data was abstracted through retrospective review of patients' medical records. All rehabilitative services utilized by the healthcare system were recorded. To describe the economic burden, the mean, median, standard deviation, and interquartile range (IQR) were calculated. Total costs were aggregated for all patients to estimate overall costs. Results: The study population was relatively young (31 years \pm 14.4). The total annual rehabilitation cost of patients was Saudi Riyals (SAR) 6,113,781 (IQR: 20,589.3 - 3,125 = 17,464.3), and the average for each patient was SAR 20,447 (median = 7875). Patients aged 40-59 years and ≥ 60 years accounted for the highest average rehabilitation cost of SAR 31,563.99 and 32,639.21, respectively. Rehabilitation visits incurred the highest cost (mean SAR 1,494,124), followed by bed utilization which cost SAR 1,311,972 and radiology examination at SAR 1,032,261. The cost of motorcycle injuries was relatively higher (SAR 44,441.0) than other injury mechanisms. Conclusion: This study underlines the economic burden of rehabilitation services resulting from RTIs. Public health interventions are needed to reduce the burden of RTIs by dealing with their preventable causes and improving road safety measures. These findings may be useful to policymakers and researchers to support and improve rehabilitation services in Saudi Arabia.

Journal: Journal of Family & Community Medicine

Publication date: 19 January 2022

Short link: <https://rb.gy/uhjq>

83. Prevalence of Insomnia Among Patients with Bronchial Asthma



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Abstract Background Insomnia is commonly reported in patients with asthma. However, the prevalence of insomnia and its relationship to asthma control have not been established. Objective To determine the prevalence of insomnia in adults with asthma and to evaluate the association between insomnia and level of asthma control. Methods This is a cross-sectional study of 200 patients recruited from pulmonary clinics at a tertiary care center. Adults (age ≥ 16 years) diagnosed with asthma by the primary treating physician were recruited over a 6-month period from December 2018 to May 2019. Asthma and insomnia severity were assessed using the Asthma Control Test and Insomnia Severity Index (ISI). Results The mean age of participants was 51 ± 17 years, and 67% were female. Insomnia (ISI score ≥ 10) was present in 46.5% of the participants. The severity of insomnia was inversely related to the level of asthma control: moderate-to-severe insomnia was more frequent in patients with uncontrolled asthma (43%) than in those with partially controlled asthma (25%) or well-controlled asthma (12%) ($P < 0.05$ for all comparisons). Conclusion Insomnia is common among patients with asthma, especially those with suboptimal asthma control. Further investigations are required to more fully understand the complex relationship between asthma and insomnia.

Journal: Journal of Asthma and Allergy

Publication date: 29 January 2022

Short link: <https://rb.gy/vvujbb>



84. An Expert Perspective on Phosphate Dysregulation With a Focus on Chronic Hypophosphatemia

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Abstract Because of their rarity, diseases characterized by chronic hypophosphatemia can be underrecognized and suboptimally managed, resulting in poor clinical outcomes. Moreover, serum phosphate may not be measured routinely in primary care practice. Authors participated in several working sessions to advance the understanding of phosphate homeostasis and the causes, consequences, and clinical implications of chronic hypophosphatemia. Phosphate levels are regulated from birth to adulthood. Dysregulation of phosphate homeostasis can result in hypophosphatemia, which becomes chronic if phosphate levels cannot be normalized. Chronic hypophosphatemia may be underrecognized as serum phosphate measurement is not always part of routine analysis in the primary care setting and results might be misinterpreted, for instance, due to age- specific differences not being accounted for and circadian variations. Clinical consequences of chronic hypophosphatemia involve disordered endocrine regulation, affect multiple organ systems, and vary depending on patient age and the underlying disorder. Signs and symptoms of chronic hypophosphatemic diseases that manifest during childhood or adolescence persist into adulthood if the disease is inadequately managed, resulting in an accumulation of clinical deficits and a progressive, debilitating impact on quality of life. Early identification and diagnosis of patients with chronic hypophosphatemia is crucial, and clinical management should be started as soon as possible to maximize the likelihood of improving health outcomes. Furthermore, in the absence of a universally accepted description for “chronic hypophosphatemia,” a definition is proposed here that aims to raise awareness of these diseases, facilitate diagnosis, and guide optimal phosphate management strategies by improving monitoring and assessment of patient response to treatment. © 2021 The Authors. *Journal of Bone and Mineral Research* published by Wiley Periodicals LLC on behalf of American Society for Bone and Mineral Research (ASBMR).

Journal: Journal of Bone and Mineral Research

Publication date: January 2022

Short link: <https://rb.gy/0zfhlz>



85. Ureteropelvic junction obstruction causing a spontaneous collecting system rupture: A case report and review of the literature

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Abstract Stones are the most common cause of collecting system ruptures. There are few reported cases of a ruptured collecting system without an underlying pathological cause. We report a case of a 15-year-old female patient who presented with left flank pain that was associated with nausea and vomiting. Computed tomography revealed a large, left retroperitoneal fluid collection, which was associated with severe hydronephrosis without an obvious pathological cause. The patient was treated with the insertion of a left double-J stent, and a retrograde pyelography confirmed the cessation of extravasation. At follow up, she was treated surgically with left robotic-assisted pyeloplasty without complications.

Journal: Urology Case Reports

Publication date: January 2022.

Short link: <https://rb.gy/wetuyf>

86. Helmet noninvasive ventilation for COVID-19 patients (Helmet-COVID): statistical analysis plan for a randomized controlled trial

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Abstract Background: Noninvasive respiratory support is frequently needed for patients with acute hypoxemic respiratory failure due to coronavirus disease 19 (COVID-19). Helmet noninvasive ventilation has multiple advantages over other oxygen support modalities but data about effectiveness are limited.

Methods: In this multicenter randomized trial of helmet noninvasive ventilation for COVID-19 patients, 320 adult ICU patients (aged ≥ 14 years or as per local standards) with suspected or confirmed COVID-19 and acute hypoxemic respiratory failure (ratio of arterial oxygen partial pressure to fraction of inspired oxygen < 200 despite supplemental oxygen with a partial/non-rebreathing mask at a flow rate of 10 L/min or higher) will be randomized to helmet noninvasive ventilation with usual care or usual care alone, which may include mask noninvasive ventilation, high-flow nasal oxygen, or standard oxygen therapy. The primary outcome is death from any cause within 28 days after randomization. The trial has 80% power to detect a 15% absolute risk reduction in 28-day mortality from 40 to 25%. The primary outcome will be compared between the helmet and usual care group in the intention-to-treat using the chi-square test. Results will be reported as relative risk and 95% confidence interval. The first patient was enrolled on February 8, 2021. As of August 1, 2021, 252 patients have been enrolled from 7 centers in Saudi Arabia and Kuwait. Discussion: We developed a detailed statistical analysis plan to guide the analysis of the Helmet-COVID trial, which is expected to conclude enrollment in November 2021.

Journal: Trials

Publication date: 2 February 2022

Short link: <https://rb.gy/bnh9d9>



87. Poisoning-related emergency department visits: the experience of a Saudi high-volume toxicology center

Authors: Mohammad Ali Alghafees¹, Abdullah Abdulmonen^{2,3}, Mahmoud Eid^{2,3}, Ghadah Ibrahim Alhussin¹, Mohammed Qasem Alosaimi¹, Ghadah Saad Alduhaimi¹, Mohammed Talal Albogami¹, Mohammed Alhelail^{2,3}

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Abstract Background: Acute poisoning is a major contributing factor to mortality and morbidity. There is a lack of research on the epidemiology of acute poisoning risk factors in Saudi Arabia. Objectives: Descriptive overview of poisoning cases at a tertiary care center. Design: Descriptive, medical record review. Settings: Tertiary care center in Riyadh. Patients and methods: From the electronic medical record system, we collected demographic information, medical history, and the poisoning history on all emergency department visits diagnosed as acute poisoning from January 2016 to January 2021. Patients were classed as children (<18 years old) or adults, and further classified by body mass index. Main outcome measures: Intensive care unit (ICU) admission, organ transplantation, and mortality were classified as poor outcomes. Sample size: 492 adults and 1013 children (<18 years old) were identified. Results: The most frequent agent in poisoning for both groups was acetaminophen (n=52, 10.57% and n=100, 9.87%, respectively). The ICU admission rate was 6.7% and 4.8%, and the mortality rate 0.8% and 0.3%, respectively. The accidental poisoning rate was 57.7% among adults (n=284) and 67.6% among children (n=658). The suicide intention rate was 11.2% (n=55) and 7.4% (n=75) among adults and children, respectively. The management for both populations was nonspecific, involving observation, supportive measures, and symptomatic treatment. Conclusion: Although the ICU admission rates were consistent with reported data, the mortality rate was marginally lower. The pediatric predominance in the population implies a lack of caregiver education in the region regarding the safe storage of drugs and household products, as well as the use of child-resistant packaging. The high rate of accidental poisoning in both age groups should prompt further investment to promote public health education on the rational use and safe storage of toxic agents and self-protection. The high suicide intention rate needs to be investigated to develop multidisciplinary risk prevention strategies.

Journal: Annals of Saudi medicine

Publication date: 3 February 2022.

Short link: <https://rb.gy/b2clet>



88. Retrospective study of post-operative infections in implantable cardiac devices in a cardiac tertiary care center

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Abstract Background: The rise in the incidence of implantation is one of the main causes behind the increased rate of CIED infection, which is considered as a serious life-threatening complication. The need of risk factor assessment has become a necessity to prevent further complications and provide prompt management. Objectives: Identify the risk factors of infection postoperatively among patients who have implantable cardiac devices. Design: A retrospective case-control study. Settings: Cardiac center for adults. Patients and methods: The study included all adult patients (≥ 14 years of age) of all nationalities who underwent cardiac electronic device implantation that was managed in the cardiac center between January 2012 to December 2018. Main outcome measures: Cardiac device infection and associated risk factors. Sample size: 213, including 23 (10.8%) infected case patients and 190 (89.2%) non-infected controls. Results: The mean (SD) age of non-infected patients was 45.0 (12.7) years compared with 61.7 (13.7) for infected patients ($P < .0001$). Anticoagulant use, hypertension, dyslipidemia and age were the most common patient-related risk factors associated with infection. For procedural and post-procedural risk factors, the risk of infection increased as the number of leads and length of procedure increased. The device most often related to infection was the pacemaker. In the multivariate analysis, longer procedure, greater number of leads, older age, anticoagulant use, and implanted pacemaker device were independently associated with infection. Conclusion: We advise the prompt use of strict preoperative antiseptic prophylaxis measures and follow-up for post-implant patients along with patient education for early signs of infections, which will lead to improvement of both diagnosis and treatment quality for our patients in addition to reducing the economic impact on the health care system by minimizing infectious complications.

Journal: Annals of Saudi Medicine

Publication date: 3 February 2022

Short link: <https://rb.gy/oc9xhj>



89. Bladder cancer in Saudi Arabia: a registry-based nationwide descriptive epidemiological and survival analysis

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Abstract Background: Our understanding of the risk factors, prevalence, incidence rate, and age distribution of bladder cancer (BC) in Saudi Arabia is insufficient due to limited data.

Objective: Describe the epidemiology and analyze factors associated with survival in patients with BC in Saudi Arabia. Design: Retrospective medical record review.

Settings: Registry-based nationwide study. Patients and methods: The study included all records in the Saudi Cancer Registry of patients diagnosed with a primary BC from 1 January 2008 to 31 December 2017. Collected data included year of diagnosis, gender, age, marital status, region and nationality, tumor site of origin, tumor histological subtype, tumor behavior, tumor grade, tumor extent, tumor laterality, the basis of the diagnosis, and survival status. Factors predicting survival were tested by a Kaplan-Meier and Cox proportional hazards regression analysis. Main outcome measures: Mortality status on last contact.

Sample size: 3750 patients. Results: The overall incidence of BC was 1.4 per 100 000 persons. Significant differences in the distribution of survival were observed by age, gender, nationality, place of residency, tumor morphology, tumor grade and extension. The adjusted predictors of decreased survival were age, squamous cell carcinoma, Grade III and IV bladder tumors, regional direct extension, regional lymph node extension, combined regional lymph node and direct extension, and distant metastasis. Male gender and being widowed were predictors of improved survival in the unadjusted analysis. Conclusion: This study provides further understanding of BC in a region with a high prevalence of risk factors such as smoking. Highlighting these factors, specifically in Saudi Arabia, improves evidence-based practice in this region and may facilitate appropriate care to optimize outcomes. Limitations: Retrospective study and underreporting. Conflict of interest: None.

Journal: Annals of Saudi Medicine

Publication date: 3 February 2022

Short link: <https://rb.gy/i7zzhw>



90. A 10-Year Tertiary Care Center Experience With Adrenalectomies for Adrenal Tumors

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Abstract Background Due to limited data, our understanding of the trends and outcomes of adrenalectomy in the Saudi surgical practice is limited and insufficient. The aim of this study was to review the clinical data regarding the diagnosis and management of patients with adrenal masses and to assess the effect of surgeon specialty on the outcomes. Materials and methods The study included all adult patients who underwent an adrenalectomy for tumors from 2011 to 2021. The patient characteristics, tumor profile, and preoperative, perioperative, and post-operative variables were collected. Frequency and percentage were generated for the categorical variables, and mean and standard deviation were generated for the quantitative variables. Results A total of 55 patients were identified. Most of the patients had a well-defined (58.2%, n = 32), benign (85.5%, n = 47) mass located in the cortex (58.2% n = 32). The majority of the sample were asymptomatic (52.7%, n = 29), and the most frequent diagnosis was adrenal adenoma (47.27%, n = 26). The most frequent indication for surgery was tumor functionality (69.1%, n = 38). Surgeries were mostly laparoscopic (69.1% n = 38) and performed by a urologist (52.7%). The conversion to open surgery was 13%, the intraoperative complication rate was 9.1%, the post-operative complication rate was 7.3%, and the 30-day readmission rate was 3.6%. Intraoperative complications, post-operative complications, and conversion to open surgery were more frequent among general surgeons, while 30-day readmissions were more frequent among urologists. However, a statistically accurate association could not be found due to the small population size. Conclusion Open surgery was replaced by laparoscopic adrenalectomy as the surgery of choice for different adrenal pathologies. The findings reported in this study are substantiated by current literature, adding to our comprehension of adrenal tumor presentation. There are, however, some inconsistencies regarding the influence of gender on tumor development and the association between surgeon specialty and outcome in the literature that merit research. However, evidence regarding the contribution of comorbidities, such as hypertension, diabetes, and hypothyroidism, is lacking.

Journal: Cureus

Publication date: 6 February 2022

Short link: <https://rb.gy/9e7snu>



91. Use of Skin- Bleaching Products among Saudi Population: Are They Aware of their Hazards?

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Abstract: Background: The application of skin-whitening products to have fairer and lighter skin tone has now become common practice worldwide. Research supports that even skin distribution and fairer skin are the symbol of attractiveness and superiority. **Objective:** This study aims to determine the belief and awareness about the composition and hazardous effects of skin-whitening products among Saudi population. **Design:** This was a descriptive cross-sectional study. **Methods:** A total of 395 respondents participated in the study. This was a cross-sectional survey study that was carried out in Riyadh, Saudi Arabia. The two-part questionnaire was filled by a convenience sample of 395 Saudi participants. The survey questions were related to whitening creams effectiveness, reasons of use, and the safety of the whitening products. The survey data were analyzed using SPSS version 21. **Results:** The most representative age group who responded was 18–25 years (26%), 73% were female ($n = 185$), and 53.1% were married. Regarding the level of knowledge among respondents on skin-whitening cream-negative implications, it was found that there is an association between age and whitening cream side effects (<0.05). Ages between 18 and 25 (73.5% said yes) and between 31 and 35 (75.6%) suffer higher from side effects of whitening creams as compared to the other age groups. **Conclusion:** The analysis shows that cosmetic use of skin-whitening creams is more common among females. The people of all age groups were not aware of the deleterious effects of skin-whitening creams. From the study, it was found that people who suffer from the negative effects of creams were mostly of age less than 35.

Journal: Journal of Nature and Science of Medicine

Publication date: 7 February 2022

Short link: <https://rb.gy/1jqoe>



92. Fasting during Ramadan and acute kidney injury (AKI): a retrospective, propensity matched cohort study

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Abstract Background: During the month of Ramadan, Muslims abstain from daytime consumption of fluids and foods, although some high-risk individuals are exempt. Because fasting's effects on the risk of acute kidney injury (AKI) have not been established, this study assesses the relationship between fasting and risk of AKI and identifies patients at high risk.

Methods: A single-center, retrospective, propensity-score matched, cohort study was conducted with data collected from adult patients admitted to the emergency room during Ramadan and the following month over two consecutive years (2016 and 2017). AKI was diagnosed based on the 2012 definition from the Kidney Disease: Improving Global Outcomes clinical practice guideline. Multivariable logistic regression analyses were used to examine the correlation and measure the effect of fasting on the incidence of AKI, and assess the effect of different variables on the incidence of AKI between the matching cohorts. Results: A total of 1199 patients were included; after matching, each cohort had 499 patients. In the fasting cohort, the incidence of AKI and the risk of developing AKI were significantly lower (adjusted odds ratio (AOR) 0.65; 95% confidence interval (CI) 0.44-0.98). The most indicative risk factors for AKI were hypertension (AOR 2.17; 95% CI 1.48-3.18), history of AKI (AOR 5.05; 95% CI 3.46-7.39), and liver cirrhosis (AOR 3.01; 95% CI 1.04-8.70). Patients with these factors or most other comorbidities in the fasting cohort had a lower risk of AKI as compared with their nonfasting counterparts. Conclusion: The data show a strong reduction in the risk of developing AKI as a benefit of fasting, particularly in patients with comorbid conditions. Therefore, most patients with comorbid conditions are not harmed from fasting during Ramadan. However, larger prospective studies are needed to investigate the benefit of fasting in reducing the risk of developing AKI.

Journal: BMC nephrology

Publication date: 7 February 2022

Short link: <https://rb.gy/uyaf6m>



93. Cellular and molecular mechanisms underlying autism spectrum disorders and associated comorbidities: A pathophysiological review

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Abstract: Autism spectrum disorders (ASD) are a group of neurodevelopmental disorders that develop in early life due to interaction between several genetic and environmental factors and lead to alterations in brain function and structure. During the last decades, several mechanisms have been placed to explain the pathogenesis of autism. Unfortunately, these are reported in several studies and reviews which make it difficult to follow by the reader. In addition, some recent molecular mechanisms related to ASD have been unrevealed. This paper revises and highlights the major common molecular mechanisms responsible for the clinical symptoms seen in people with ASD, including the roles of common genetic factors and disorders, neuroinflammation, GABAergic signaling, and alterations in Ca⁺² signaling. Besides, it covers the major molecular mechanisms and signaling pathways involved in initiating the epileptic seizure, including the alterations in the GABAergic and glutamate signaling, vitamin and mineral deficiency, disorders of metabolism, and autoimmunity. Finally, this review also discusses sleep disorder patterns and the molecular mechanisms underlying them.

Journal: Biomedicine & Pharmacotherapy

Publication date: 8 February 2022

Short link: <https://rb.gy/ifb1dk>



94. Heterotopic Ossification Complicating Traumatic Ulnar Nerve Palsy in a Child

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Abstract: Heterotopic ossification (HO) refers to the process of forming bony tissues in extra-skeletal sites such as muscles and soft tissues. This pathological process most commonly commences following trauma, surgery, and fractures. Rarely, HO can compress nearby neurovascular structures. To the best of our knowledge, however, no previous reports exist of HO serving as second-hit to partially injured ulnar nerve in the pediatric population. We present a case of a 6-year-old girl with complete high ulnar nerve palsy caused by medial epicondylar fracture followed by development of HO around the elbow. The patient was initially managed conservatively. Four months after the first visit, she presented with complete ulnar nerve palsy that was not evident on the initial presentation. Based on further investigations, she was taken to OR for release of the cubital tunnel and anterior transposition of ulnar nerve. On further follow-up, the patient regained sensory and motor functions of the ulnar nerve with minimum sequelae. Post-traumatic ulnar nerve injury is well described in the literature as resulting from initial trauma or as an iatrogenic injury following fracture reduction and fixation. HO in the pediatric age group is considerably rare, occurring after trauma and burn injuries. Surgical timing of HO release remains controversial. No previous reports of HO complicating traumatic ulnar nerve palsy in pediatric patients exist. In the current case report, partial ulnar nerve injury was initially due to medial epicondylar fracture, but it had progressed to full blown ulnar palsy secondary to superimposed HO. Early HO takedown combined with decompression of ulnar nerve are crucial to ensure complete nerve recovery.

Journal: Plastic and Reconstructive Surgery Global Open

Publication date: 9 February 2022

Short link: <https://rb.gy/o1poge>



95. Genetic Profile of Epidermolysis Bullosa Cases in King Abdulaziz Medical City, Riyadh, Saudi Arabia

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Abstract Epidermolysis bullosa (EB) is a rare heterogeneous genetic mechanobullous skin disorder that is characterized by increased skin fragility leading to blistering following minor trauma. EB may be inherited as an autosomal dominant or an autosomal recessive disorder and can be classified into dystrophic EB (DEB), junctional EB (JEB), and EB simplex (EBS). A total of 28 Saudi patients with EB were included in this observational, retrospective chart-review study. A consecutive non-probability sampling technique was used to approach all affected patients. Molecular analysis was done to test the patients' genomic DNA using a custom-designed AmpliSeq panel of suspected genes. All disease-causing variants were checked against available public databases. Twelve patients (42.9%) were found to have DEB, 6 patients (21.4%) with JEB, and 10 patients (35.7%) with EBS. The molecular genetic results revealed detections of 24 various homozygous genetic variations in the genes associated with EB, of which 14 were novel mutations. The most frequent variations were detected in *COL7A1* in 12 cases (42.9%), followed by *LAMB3* in 5 cases (17.9%), *TGM5* in 4 cases (14.3%), and other genes. Furthermore, the majority (87.5%) of EB cases were confirmed to have homozygous mutations, and few were documented with positive consanguinity history. Only 3 cases (12.5%) were found to be autosomal dominant displaying heterozygous mutations. This is the first study to establish the EB genetic profile in Saudi Arabia where DEB is the most frequent type. A total of 14 novel mutations were identified that had not been previously reported. Consanguineous marriage is clearly recognized in the Saudi population; therefore, we propose a nationwide EB program that would help extend the spectrum of the genetic profile and help in the diagnosis and better understanding of this disease.

Journal: Frontiers in Genetics

Publication date: 10 February 2022

Short link: <https://rb.gy/ma9xc4>



96. Prevalence and Clinical Characterization of Bocavirus Infection in a Specialized Children's Hospital in Saudi Arabia

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Abstract Aim The aim of this study was to assess the prevalence and clinical characterization of bocavirus infection in patients admitted with respiratory symptoms to a specialized children's hospital in Riyadh, Saudi Arabia. Methods This is a retrospective cross-sectional study that included children aged 0-14 years and was conducted over a two-year period (2017-2019). All data were gathered from an electronic information recording system, which included patients' demographics, comorbidities, clinical presentation, complication, and duration of hospitalization. Results Among all patients (11,709) admitted to King Abdullah Specialized Children's Hospital with predominant respiratory symptoms during the study period, 193 (1.6%) patients had bocavirus infections. Most of the patients were diagnosed in winter months. Cough was the primary presenting symptom (91.7%) followed by fever (83.4%). Gastrointestinal symptoms were also common (anorexia in 62% and vomiting in 39%). In 80% (n=154/193) of cases, bocavirus co-existed with other viruses, namely, human rhinovirus (45.8%), human adenovirus (31.2%), and respiratory syncytial virus type A (17.5%). Moreover, those who required oxygen supply stayed longer in the hospital ($p<0.001$) and were more likely to receive multiple medications such as bronchodilators ($p<0.001$), corticosteroids ($p<0.001$), and nebulized racemic epinephrine ($p>0.05$). Children infected with bocavirus and co-existing viruses were less likely to require oxygen supply ($p<0.050$). Conclusion Bocavirus infection is more common during winter months and predominantly affects respiratory and gastrointestinal systems in children. More studies are needed to evaluate the global impact of this recently recognized infection.

Journal: Cureus

Publication date: 11 February 2022

Short link: <https://rb.gy/bsjs3g>



97. Developmental Dysplasia of the Hip: Prevalence and Correlation with Other Diagnoses in Physiotherapy Practice-A 5-Year Retrospective Review

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Abstract: Background: The objective of this study was to assess the prevalence of Developmental Dysplasia of the Hip (DDH) as a primary or secondary diagnosis during physiotherapy practice. No other studies have investigated the prevalence and associations of DDH within the practice of pediatric rehabilitation. **(Methods:** This retrospective review was performed on 12,225 physiotherapy referrals to the King Abdullah Specialized Children's Hospital (KASCH), Riyadh, Kingdom of Saudi Arabia, from May 2016 to October 2021. Only DDH referrals for conservative treatment were included in the study. The plan for brace treatment was carried out by the pediatric orthopedics clinic in KASCH. The diagnostic methods were either a pelvic radiograph or ultrasound, depending on the participant's age. DDH is considered one of the most common secondary complications for children with other medical diagnoses. **Results:** The most common indication for referral was neurological diagnosis (44%), followed by orthopedic (28%), genetic (19%), cardiac (5%), ophthalmologic (3%), dermatologic (1%) and rheumatologic (0.5%) diagnoses. **Conclusion:** The prevalence of DDH among all referrals in this study was 6%. In physiotherapy practice, neurologic, genetic, and orthopedic primary or secondary diagnoses were the most prevalent when DDH referrals were investigated. A relatively high prevalence of DDH in the pediatric rehabilitation clinic at KASCH in Riyadh was reported in this study.

Journal: Children

Publication date: 12 February 2022

Short link: <https://rb.gy/7npyta>



98. A population-based assessment of the post-operative complications rates and 30-day mortality associated with lower limb amputations at a tertiary care center in Riyadh, Saudi Arabia

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Abstract **OBJECTIVES:** There is no consensus on the postoperative 30-day mortality, complication rates, and their risk factors post lower limb amputations (LLA) in the literature, especially in Saudi Arabia. To address this gap, we assessed these three parameters in our patients who underwent LLAs. **METHODS:** We conducted a retrospective cross-sectional study in King Abdulaziz Medical City, Riyadh, Saudi Arabia, between 2015 and 2019. Using non-probability purposive sampling, we targeted 318 adults who underwent LLA at our hospital. The primary outcome variables were postoperative 30-day mortality and complications, such as stump pain, wound infections, hemorrhage, and acute kidney injury. In addition, we collected data on demographics, comorbidities, and clinical course from electronic medical records. **RESULTS:** We assessed 318 patients (mean age = 65.7 [SD = 0.840] years), most of whom were male patients (68.6%) with endocrine and metabolic disorders (92.1%). Most amputees (87.1%) had peripheral vascular diseases as the main indication for LLA at an above-knee level (62.6%). The 30-day mortality and complication rates were 6.6% and 74%, respectively. Intermediate complications predominated (57%), with stump pain (17.3%) and phantom limb pain (15.4%) being the most common. Thirty-day mortality was significantly associated with some patient characteristics and comorbid kidneys and neurological disorders. The immediate, intermediate, and late complications were significantly related to smoking and several renal, vascular, and respiratory disorders. **CONCLUSION:** Calculating the 30-day mortality and complication rates after LLA and mapping the associated risk factors helped identify high-risk patients, deliver better treatment, lower medical costs, and establish protective measures.

Journal: Journal of Musculoskeletal Surgery and Research

Publication date: 14 February 2022

Short link: <https://rb.gy/rj5qwb>



99. Case report of a novel mutation in Bruton's tyrosine kinase gene with confirmed agammaglobulinemia and absent B lymphocytes

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Abstract Background: X-linked agammaglobulinemia type 1 (XLA) is one of the most common pediatric inborn errors of immunity affecting the humoral immune system. The condition is caused by a mutation in the Bruton's tyrosine kinase gene (*BTK*), located in the long arm of the X-chromosome. *BTK* is crucial for B lymphocyte differentiation and activation. Therefore, a defect in *BTK* results in B lymphocyte maturation arrest, absence of plasma cells, and failure of immunoglobulin production. XLA affected individuals present with a history of frequent severe pyogenic infections such as pneumonia, conjunctivitis, otitis media, and bacteremia. Laboratory evaluation classically reveals undetectable immunoglobulins and the absence of B cells. The mainstay treatment is immunoglobulin replacement which can be administered intravenously (IVIG) or subcutaneously (SCIG). Aggressive antimicrobial treatment is also administered to reduce complications such as bronchiectasis or invasive bacterial infections during active infections. **Aim:** To report the clinical presentation, immune features, and genetic mutation in a case of a four-year-old boy with a novel mutation in the *BTK* gene leading to XLA. **Results:** The patient's chart was reviewed. We describe the phenotypical and diagnostic characteristics of an established case in a four-year-old boy who suffered from recurrent infections. Genetic analysis revealed a pathogenic novel mutation in the *BTK* gene (c.1953C>A; p.Tyr651*), while flow cytometry found 0% CD19+ (B cells), and low serum Ig levels. **Discussion:** We report the clinical presentation, immune features, and genetic mutation in a patient with a novel mutation in the *BTK* gene causing XLA. Genetic analysis along with patient history, physical examination, and laboratory results are necessary to identify and diagnose XLA associated with pathogenic mutations in the *BTK* gene.

Journal: LymphoSign Journal

Publication date: 15 February 2022

Short link: <https://rb.gy/ehgz25>



100. Prevalence of Associated Endocrine Diseases in Patients with Neurofibromatosis Type 1

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Abstract Background Neurofibromatosis type 1 (NF-1) is an autosomal dominant neurocutaneous disorder that increases the risk of developing benign and malignant tumors. Several associated endocrine diseases in NF-1 patients have been explained in the literature. Thus, this study aims to assess the endocrine manifestations as there no previous local data have discussed this association. **Methods** A retrospective cross-sectional study was conducted at KAMC and KASCH, Riyadh, Saudi Arabia by including all patients genetically confirmed with NF1 from 2004 until 2019 using a consecutive non-probability sampling technique. The included data were demographics, consanguinity, genetic variant mutations as well as associated endocrine diseases. **Results** The prevalence of patients with associated endocrine diseases was estimated to be 19.4%. Short stature showed the highest frequency of associated endocrine diseases followed by subclinical hypothyroidism. Positive consanguinity, sporadic mutation, and pathogenic variant showed high frequencies. **Conclusion** The coexistence of endocrine diseases was found in NF-1 patients. Therefore, screening for endocrine abnormality in patients with NF-1 by comprehensive history and physical exam as well as investigations to minimize complications and the late presentation should be considered; however, further studies are necessary to address the need.

Journal: Avicenna Journal of Medicine

Publication date: 19 February 2022

Short link: <https://rb.gy/axgb6z>



101. Complete pathological response of post neoadjuvant chemotherapy in colorectal cancer with liver metastasis: a case report

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Abstract Treatment of metastatic colorectal cancer has evolved throughout the years and various methods have been proposed to reach a pathological complete response state. We report a case of a 73-year-old male presented with a sigmoid adenocarcinoma with two synchronous liver metastases. The patient received five cycles of FOLFOX neoadjuvant chemotherapy, 41% reduction of tumor size was noted upon reassessment. Therefore, a low anterior resection of the rectum and synchronous resection of segment 5 and 8 of the liver was done along with right-sided diaphragmatic stripping. A pathological complete response was achieved in both primary and secondary tumors that are considered rare and challenging in metastatic colorectal cancer. Neoadjuvant chemotherapy showed promising findings in advanced colorectal cancer.

Journal: Journal of Surgical Case Reports

Publication date: 19 February 2022

Short link: <https://rb.gy/9qz9qx>



102. Evaluation of Surgical Management of DDH in Saudi Children in KAMC, Riyadh, Saudi Arabia

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Abstract Background: Developmental dysplasia of the hip (DDH) is common among the pediatric population globally. In Saudi Arabia these patients end up getting treated surgically because of no screening program for this condition. Through this exploratory analysis, we intended to find the distribution of different types of surgical techniques, complications of these surgical techniques, and the age at which surgery is performed among children suffering from this condition. **Methods:** This study was based on an analysis of clinical records from King Abdul Aziz medical city in Riyadh, Saudi Arabia. All patients in the specified setting diagnosed with DDH from birth till the age of fourteen between July 2007 to July 2014 were recruited for this study. **Results:** Data on a total of 126 individuals was used in this analysis. We found that 84 (66.7%) children underwent open surgical mode surgery while only 42 (33.3%) children underwent closed mode surgery. We also found that 49 (38.9%) children required adductor tenotomy. Avascular necrosis was noted in 7 (5.56%) patients. Limping was the most common complication of surgical management of DDH and was reported among 33 (26.2%) patients. Stiffness was found among 27 (21.4%) patients. The average age at diagnosis was 16.8 months while the overall average age at surgery was 26.6 months. **Conclusion:** This study emphasized the importance of the need for a national DDH screening program in Saudi Arabia to avoid the late presentation of these cases and consequently aggressive surgeries.

Journal: Journal of Health Informatics in Developing Countries

Publication date: 20 January 2022

Short link: <https://rb.gy/lqalxx>



103. Efficacy and Safety of SGLT2 Inhibitors as Adjunctive Treatment in Type 1 Diabetes in a Tertiary Care Center in Saudi Arabia

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Abstract Background Adjunctive treatment with sodium-glucose co-transporters 2 inhibitors (SGLT2- I) has been successfully used in patients with type 1 diabetes mellitus (T1DM) in recent years to improve glycemic control and reduce body weight without increasing the risk of hypoglycemia; however, there is a scarcity of evidence for real-world experience in their use in T1DM Saudi patients. The purpose of this study was to evaluate the efficacy and safety of empagliflozin as off-label adjunctive therapy in Saudi patients with T1DM. **Methods** This study was a retrospective study for T1DM patients, who were prescribed empagliflozin as an adjunctive therapy. Baseline characteristics including age, changes in HbA1c, body weight, total daily insulin dose, lipid profile, and well as side effects such as urinary tract infections (UTIs) and diabetes ketoacidosis (DKA) were evaluated before and after initiation empagliflozin in 37 T1DM patients. **Results** The mean age was 25.8 ± 8.0 years, mean weight was 75.3 ± 14.8 kg, mean body mass index (BMI) was 28.1 ± 6.7 kg/m², mean duration of diabetes was 10.1 ± 6.5 years, and mean HbA1c was $9.4 \pm 1.4\%$. After a mean follow-up duration of 15.8 ± 6.0 months, the mean reduction in the HbA1c% from baseline was 0.82% ($p = 0.001$) and mean weight reduction from baseline was 1.7 kg ($p = 0.097$). The total daily insulin dose was decreased by 2.9 units. UTIs and DKA episodes were reported among 2.7% and 10.8% of the participants, respectively. **Conclusion** Empagliflozin in combination with insulin in overweight Saudi T1DM subjects resulted in a significant improvement in glycemic control, mild non-significant reduction in body weight, and a small but statistically significant reduction in the total daily insulin dose with a slight increase in the risk of DKA and UTIs. Further larger prospective studies are needed for better evaluation of the efficacy and safety of these agents in Saudi T1DM patients.

Journal: Avicenna Journal of Medicine

Publication date: January 2022

Short link: <https://rb.gy/lkbsjz>



104. Quality of life among children with Inborn Errors of Immunity at king Abdullah Specialized Children Hospital, Riyadh, Saudi Arabia: A Cross Sectional Study

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Abstract: Background: Inborn Errors of Immunity (IEI) include a vast array of immunity disorders that are diagnosed early in life and that are associated with a high disease burden. Studies on the burden of IEI on the quality of life in Saudi Arabia are scarce. The aim of this study was to assess quality of life of IEI patients at a major tertiary care hospital in Riyadh, Saudi Arabia. **Methods:** This is a cross-sectional survey-based study of all IEI patients using the validated PedsQL, version 4 questionnaire that aims at assessing the quality of life of IEI patients as reported by patients or one of their parents. Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 26. **Results:** The study included 51 IEI patients, more than half of which were between 2-12 years of age (63%). Data was mostly collected from one of the parents (84%). The lowest score was reported for school functioning with a mean score of 72.7 (SD=31.4). Emotional functioning score were significantly lower among those older than 18 years and those between 6-12 years old ($P=0.04$). Residing in the capital, was also significantly associated with higher physical functioning and total scores ($P=0.01$ and 0.03 respectively). Furthermore, social score was significantly higher among those with an unemployed parent ($P=0.03$). **Conclusion:** This study showed IEI patients suffer from a low quality of life score that influences both school and emotional functioning. Quality of life scores were significantly associated with parent's employment status and patients' age. Living in proximity to healthcare centers, was associated with higher physical functioning and total scores. Healthcare providers managing IEI patients in Saudi Arabia should evaluate their quality of life to ensure optimal school and emotional wellbeing of the child.

Journal: Journal of Health Informatics in Developing Countries

Publication date: 20 January 2022

Short link: <https://rb.gy/v5x0rx>



105. Epidemiology of Child Maltreatment during the COVID-19 Pandemic in Saudi Arabia

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Abstract: Child maltreatment, especially during health crises, is a major public health issue transcending cultural, social, and racial contexts. We assessed the sociodemographic and related risk factors associated with the types and rates of child maltreatment. We also assessed the economic, social, and environmental characteristics of child maltreatment victims and their perpetrators, as they were reported to the Saudi National Family Safety Program (NFSP), with consideration of the COVID-19 pandemic's impact. A secondary data analysis of a retrospective review was conducted to compare types and rates before and during the COVID-19 outbreak, utilizing descriptive and multivariate analyses on anonymized data from the NFSP. According to a predetermined list of relevant risk factors for child maltreatment outlined by the NFSP, these anonymized data were obtained and analyzed with no exclusion criteria ($n = 1304$). The findings showed that a child's age correlated significantly and positively with their odds of being physically maltreated; as a child's age increased by one year, on average, their corresponding predicted odds of being physically maltreated tended to rise by a factor equal to 7.6% ($p < 0.001$). Neglected children, compared to those who had not been previously neglected, were predicted to be almost twice (2.23 times more) as likely to be victims of physical maltreatment on average ($p < 0.001$). Children were notably more likely to experience sexual abuse during the COVID-19 pandemic than those exposed to abuse during the period before (1.69 times). The COVID-19 pandemic was associated with significantly lower odds of physical child maltreatment (47.7% less). This study found no statistically significant effect of the COVID-19 pandemic on children's odds of being emotionally maltreated ($p = 0.169$). These findings support the existence of specific risk factors for child maltreatment for both child victims and perpetrators. They also attest to the significant differences between different types of maltreatment. A systematic, proactive system is needed to screen and document child maltreatment with a higher degree of integration with community reporting systems.

Journal: Children

Publication date: 24 February 2022

Short link: <https://rb.gy/07mxxq>



106. A case of intestinal obstruction in a 90-year-old patient at a tertiary hospital in Central Saudi Arabia with a rare cause: obturator hernia!

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Abstract: Obturator hernia is a pelvic floor type of hernia in which abdominal or pelvic contents protrude through the obturator foramen. It is considered rare in patients with signs and symptoms of intestinal obstruction causing a diagnostic challenge for clinicians. This case reports a 91-year-old multiparous female who presented with vague lower abdominal pain associated with obstipation and vomiting. We present a successful laparoscopic repair of obturator hernia in an elderly female.

Journal: Journal of Surgical Case Reports

Publication date: 21 February 2022

Short link: <https://rb.gy/uafgnw>

107. Does Primaquine Become The First Line in the Treatment of Uncomplicated Malaria in Coming Days?

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Abstract Background: Malaria is a major public health problem throughout human history, particularly in the tropical and subtropical countries. Primaquine, introduced in 1950, for preventing relapse and sterilizes infectious sexual plasmodia. Methods: A retrospective study was performed for 610 patients (250 were male and 360 were female), (all ages) to study the efficacy of Primaquine in the treatment of falciparum malaria after receiving this drug for five days. Results: Five hundred and ninety three patients (97.2 %) were completely recovered from malaria within 3 to 5 days after receiving Primaquine tablets. Conclusion: In our opinion Primaquine should become the first line as antimalarial drug soon later for uncomplicated malaria, because of its high efficiency against infections with Plasmodium falciparum and P. vivax active stages

Journal: SAR Journal of Medicine

Publication date: 27 February 2022

Short link: <https://rb.gy/tvh63d>

108. An Infant with Asymptomatic Vitamin D Intoxication: A Prolonged and Sustainable Recovery

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Abstract: Vitamin D intoxication (VDI) usually develops due to inappropriate use of vitamin D in high doses by the families of infants with complaints suggestive of vitamin D deficiency such as delayed teething, knock knees, or delayed walking. We present here an experience of treating an infant with asymptomatic VDI that had a prolonged course of recovery and a sustainable level of vitamin D over a follow-up period of 2.5 years. In our patient, vitamin D started to drop steadily after a month of stopping vitamin D supplements but not to a normal level. It reached an acceptable level only after six months. This case emphasizes the importance of educating parents about the empirical use of vitamin D over the counter, assessing the baseline level of serum vitamin D level prior to initiation of treatment and highlights the value of verifying additional dietary sources of vitamin D or oral supplements in patient's history.

Journal: Case reports in endocrinology

Publication date: 27 February 2022

Short link: <https://rb.gy/030uhm>

109. Trans-Biliary Gastric Outlet Recanalization and Stenting: A Case Report

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Abstract: Gastric ischemia is a condition of hypo-perfusion associated with hypotension, vasculitis, and thromboembolism. We report a case of a gastric outflow obstruction due to sizeable visceral artery thrombo-embolism leading to the ischemic conclusion, the frailty, multiple comorbidities deeming general anesthesia (GA) risky, and the patient's decision not to have an open surgery under GA. Invasive procedures in patients with similar profiles like our patient are usually not risk-free, this leads the intervention radiology team to believe a minimally invasive procedure while avoiding GA might be optimal. A 63-year-old female with multiple comorbidities came eight weeks after significant surgery complaining of severe acute epigastric pain, abdominal distention and rigidity, and persistent vomiting. Further investigations showed obstruction in the gastric antrum and pyloric canal. Three separate endoscopic attempts to find and cross the stricture failed. Firstly, gastrostomy access was established, but due to the stomach being massively distended, passing a guidewire through the pylorus failed despite using multiple hydrophilic wires and pre-shaped catheters, this is due to the collapsed pylorus. Subsequently, two attempts under ultrasound guidance to puncture the duodenal bulb and pass a wire and catheter through the antrum stricture were unsuccessful, and another attempt was considered of high risk. An alternative approach through the gallbladder was established, and cholangiography was performed to delineate the anatomy. Then an approach through the right hepatic duct and ampulla of Vater was successfully performed. The attempted passage through the stricture was successful. The dilation was successful, and the patient tolerated both fluid and solids orally. Due to having such a frail patient, interventions of minimal invasiveness and favorable outcome are welcomed. This case report suggests that this technique showed satisfactory results and achieved the goal to improve the overall quality of life where the patient had a good oral intake with no post-operation complications.

Journal: Cureus

Publication date: 28 February 2022

Short link: <https://rb.gy/vv6md6>



110. The Assessment of Knowledge about Tourette's Syndrome among Medical Students and Primary Physicians in Riyadh, Saudi Arabia: A Cross-Sectional Study

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Abstract: Background: Tourette's syndrome (TS), a chronic, often disabling neuropsychiatric disorder characterized by motor and vocal tics, is frequently misdiagnosed, or patients are delayed in diagnosis. There is severe deficiency of research about Tourette's syndrome (TS) in the Middle East region.

Objectives: To evaluate the knowledge and attitude of medical students and primary care physicians (PCPs) about TS and tic disorders.

Methods: IRB approved, cross-sectional study. A total of 316 medical students of King Saud bin Abdulaziz University and 59 primary care physicians of Riyadh participated. Convenient, cluster sampling was used. A validated, self-administered questionnaire was used. Sum of all knowledge questions was calculated. Data were analyzed using SPSS software.

Results: Survey was completed by 375 students and physicians, of whom 253 (67.5%) were men. Mean general knowledge score was 61.5 (± 12.04) out of 100. Majority (66.1%) knew the diagnostic criteria for TS; only 46.1% considered antipsychotics as effective treatment. Only 25.1% had ever heard of habit reversal; 70% wanted to learn more. Only 10% of physicians had treated a patient with TS. There was no difference in knowledge between men and women ($p=0.776$). Board-certified physicians had a higher knowledge score ($p < 0.05$). Family physicians demonstrated higher level of knowledge compared to other physicians ($p < 0.05$). There was no difference between knowledge of students of different years ($p=0.859$) or between students and physicians ($p=0.569$).

Conclusion: There was alarming lack of knowledge about Tourette syndrome at various level of medical training and practice including students and physicians. Those who achieved board certification and practiced as family physicians fared better in knowledge about Tourette's syndrome.

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Short link: <https://rb.gy/c8uycj>



111. Knowledge and Attitude Towards Corneal Donation: Saudi medical students' perspective

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Abstract Objectives: To attain more local corneal donations, awareness of corneal donations must be raised among doctors and medical students. This study aimed to evaluate the knowledge and attitude of medical students regarding corneal donations. Methods: This cross-sectional study was conducted among male fifth- and final-year medical students at the College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia, between August and October 2019. Non-probability convenience sampling was used and an English-language self-administered questionnaire was administered to evaluate different aspects of the participants' knowledge regarding and attitudes towards corneal donation. Data were analysed using descriptive statistics, analysis of variance, and independent samples t-test. Results: A total of 141 students participated in this study (response rate: 53%). A mean score of 3.24 ± 1.86 was achieved by the participants on the knowledge test. Approximately 47% of the sample correctly recognised that people who die of AIDS cannot donate an eye. The most common reason for eye donations was to provide vision to a blind person (47%), while a lack of understanding of benefits to others (55%) and religious beliefs (44%) were seen barriers. The internet was identified by 56% as the most common source of information. There was no significant difference in the knowledge of fifth-year and final-year medical students (3.31 ± 1.84 versus 3.17 ± 1.89 ; $P = 0.65$). Conclusion: This study showed a low level of knowledge of corneal donations among the participants. Raising awareness among medical students is important to increase donation rates. However, media and the internet are not enough to achieve this. Basic knowledge of corneal donations to students by organising awareness-raising activities and motivating them for voluntary participation is important to fill this knowledge gap.

Journal: Sultan Qaboos University Medical Journal

Publication date: 28 February 2022

Short link: <https://rb.gy/5xujle>



112. Usefulness of Controlled Attenuation Parameter and Liver Stiffness Measurement for the Identification of Extended-criteria Donors and Risk-assessment in Liver Transplantation

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Abstract Background: Controlled attenuation parameter (CAP) and liver stiffness measurement (LSM) are noninvasive surrogates for hepatic steatosis and fibrosis, respectively, and could help identify extended criteria donors in liver transplantation (LT). We aimed to determine the accuracy of CAP/LSM in deceased donors along with post-LT changes. Methods: Accuracy of preprocurement CAP/LSM to grade/stage steatosis/fibrosis was determined using liver biopsy as reference. Transplant outcomes, including primary nonfunction (PNF) and early allograft dysfunction, were recorded. Recipients underwent CAP/LSM as outpatients. Areas under the receiver operating characteristic curve and regression models were constructed to analyze data. Results: We prospectively evaluated 160 allografts (138 transplanted). Same-probe paired baseline/post-LT CAP was 231 dB/m (181-277)/225 (187-261) (P = 0.61), and LSM 7.6 kPa (6.3-10.8)/5.9 (4.6-8.7) (P = 0.002), respectively. CAP reading was affected by BMI and LSM by ALT, race and bilirubin. Although CAP did not correlate with steatosis from frozen sections ($\rho = 0.08$, P = 0.47), it correlated with steatosis from permanent sections ($\rho = 0.32$, P < 0.001) and with oil red O histomorphometry ($\rho = 0.35$, P = 0.001). CAP identified moderate-to-severe steatosis with an areas under the receiver operating characteristic curve of 0.79 (0.66-0.91), for a negative predictive value of 100% at a cutoff value of 230 dB/m. LSM correlated with fibrosis staging ($\rho = 0.22$, P = 0.007) and it identified discarded allografts with advanced fibrosis/cirrhosis. Patients with no to minimal fibrosis had an LSM of 7.6 (6-10.1) kPa. Conclusions: Our results are proof-of-concept of the utility of CAP/LSM during organ procurement. Establishing the precise role of these noninvasive tools in the organ allocation process mandates confirmatory studies.

Journal: Transplantation

Publication date: February 2022

Short link: <https://rb.gy/yydsgl>



113. The Effect of Electromagnetic Fields Generated by LTE Cellular Phones on ECG and Heart Rate Variability Among Female Medical Students

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Abstract : The potential health risks of the radiofrequency electromagnetic fields emitted by cellular phones are of considerable public interest. This study assessed the effect of short-term exposure to electromagnetic fields emitted by cellular phones on the ECG and HRV of young health females. A cross-sectional comparative study was carried out among first year female medical students at King Saud bin Abdulaziz university, from October 2019 to January 2020. A total of 43 young, healthy female, with a BMI of 18-25 were included. ECG and HRV were recorded before and during exposure to a cellular phone on silent mode and active call mode. Powerlab acquisition system was used for recording and LabChart and JMP software were used for analysis. Descriptive statistics were used for the participants' demographic characteristics and the parameters of ECG and HRV. Inferential statistics (paired T-test, level of confidence =99%, $p < 0.05$) were used to compare between the ECG and HRV parameters before and after short-term exposure to a cellular phone. 43 healthy female, aged 20 ± 1 and had BMI of 21.63 ± 3 were enrolled. On ECG, a significant increase in the values of P duration, PR and ST height ($p < 0.05$) was noticed. On HRV, no significant changes on any index were found ($p > 0.05$). The effect of short-term exposure to cellular phones on the ECG and HRV components are minimal and within the physiological range. Short-term exposure to electromagnetic fields emitted by cellular phones does not result in abnormalities in the ECG or HRV parameters.

Journal: Teikyo Medical Journal

Publication date: February 2022

Short link: <https://rb.gy/zvryg2>



114. Resolvin D1 prevents cadmium chloride-induced memory loss and hippocampal damage in rats by activation/upregulation of PTEN-induced suppression of PI3K/Akt/mTOR signaling pathway

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Abstract: This study evaluated the protective effect of resolvin D1 (RVD1) against cadmium chloride (CdCl_2)-induced hippocampal damage and memory loss in rats and investigated if such protection is mediated by modulating the PTEN/PI3K/Akt/mTOR pathway. Adult male Wistar rats ($n = 18/\text{group}$) were divided as control, control + RVD1, CdCl_2 , CdCl_2 + RVD1 and CdCl_2 + RVD1 + bpV(pic), a PTEN inhibitor. All treatments were conducted for 4 weeks. Resolvin D1 improved the memory function as measured by Morris water maze (MWM), preserved the structure of CA1 area of the hippocampus, and increased hippocampal levels of RVD1 in the CdCl_2 -treated rats. Resolvin D1 also suppressed the generation of reactive oxygen species (ROS), tumour necrosis factor- α and interleukine-6 (IL-6), inhibited nuclear factor κB (NF- κB) p65, stimulated levels of glutathione (GSH), manganese superoxide dismutase (MnSOD), and Bcl2 but reduced the expression of Bax and cleaved caspase 3 in hippocampi of CdCl_2 -treated rats. Concomitantly, it stimulated levels and activity of PTEN and reduced the phosphorylation (activation) of PI3K, Akt and mTOR in hippocampi of CdCl_2 -treated rats. In conclusion, RVD1 attenuates CdCl_2 -induced memory loss and hippocampal damage in rats mainly by activating PTEN-induced suppression of PI3K/Akt/mTOR, an effect that seems secondary to its' anti-oxidant and anti-inflammatory potential.

Journal: Clinical and experimental pharmacology & physiology

Publication date: February 2022

Short link: <https://rb.gy/fub397>

115. Prothrombin complex concentrate in the management of major bleeding induced by oral anticoagulant therapy

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Abstract Objectives: To share clinical data on the efficacy of 4F-PCC in the treatment of major bleeding caused by warfarin, dabigatran, and rivaroxaban. Methods: This is a retrospective study of patients admitted to King Fahad Medical City, Riyadh, Saudi Arabia with major bleeding caused by oral anticoagulants and treated with 4-factor prothrombin complex concentrate (4F-PCC). The International Society of Thrombosis and Hemostasis Scientific and Standardization Subcommittee criteria were used to evaluate the effectiveness of PCCs. Results: A total of 22 patients were included in the study. Ten of the events were caused by gastrointestinal bleeding (46%). In the majority of patients, anticoagulation was prescribed for stroke prevention, atrial fibrillation, and venous thromboembolism. The median international normalized ratio was significantly lower before and after PCC administration ($p < 0.001$). In patients treated with 4-factor PCC, the rate of thromboembolic events was 0%. The hemostatic effectiveness of PCC was effective in 19 patients. During treatment, no clinically significant bleeding complications occurred. Conclusion: Prothrombin complex concentrate can effectively reverse the effects of warfarin and rivaroxaban in patients with major bleeding, but only partially reverses the effect of dabigatran.

Journal: Saudi Medical Journal

Publication date: February 2022

Short link: <https://rb.gy/u8qgwf>



116. Trends and Outcomes of Sacral Neuromodulation: A Saudi Tertiary Care Center Experience

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Abstract Objective: Sacral neuromodulation (SNM) is a validated treatment for overactive bladder syndrome and chronic non-obstructive retention. In Saudi Arabia, SNM is gaining popularity. It improves patient outcomes and eliminates the associated stigma with refractory urine retention. This study aimed to assess the trends and outcomes in patients with SNM in King Abdulaziz Medical City. **Materials and Methods:** This retrospective cohort study targeted adult patients who underwent an SNM device implantation between January 1, 2016, and January 1, 2021. Frequency and percentage were used to display the categorical variables and minimum, maximum, mean, and standard deviation for the continuous variables. **Results:** Of the 28 patients, 13 (46.4%) were males and 15 (53.6%) females. The mean age was 37.14±14.62 years. The most frequent indication was idiopathic bladder dysfunction (28.6%, n=8). The first stage success rate was 53.6%, of which 42.9% had the device permanently implanted in the second stage. The overall complication rates were 66.6% and 42.84% for device change and electrode change, respectively, with the most frequent complications as device protrusion and dislocation after device change (n=1, 33.3%) and urinary tract infections after electrode change (n=3, 21.42%). **Conclusion:** The complication rate was similar to the literature. However, the first stage success rate was lower than the reported local and international rates. Regular documentation before and after implantation is important to gather data for future studies. Exploring the outcomes of SNM on a larger scale will improve preoperative, perioperative, and postoperative care, thereby supporting more patient satisfaction.

Journal: Journal of Urological Surgery

Publication date: 1 March 2022

Short link: <https://rb.gy/wwvadf>



117. The prevalence of long-term rehabilitation following motor-vehicle crashes in Saudi Arabia: a multicenter study

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Abstract: Introduction: In Saudi Arabia, motor-vehicle crashes (MVC) are the leading cause of disability-adjusted life years (DALYs). There is limited information locally on the magnitude and need for rehabilitation following MVC. This study examined the prevalence of MVC patients requiring long-term rehabilitation and the epidemiology of associated injuries.

Methods: A retrospective study was conducted at four hospitals of the National Guard Hospitals Affairs from January 2016 to March 2019. The study used data from an institutional trauma registry of all MVC admissions. Chi-square tests, bivariate and multivariate analyses were conducted to compare patients requiring long-term and short-term rehabilitation.

Results: The study included 506 patients. The study population was relatively young, with an average age was 32.8 ± 15.5 years, and the majority were males. Over two-thirds (71.3%) of patients required long-term rehabilitation. Half the patients sustained multiple fractures, and 17.0% sustained traumatic brain injuries. Overall, 53.1 and 61.8% of patients required occupational and physiotherapy, respectively. Those admitted to the intensive care unit were four times more likely to need long-term rehabilitation. **Conclusions:** We found a significant burden of long-term rehabilitation following MVC. Patients were relatively young, thus posing a significant burden on future healthcare utilization. Policymakers should use these findings to guide primary, secondary, and tertiary prevention to improve health outcomes.

Journal: BMC musculoskeletal disorders

Publication date: 3 March 2022

Short link: <https://rb.gy/0d5iom>



118. Outcomes of emergency appendectomies and cholecystectomies performed at weekends

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Abstract: Purpose: To determine the impact of hospital admissions and operations at weekends on two common emergency general surgeries (cholecystectomy and appendectomy) and their outcomes. **Methods:** A total of 539 patients were included in the study. Information on patient demographics, comorbidities, admission date, surgery date, complications, readmission, and follow-up details were collected from electronic medical records. **Results:** Most patients were admitted to hospital on weekdays (n = 391), and 444 surgeries were performed on weekdays, while 86 surgeries were performed at weekends. No significant difference was found between the type of surgery performed on weekday and weekend admissions (P = 0.384). Surgical procedures of patients admitted to hospital on a weekend tended to be delayed by a median of one day compared with weekday admissions, with a similar overall length of stay for both groups. Weekend admissions were associated with higher complication rates than weekday admissions (12.2 vs. 6.1%). Patients who were operated on at weekends were younger in age than those admitted on weekdays (32 vs. 30 years old, P = 0.019). More appendectomies were performed at weekends (77.9% vs. 45.9%), and fewer cholecystectomies were performed (22.1 vs. 54.1%, P = 0.000). **Conclusions:** The surgical procedures of patients admitted to hospital on weekends tended to be delayed by 1 day and had a higher rate of complications. Appendectomy was the most common performed weekend surgery.

Journal: European Journal of Trauma and Emergency Surgery

Publication date: 07 March 2022

Short link: <https://rb.gy/js0xgw>



119.Characteristics and Types of Urolithiasis in the Eastern Region of Saudi Arabia: A Single-Center Retrospective Study

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Abstract Introduction Urolithiasis is one of the most common conditions encountered in clinical practice with the prevalence increasing globally in the last few decades. Urolithiasis has been found to be more common in areas with a hot climate, such as Saudi Arabia. The aim of this study was to determine the characteristics and the types of urolithiasis most frequently found in the Eastern Region of Saudi Arabia. Methods This was a single-center retrospective cohort study based on data extracted from an electronic hospital information system (BESTCare) of all patients diagnosed with urolithiasis at King Abdulaziz Hospital, a tertiary care center in Saudi Arabia's Eastern Region. From January 2013 to December 2016, all adult patients aged 18 and up who presented with urinary calculi (renal and ureter) were included in the study. Results A total of 235 patients were reviewed, with a mean age of 48.52 years. Renal calculi were more prevalent in males (74.5%). Calcium oxalate was the predominant type (76%), followed by uric acid calculi (18%) and cystine calculi (4.8%). A small proportion (1.2%) was calcium phosphate calculi. The most frequently associated comorbidity was hypertension (17.9%). The majority (78.5%) had a stone removal through a ureteroscopy and 8.2% by percutaneous nephrolithotomy (PCNL). The mean stone size was 12.2 ± 9.91 mm, with a mean stone Hounsfield unit (HU) of 789.9. The mean urinary PH at stone incident was 6.77, and the mean creatinine level was 92.4mmol. Conclusion This study showed that males were more affected by urolithiasis, compared to females in the Eastern Region. Furthermore, calcium oxalate was the predominant type. These findings are consistent with the literature and they highlighted the necessity for further studies in this area, to provide insight into the pathophysiology and incidence of renal calculi for improving patient care.

Journal: Cureus

Publication date: 07 March 2022

Short link: <https://rb.gy/edy0cn>



120. Adherence of Saudi women with epilepsy to folic acid intake in the preconceptional period in two tertiary care hospitals in Riyadh: A cross sectional study

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Abstract Antiseizure medication have been associated with an increasing risk of congenital anomalies. Medical authorities recommend taking folic acid during the pre-conceptional period to reduce the risk of congenital malformations in the newborns of women with epilepsy (WWE). In this cross-sectional study, we aimed to measure the adherence of Saudi WWE to folic acid intake. We included WWE visiting outpatient epilepsy clinics in King Abdulaziz Medical City and King Fahad Medical City in Riyadh between September 2017 and August 2018. By consecutive non-probability sampling, we identified 85 patients who met the inclusion criteria of the study. The data were collected by a self-administrated questionnaire. We found that the mean age of the subjects was 33 ± 7.5 years. One third were university graduates. Eighty percent were aware of the role of folic acid in preventing congenital anomalies, and 63.9% were taking it during the preconceptional period. No association was found between educational level and adherence to folic acid intake. In conclusion, adherence to folic acid intake among Saudi WWE is not optimal. More efforts are needed to increase patient adherence to folic acid intake.

Journal: Epilepsy & Behavior Reports

Publication date: 9 March 2022.

Short link: <https://rb.gy/c5kahc>



121. Real-world effectiveness and safety profile of teriflunomide in the management of multiple sclerosis in the Gulf Cooperation Council countries: An expert consensus narrative review

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Abstract Background: The prevalence of multiple sclerosis (MS) is increasing in Gulf Cooperation Council (GCC) countries. Multiple sclerosis contributes to significant burden on patients and caregivers. The pharmacological treatment in MS involves treating acute exacerbations and preventing relapses and disability progression using disease-modifying therapies. Clinical evidence suggests that teriflunomide is one of the therapeutic choices for patients with relapsing-remitting MS (RRMS). However, genetic and cultural differences across different regions may contribute to variations in drug use. Therefore, it is necessary to consider real-world evidence for teriflunomide usage in GCC countries. Methods: An expert group for MS gathered from GCC countries in December 2020. The consensus highlighting role of teriflunomide in MS management has been developed using clinical experiences and evidence-based approach. Results: The expert-recommended patient profile for teriflunomide usage includes individuals aged 18 years and above, both men and women (on effective contraceptives) with clinically isolated syndrome or RRMS. The factors considered were cost-effectiveness of the drug, patient preference, adherence, monitoring, established safety profile, and coronavirus disease 2019 status. Conclusion: Expert recommendations based on their clinical experience will be more helpful to clinicians in clinical settings regarding the usage of teriflunomide and provide valuable insights applicable in day-to-day practice.

Journal: Multiple Sclerosis Journal–Experimental, Translational and Clinical

Publication date: 9 March 2022.

Short link: <https://rb.gy/c1jq5v>



122. Hidradenitis Suppurativa: Estimated Prevalence, Clinical Features, and Risk Factors in Riyadh, Saudi Arabia

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Abstract: Background: Hidradenitis suppurativa (HS) is a chronic and recurrent inflammatory disease with a global prevalence of 1-4%, characterized by multiple painful nodules, abscesses, and fistulas that form scars in intertriginous regions (i.e., inguinal, axillary, mammary). HS is a complex and debilitating disease with a negative impact on quality of life. We aim to determine the prevalence, clinical features, risk factors, and comorbidities of HS. **Methodology:** A retrospective, descriptive, cross-sectional study was conducted in King Abdulaziz Medical City from 2016 to 2020. Information of all confirmed cases of HS was extracted via computerized medical records. Data analysis was performed using SPSS version 24 (IBM Corp., Armonk, NY, USA). Categorical data were calculated based on frequency and percentage using the chi-square test to obtain p-values. **Results:** Our initial search yielded 196 cases, of which 13 were excluded due to incomplete medical information. The prevalence of HS was 1.29%. The mean age was 27 years, with a male predominance. More than one-third of our patients were morbidly obese, and most of the patients were in Hurley stage 1 of both genders. The most commonly affected area was the axilla, followed by the inguinal area. The most common coexisting disease was diabetes mellitus type 2, followed by lipid disorders and acne. **Conclusions:** This study documents the common demographic and clinical features of HS. It is a challenging disease in terms of detection and management, and it is critical to raise awareness among the public and physicians to minimize the devastating impact on HS patients.

Journal: Cureus

Publication date: 10 March 2022

Short link: <https://rb.gy/1e9l36>



123. A Staghorn Calcium Phosphate Stone in a Child With Sanjad-Sakati Syndrome: An Iatrogenic Manifestation?

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Abstract: Sanjad-Sakati syndrome (SSS) is an autosomal recessive genetic condition, with the first report discussing this condition presented in Saudi Arabia. This case report describes an iatrogenic stone as a result of hypocalcemia overtreatment, along with its subsequent management procedure. The current literature concerning the iatrogenic stone occurrence and the operative outcome of percutaneous nephrolithotomy in individuals with SS is scarce, warranting further investigation.

Journal: Cureus

Publication date: 10 March 2022

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124. The use of olive oil for skin health in a Saudi population: A cross-sectional study

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Abstract: The use of topical olive oil (OO) for skin health is common among Saudis and worldwide. Therefore, this cross-sectional study is aimed at assessing the use of topical OO for skin health among Saudis in Riyadh, Saudi Arabia. The questionnaire was administered to Saudis at four different malls in Riyadh, Saudi Arabia. A total of 401 participants were enrolled in the study. The results showed that the average knowledge score of the participants was 3.4 ± 0.3 (out of 5) and 87% had fair knowledge. The top source of knowledge among the participants was friends/relatives. In the attitude section, the average score was 4.1 ± 0.5 (out of 5). Females had a higher attitude score 4.2 ± 0.5 as compared to males 4 ± 0.5 ($P=0.03$). The most common reason for using topical OO among the participants was skin moisturizing (73%). Female gender was the only significant factor associated with the use of topical OO ($P<0.001$). The use of topical OO for skin health is highly prevalent in Riyadh, Saudi Arabia. Therefore, more awareness of the benefits and adverse effects of topical OO use is required especially from health educational organizations. The preliminary results of this study suggest further research with a larger sample in an academic setting across the nation.

Journal: Dermatology Reports

Publication date: 11 March 2022.

Short link: <https://rb.gy/oto2c9>

125. Sellar xanthogranuloma: A diagnostic challenge

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Abstract Background: Sellar xanthogranulomas are rare intracranial lesions comprising <1% of all sellar lesions. They were described as a separate entity by the World Health Organization in 2000. Because of the paucity of sellar xanthogranuloma cases reported in the literature, they remain a diagnostic challenge with indefinite origin, clinical course, and outcome. The present study reports a case of sellar xanthogranuloma describing the clinical presentation, radiological/pathological characteristics, and outcome. Case Description: A 43-year-old female, known to have diabetes, hypothyroidism, and polycystic ovarian syndrome, presented with a 2-week history of sudden right-sided facial deviation, periorbital pain, and moderate-intensity headache. The patient also reported amenorrhea not improving with polycystic ovarian syndrome treatment. Neurologic examination showed bilateral visual field defects and impaired visual acuity. Computed tomography scan, without contrast, revealed a hypodense sellar lesion with areas of hyperdensity. Magnetic resonance imaging showed a well-defined sellar lesion, exhibiting high signals on T1-weighted and T2-weighted images. The patient underwent microscopic trans-nasal trans-sphenoidal excision of the lesion. Histological sections of the sellar lesion revealed fibrous connective tissue with chronic inflammatory cells and cholesterol clefts, suggestive of xanthogranuloma. The patient is currently followed up at neurosurgery, endocrinology, and ophthalmology clinics with periodic laboratory/radiological investigations. Conclusion: Sellar xanthogranulomas remain rare intracranial lesions with few cases reported in the literature. Patients mostly present with severe hypopituitarism and visual dysfunction. They show no characteristic radiological features. The diagnosis is confirmed histopathologically, and the prognosis is generally favorable.

Journal: Surgical Neurology International

Publication date: March 2022

Short link: <https://rb.gy/wyiq1f>



126. Compliance to endoscopic retrograde cholangiopancreatography according to current guidelines and adverse outcomes of suspected choledocholithiasis in an acute care setting

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Abstract Introduction: Common bile duct (CBD) stones are common among patients who underwent cholecystectomy. However, few studies have investigated the compliance with the guidelines for the prediction of choledocholithiasis (CL). Therefore, we aim to study the compliance with the American Society for Gastrointestinal Endoscopy (ASGE) guidelines for the identification of CL in a major hospital in Saudi Arabia's capital. Methods: We conducted a retrospective chart review on adult patients admitted to emergency department at King Abdulaziz Medical City, Riyadh with gallstones between January 2016 and January 2019. Our data collection includes demographics and level of suspicion based on Transabdominal Ultrasound, liver function, amylase, and lipase tests. We then determined the likelihood of CL based on ASGE guidelines in order to assess the adherence to ASGE guidelines, the procedure's outcomes and adverse outcomes. Results: We identified 826 patients who met the study's criteria: 384 (46.4%) were compliant, while 442 (53.6%) were non-compliant with ASGE guidelines. There was a significant association between compliance and the presence of stones on ERCP in high likelihood patients. 48 (21.3%) of total ERCP procedures among all the likelihoods had adverse outcomes. 13 (40.6%) of non-compliant ERCP performed in intermediate likelihood have experienced adverse outcomes. There was a significant association between having adverse outcomes and being non-complaint with ASGE guidelines. Conclusion: Despite ASGE guidelines' recommendations, a third of high likelihood cases and the majority of intermediate likelihood cases were non-compliant. Additionally, the current guidelines for the intermediate group are somewhat vague, giving ample leeway for patients to be placed in the intermediate group, which might subject them to unnecessary interventions. To conclude, there was a great lack of compliance with ASGE guidelines that is significantly associated with adverse outcomes. Hence, reassessing the current guidelines and monitoring healthcare facilities' compliance with the updated guidelines is highly recommended.

Journal: Surgical Endoscopy

Publication date: 11 March 2022

Short link: <https://rb.gy/irqqlb>



127. Exploring the Attitudes and Perceptions of Master of Medical Education Graduates Towards Research Publication in Saudi Arabia

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Abstract Introduction: Evidence is lacking to identify what encourages students to conduct research and publish. This study aimed to understand the barriers and facilitators of research and publications from Master of Medical Education student research projects as 15-20% have published their research while 75-80% did not. **Methods:** This study used qualitative in-depth interviews with 17 graduates from the previous 13 batches of the Master of Medical Education program, Saudi Arabia. In-depth interviews were conducted with participants by face to face and Zoom, using a semi-structured interview guide. The interviews were conducted in English, and the recordings were transcribed verbatim. Next, the interview text was read multiple times to familiarize with the data for thematic analysis, where the text was coded inductively. Themes were generated by identifying patterns in the data and merging similar codes. The data were interpreted within the themes and supported with the most relevant quotations. **Results:** We identified four distinct but interrelated themes and the first theme, the importance and advantages of conducting research and its publication, explains the participants need to conduct research and publish it to survive and progress in the academic environment. In the second theme, positive experiences of conducting research and its publication, we identify what participants' positive experiences of the research process entail. In the third theme, challenges to conducting research and its publication, we explore the participants' opinions on the barriers to their efforts to undertake and publish their research. In the last theme, facilitators for conducting research and its publication, we summarize various facilitating factors that participants described as necessary to complete the research process successfully to peer-reviewed publication. **Conclusion:** Masters' student researchers, especially those with demanding projects, need to be supported by providing them with critical supervision, an enabling environment, technical support, and guidance at each step of the research process.

Journal: Advances in Medical Education and Practice

Publication date: 12 March 2022.

Short link: <https://rb.gy/hr4y1c>



128. Electronic medical record implementation in a large healthcare system from a leadership perspective

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Abstract: Background: Information on the use of change management models to guide electronic medical records (EMR) implementation is limited. This case study describes the leadership aspects of a large-scale EMR implementation using Kotter's change management model. **Methods:** This case study presents the experience in implementing a new EMR system from the leadership perspective at King Abdulaziz Medical City, a large tertiary care hospital in Riyadh, Kingdom of Saudi Arabia. We described the process of implementation and outlined the challenges and opportunities, throughout the journey from the pre-implementation to the post-implementation phases. **Results:** We described the corresponding actions to the eight domains of Kotter's change management model: creating a sense of urgency, building the guiding team, developing a change vision and strategy, understanding and buy-in, removing obstacles, creating short-term wins, building on the change and anchoring the changes in corporate culture. **Conclusions:** The case study highlights that EMR implementation is not a pure information technology project but rather is a technical-based complex social adaptive project that requires a specific set of leadership competencies that are central to its success. It demonstrates that change management models might be useful for large-scale EMR implementation.

Journal: BMC Medical Informatics and Decision Making

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Short link: <https://rb.gy/rog2mj>

129. Failure to demonstrate effects of interruptions on diagnostic reasoning: three experiments

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Abstract: Background: Diagnostic error is a major source of patient suffering. Research shows that physicians experience frequent interruptions while being engaged with patients and indicate that diagnostic accuracy may be impaired as a result. Since most studies in the field are observational, there is as yet no evidence suggesting a direct causal link between being interrupted and diagnostic error. The experiments reported in this article were intended to assess this hypothesis. Methods: Three experiments were conducted to test the hypothesis that interruptions hurt diagnostic reasoning and increase time on task. In the first experiment ($N=42$), internal medicine residents, while diagnosing vignettes of actual clinical cases were interrupted halfway with a task unrelated to medicine, solving word-spotting puzzles and anagrams. In the second experiment ($N=78$), the interruptions were medically relevant ones. In the third experiment ($N=30$), we put additional time pressure on the participants. In all these experiments, a control group diagnosed the cases without interruption. Dependent variables were diagnostic accuracy and amount of time spent on the vignettes. Results: In none of the experiments interruptions were demonstrated to influence diagnostic accuracy. In Experiment 1: Mean of interrupted group was 0.88 (SD=0.37) versus non-interrupted group 0.91 (SD=0.32). In Experiment 2: Mean of interrupted group was 0.95 (SD=0.32) versus non-interrupted group 0.94 (SD=0.38). In Experiment 3: Mean of interrupted group was 0.42 (SD=0.12) versus non-interrupted group 0.37 (SD=0.08). Although interrupted residents in all experiments needed more time to complete the diagnostic task, only in Experiment 2, this effect was statistically significant. Conclusions: These three experiments, taken together, failed to demonstrate negative effects of interruptions on diagnostic reasoning. Perhaps physicians who are interrupted may still have sufficient cognitive resources available to recover from it most of the time.

Journal: BMC Medical Education

Publication date: 16 March 2022

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130. Tuberculous Peritonitis in a Peritoneal Dialysis Paediatric Patient: A Case Report

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Abstract: Mycobacterium tuberculosis is known to cause infection primarily in the lungs, which may spread to other parts of the body causing extrapulmonary tuberculosis. Few studies in the literature identify M. tuberculosis as a cause of peritoneal dialysis (PD)-associated peritonitis among paediatric patients who have no history of pulmonary tuberculosis. PD is the most used renal replacement therapy for paediatric patients with end-stage renal disease. However, despite continuous improvements in the PD connecting system, peritonitis remains the Achilles' heel of dialysis procedures and prophylaxis for PD. Here, we report a case of M. tuberculosis peritonitis in a paediatric patient receiving PD and the infection was managed successfully with appropriate anti-tuberculous treatment. This case emphasises the importance of considering tuberculous peritonitis in PD paediatrics patients who have no history of pulmonary tuberculosis and whose PD routine cultures produce negative results.

Journal: Clinical Medicine Insights: Case Reports

Publication date: 18 March 2022

Short link: <https://rb.gy/tuxhe0>



131. HLA-DRB1 and –DQB1 Alleles, Haplotypes and Genotypes in Emirati Patients with Type 1 Diabetes Underscores the Benefits of Evaluating Understudied Populations

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Abstract Background: HLA class II (DR and DQ) alleles and antigens have historically shown strong genetic predisposition to type 1 diabetes (T1D). This study evaluated the association of DRB1 and DQB1 alleles, genotypes, and haplotypes with T1D in United Arab Emirates. **Materials and Methods:** Study subjects comprised 149 patients with T1D, and 147 normoglycemic control subjects. Cases and controls were Emiratis and were HLA-DRB1 and -DQB1 genotyped using sequence-based typing. Statistical analysis was performed using Bridging Immunogenomic Data-Analysis Workflow Gaps R package. **Results:** In total, 15 DRB1 and 9 DQB1 alleles were identified in the study subjects, of which the association of DRB1*03:01, DRB1*04:02, DRB1*11:01, DRB1*16:02, and DQB1*02:01, DQB1*03:02, DQB1*03:01, and DQB1*06:01 with altered risk of T1D persisted after correcting for multiple comparisons. Two-locus haplotype analysis identified DRB1*03:01~DQB1*02:01 [0.44 vs. 0.18, OR (95% CI) = 3.44 (2.33–5.1), $P_c = 3.48 \times 10^{-10}$]; DRB1*04:02~DQB1*03:02 [0.077 vs. 0.014, OR = 6.06 (2.03–24.37), $P_c = 2.3 \times 10^{-3}$] and DRB1*04:05~DQB1*03:02 [0.060 vs. 0.010, OR = 6.24 (1.79–33.34), $P_c = 0.011$] as positively associated, and DRB1*16:02~DQB1*05:02 [0.024 vs. 0.075, OR = 0.3 (0.11–0.74), $P_c = 0.041$] as negatively associated with T1D, after applying Bonferroni correction. Furthermore, the highest T1D risk was observed for DR3/DR4 [0.104 vs. 0.006, OR = 25.03 (8.23–97.2), $P_c = 2.6 \times 10^{-10}$], followed by DR3/DR3 [0.094 vs. 0.010, OR = 8.72 (3.17–25.32), $P_c = 3.18 \times 10^{-8}$] diplotypes. **Conclusion:** While DRB1 and DQB1 alleles and haplotypes associated with T1D in Emiratis showed similarities to Caucasian and non-Caucasian populations, several alleles and haplotypes associated with T1D in European, African, and Asian populations, were not observed. This underscores the contribution of ethnic diversity and possible diverse associations between DRB1 and DQB1 and T1D across different populations.

Journal: Frontiers in genetics

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132. Metastatic brain lesion as the initial presentation of follicular thyroid carcinoma

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Abstract Background: Metastatic brain lesions, of thyroid origin, are rare manifestations of differentiated thyroid cancer, with papillary thyroid carcinoma being the most common subtype. Considering the rarity of metastatic follicular thyroid carcinoma to the brain, the present article outlines its clinical presentation, neuroradiological findings, pathological features, and outcome. Case Description: A 52-year-old female presented with a 6-month history of progressive and holocephalic headache. Examination revealed a tracheal deviation to the left side due to an enlarged goiter. Brain CT scan showed a right occipital, slightly hyperdense lesion associated with a 0.4 cm midline shift to the left side. Brain MRI demonstrated a right occipital, avidly-enhancing, extra-axial lesion with disproportionate and extensive vasogenic edema. As the lesion was solitary, the patient underwent craniotomy and tumor resection. Histopathological examination revealed a tumor consistent of small follicles, composed of uniform round nuclei without papillary thyroid carcinoma nuclear features, suggestive of metastatic follicular thyroid carcinoma to the brain. Postoperatively, the patient was neurologically intact. She was discharged in a stable condition with laboratory/radiological investigations and follow-up at neurosurgery, endocrine, radiotherapy, and thyroid surgery clinics. Conclusion: Follicular thyroid carcinoma may rarely metastasize to the central nervous system. A high index of suspicion is required to identify patients with thyroid cancer who initially present with neurological manifestations. Complete surgical resection of the metastatic brain lesion is safe, feasible and is associated with a prolonged overall survival.

Journal: Surgical Neurology International

Publication date: 25 March 2022

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133. Suicide Attempts by Poisoning: An Experience From a High-Volume Emergency Department

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Abstract Background There has been a tremendous increase in self-poisoning behavior worldwide, with different trends depending on cultural and geographic aspects. Objectives Our study aims to assess the trends, outcomes, and predictors in patients of suicide attempts by poisoning at King Abdulaziz Medical City (KAMC) ED. Materials and methods A retrospective cohort study took place at KAMC. Frequencies and percentages were used to display categorical variables. Minimum, maximum, mean, and SD were used to display continuous variables. Chi-squared test and independent t-test were utilized to test for factors associated with suicidal intention. Results A total of 130 cases were identified. The participants were mostly females (73.8%, n = 96). Most of the participants were pediatric patients (57.7%, n = 75). The most consumed agents were acetaminophen in 59 (45.83%) and non-steroidal anti-inflammatory drugs (NSAIDs) in 22 (16.92%). The ICU admission rate was 8.5% (n = 11). The management for both populations was unspecific, involving observation, supportive measures, and symptomatic treatment. BMI (p < 0.001), gender (p < 0.001), age (p = 0.012), and a history of neuropsychiatric disorders (p < 0.001) were associated factors. Conclusion It is crucial that the trends and risk factors of self-poisoning suicide attempts are identified to provide support to those in need. Several variables of interest were noted since the two most observed agents share several key features, such as accessibility and availability. However, contradicting literature reports warrant further investigation to confirm or negate the evidence.

Journal: Cureus

Publication date: 25 March 2022

Short link: <https://rb.gy/yrs5oi>



134. Dermatology workforce over a decade in Saudi Arabia: demographics, distributions, and future challenges

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Abstract Background: The dermatology workforce is an important topic, as many countries are facing an undersupply of dermatologists, while some are expecting a surplus. Therefore, we conducted this study to identify the current dermatology workforce demographics in Saudi Arabia (SA) and the changes in such demographics over the last 10 years to identify future workforce-related challenges. Methods: This study was conducted in SA, and it included all the practicing dermatologists in the country over the last decade (2010-2020). The number of practicing dermatologists, their gender, their nationality, and dermatology residency candidates and graduates were obtained from the Saudi Commission for Health Specialties (SCFHS). The geographic distribution of dermatologists was obtained from the Ministry of Health Statistical Yearbook 2018. Results: As of September 2020, there were 2678 practicing dermatologists in SA at a ratio of 7.82 dermatologists per 100 000 people. Of the 2678 dermatologists, only 24.8% were Saudis. The Saudi dermatologist ratio has been almost constant over 10 years, ranging from 1.3 to 1.9 per 100 000 people. Of all Saudi dermatologists, 42% were female. The number of residents who graduated from the residency program was not consistent for each year and ranged from 4 to 25. The number of dermatologists varied by region, with 9.2 in Riyadh and 3.4 in Najran per 100 000 people. Conclusions: The results of our study revealed that a quarter of dermatologists in SA are Saudis. In addition, the number of non-Saudi dermatologists has increased in the last 10 years, while the number of Saudi dermatologists to the population has remained almost constant. There is also a geographic maldistribution of dermatologists, with urban areas having a higher number of dermatologists than rural areas. We encourage local studies that can elucidate the factors influencing the workforce, such as the dermatologist appointment waiting time, dermatologists' working hours, and the geographic maldistribution of dermatologists in the country.

Journal: Human Resources for Health

Publication date: 28 March 2022

Short link: <https://rb.gy/ntzp48>



135. Improving coordination of lung cancer care at a tertiary healthcare center in Saudi Arabia

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Abstract Objectives: To evaluate the impact of coordination of care of lung cancer in a tertiary care center. **Methods:** A retrospective study was carried out on all patients diagnosed with lung cancer between 2016-2017 at King Abdulaziz Medical City, Riyadh, Saudi Arabia. Data were collected from medical records, which included demographic data, the interval between cancer suspicion and definitive therapy, multidisciplinary tumor board (MTB) data, and palliative care. **Results:** A total of 60 (41 males and 19 females) cases of lung cancer were analyzed. The majority of patients had adenocarcinoma (63.3%) and stage IV (70%) lung cancer. A total of 32 (76.2%) of stage IV patients were referred to palliative care. Only 40 (66.7%) of the patients were presented in the MTB, of whom new findings were found in 15 (37.5%) patients including pathology findings in 3 (7.5%), radiology findings in 7 (17.5%), and staging data in 5 (12.5%). Multidisciplinary tumor board discussion had impacted the management in 14 (35%) of patients presented. **Conclusion:** Discussion of lung cancer cases in MTB had a positive influence on the coordination of patients' care.

Journal: Saudi Medical Journal

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Short link: <https://rb.gy/honxxz>



136. Nutrition priorities in obese critically ill patients

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Abstract Purpose of review: During critical illness, several neuroendocrine, inflammatory, immune, adipokine, and gastrointestinal tract hormone pathways are activated; some of which are more intensified among obese compared with nonobese patients. Nutrition support may mitigate some of these effects. Nutrition priorities in obese critically ill patients include screening for nutritional risk, estimation of energy and protein requirement, and provision of macronutrients and micronutrients. **Recent findings:** Estimation of energy requirement in obese critically ill patients is challenging because of variations in body composition among obese patients and absence of reliable predictive equations for energy expenditure. Whereas hypocaloric nutrition with high protein has been advocated in obese critically ill patients, supporting data are scarce. Recent studies did not show differences in outcomes between hypocaloric and eucaloric nutrition, except for better glycemic control. Sarcopenia is common among obese patients, and the provision of increased protein intake has been suggested to mitigate catabolic changes especially after the acute phase of critical illness. However, high-quality data on high protein intake in these patients are lacking. Micronutrient deficiencies among obese critically ill patients are common but the role of their routine supplementation requires further study. **Summary:** An individualized approach for nutritional support may be needed for obese critically ill patients but high-quality evidence is lacking. Future studies should focus on nutrition priorities in this population, with efficient and adequately powered studies.

Journal: Current Opinion in Clinical Nutrition & Metabolic Care

Publication date: March 2022

Short link: <https://rb.gy/lwatr0>



137. Risk Factors for Infection After Noncultured Melanocyte Keratinocyte Transplantation for Vitiligo

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Abstract Background: Noncultured autologous melanocyte keratinocyte transplantation is considered a safe and effective treatment option in stable vitiligo. Factors associated with risk of infection are still poorly explored. Objective: To search for factors associated with the risk of infection after noncultured autologous melanocyte keratinocyte transplantation (MKTP). Method: This was a retrospective multicentric study including all patients with vitiligo who had undergone noncultured autologous MKTP between January 2010 and December 2020. Data included age, sex, site, and size of the treated area, recipient area preparation method, and antibiotic prescription preceding the procedure. Univariate and multivariate analyses to search for factors associated with infection after MKTP were conducted. Results: A total of 672 patients were included. Infection was present in 39 of the patients (6%) (95% confidence interval [CI]: 4.2%-7.7%). The following factors were independently associated with higher rate of infection: cryotherapy for recipient area preparation (OR 19.76, 95% CI: 3.21-121.74) and treated lesions on the trunk (OR 2.67, 95% CI: 1.21-5.90), lower extremity (OR 5.99, 95% CI: 2.49-14.40), and foot (OR 13.15, 95% CI: 4.37-39.62). Conclusion: Infection after noncultured autologous MKTP is not uncommon. Cryotherapy for recipient area preparation and lesions on the trunk, lower extremity, or foot was independently associated with an increased risk of infection.

Journal: Dermatologic Surgery

Publication date: March 2022

Short link: <https://rb.gy/rmoyvn>



138. Incidence of hip fracture in Saudi Arabia and the development of a FRAX model

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Abstract A prospective hospital-based survey in representative regions of Saudi Arabia determined the incidence of fractures at the hip. The hip fracture rates were used to create a FRAX® model to facilitate fracture risk assessment in Saudi Arabia. Objective: This paper describes the incidence of hip fracture in the Kingdom of Saudi Arabia that was used to characterize the current and future burden of hip fracture, to develop a country-specific FRAX® tool for fracture prediction and to compare fracture probabilities with neighbouring countries. Methods: During a 2-year (2017/2018) prospective survey in 15 hospitals with a defined catchment population, hip fractures in Saudi citizens were prospectively identified from hospital registers. The number of hip fractures and future burden was determined from national demography. Age- and sex-specific incidence of hip fracture and national mortality rates were incorporated into a FRAX model for Saudi Arabia. Fracture probabilities were compared with those from Kuwait and Abu Dhabi. Results: The incidence of hip fracture applied nationally suggested that the estimated number of hip fractures nationwide in persons over the age of 50 years for 2015 was 2,949 and is predicted to increase nearly sevenfold to 20,328 in 2050. Hip fracture rates were comparable with estimates from Abu Dhabi and Kuwait. By contrast, probabilities of a major osteoporotic fracture or hip fracture from the age of 70 years were much lower than those seen in Abu Dhabi and Kuwait due to higher mortality estimates for Saudi Arabia. Conclusion: A country-specific FRAX tool for fracture prediction has been developed for Saudi Arabia which is expected to help guide decisions about treatment.

Journal: Archives of osteoporosis

Publication date: 02 April 2022

Short link: <https://rb.gy/ypnvjd>



139. Management of pain due to cervical multilevel disk bulges and spinal stenosis with a focused vibro- percussion wave treatment: A case report

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Abstract A patient presenting with low back pain received 18 treatments of FDA- approved low- frequency vibro- percussion wave stimulation known as Khan Kinetic Treatment (KKT). Following KKT, he demonstrated improvement in pain, function, quality of life, sleep, and trunk range of motion with no adverse events.

Journal: Clinical Case Reports

Publication date: 4 April 2022

Short link: <https://rb.gy/uzrcfx>

140. The Application of Optical Coherence Tomography Angiography in a Patient with Systemic Lupus Erythematosus

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Abstract: A 15-year-old girl presented to the emergency department with a history of bilateral blurred vision for one day, with greater severity in the right eye. Fundus examinations revealed cotton wool spots, dot hemorrhage, and hard exudate. She underwent optical coherence tomography angiography (OCTA), which showed the presence of macula ischemia, decreased vascular density, mild retinal fluid, severe ischemia, some macular edema, and vascular sheathing, indicating active vasculitis in the right eye. Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that can affect many organs in the body, including the eye. Ocular involvement is one of the most well-known features. Retinal vasculitis is a rare complication of SLE that is characterized by vascular sheathing that can progress to vaso-occlusion. We report the clinical features of SLE using OCTA.

Journal: Cureus

Publication date: 05 April 2022

Short link: <https://rb.gy/tg1qsh>



141. Effect of chronic hydroxychloroquine use on COVID-19 risk in patients with rheumatoid arthritis and systemic lupus erythematosus: a multicenter retrospective cohort

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Abstract: Objective: Hydroxychloroquine (HCQ) has been used during the coronavirus disease 2019 (COVID-19) pandemic because of its reported anti-viral activity. This study examined the association of chronic HCQ use with the incidence and complications of COVID-19. **Methods:** This retrospective cohort study included adults with rheumatoid arthritis and/or systemic lupus erythematosus who visited rheumatology clinics in three tertiary hospitals in Riyadh, Saudi Arabia between January 2019 and December 2020. Patients were categorized into two groups based on HCQ use. Data were obtained from the electronic health record and by interviews with patients. The primary study objective was the incidence of COVID-19 and its complications from March 2020 to February 2021. **Results:** Almost 11% of the study cohort was positive for COVID-19, and the incidence of COVID-19 was similar between HCQ users (11.11%) and nonusers (10.86%). Disease complication rates were similar in the study arms, and they mainly included fever, dry cough, fatigue, and breathing difficulty. **Conclusions:** This study revealed no significant association between chronic HCQ use and the incidence of COVID-19, and disease complications were similar in the study arms.

Journal: Journal of International Medical Research

Publication date: 06 April 2022

Short link: <https://rb.gy/rh6bjh>



142. Bladder Embryonal Rhabdomyosarcoma Among Children: A Descriptive Overview From Saudi Arabia

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Abstract: Introduction Although rhabdomyosarcoma (RMS) is the most common type of soft-tissue sarcoma seen in the pediatric population, it is rarely located in the bladder. This study aims to provide a descriptive overview of bladder rhabdomyosarcoma among children in Saudi Arabia. **Methods** This retrospective cohort study included all children diagnosed with embryonal rhabdomyosarcoma from January 1, 2008, to December 31, 2017. Frequency and percentage were used to display the categorical variables and a mean and standard deviation for the continuous variables. Data were collected from the Saudi Cancer Registry (SCR). **Results** A total of 16 patients were detected. Most of the patients (43.8%) were toddlers (1-3 years) and males (87.5%). Most of the tumors were multifocal (100%), well-differentiated (43.75%), and localized (43.75%). The mortality rate was 12.5% with a diagnosis to death interval of 1.26 ± 0.46 years. The incidence pattern of bladder rhabdomyosarcoma fluctuated across the years. The highest incidence of bladder rhabdomyosarcoma (0.17) per 1 million was observed in 2012 while the lowest incidence (0.03) per 1 million was observed in 2015. **Conclusion** We concluded that tumor presentation in early childhood is associated with a better prognosis. Moreover, males are predominantly affected by this tumor. Through our study, we tried to fill the knowledge gap regarding the descriptive statistics of bladder RMS in Saudi children. We believe that it would add significant value to the existing literature and help in better understanding the disease.

Journal: Cureus

Publication date: 07 April 2022

Short link: <https://rb.gy/aainj7>



143. Recurrent Adipsic Hyponatremia in a Fully Independent Non-psychiatric Patient With Multiple Congenital Anomalies: A Case Report

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Abstract Osmoregulation is a fundamental process of homeostasis that maintains metabolic and biochemical reactions, thermoregulation, and fluid-electrolytes balance. Fluid-electrolytes imbalance leads to various clinical manifestations ranging from mild weakness to severe neurological dysfunction. Adipsic hyponatremia is an exceedingly rare life-threatening condition characterized by defective osmoregulatory mechanisms. It is more often reported in patients with severe untreated psychiatric disorders for unknown etiologies, but it may result from congenital or acquired hypothalamic lesions in the form of stroke, neoplastic infiltration, trauma, or infection. Herein we report an unusual case of isolated hyponatremia in a fully independent non-psychiatric 27-year-old diabetic male with spina bifida, repaired cleft palate, and mild caudal regression syndrome.

Journal: Cureus

Publication date: 08 April 2022

Short link: <https://rb.gy/enrgem>



144. Association Between Asthmatic Patients' Asthma Control Test Score and the Number of Exacerbations per Year in King Abdulaziz Medical City, Riyadh

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Abstract: Background Asthma is a reactive airway disease that has a high prevalence across the globe. Asthma exacerbations can occur due to various bacterial and viral infections that irritate nerve endings in the airways. With time, airway obstruction follows, and patients with asthma have various symptoms that occur intermittently. Asthma symptoms primarily include breathlessness, wheezing, coughing, and chest tightness. This research focused on the association between the Asthma Control Test (ACT) score and number of exacerbations per year. **Methods** A questionnaire-based, cross-sectional study was conducted at the outpatient pulmonary clinic, King Abdulaziz Medical City, a tertiary hospital in Riyadh. **Results** A total of 227 adult asthma patients were enrolled in this study, most of them were females (72.7%). Average age of the participants was 47.3 ± 13.8 years. The average ACT score was found to be 18.5 ± 4.9 out of 25. Uncontrolled asthma was present in 26% of the patients, 22.9% were partially controlled and 51.1% had well-controlled asthma; to relieve the exacerbation most of the patients used salbutamol (51.5%), 35.2% used oxygen and 30.4% did not use any medication. Gender and age were not associated with ACT score ($P = 0.787$ and 0.797 , respectively), whereas number of exacerbations was significantly associated with ACT score ($P = 0.000$), as fewer exacerbations were reported with higher ACT scores. **Conclusion** About one-quarter of the patients had uncontrolled asthma, slightly less than one-quarter of the patients had partially controlled asthma while more than half of the patients had well-controlled asthma. Number of exacerbations was found to be significantly associated with asthma control test score as fewer exacerbations were reported in well-controlled asthmatic patients.

Journal: Cureus

Publication date: 10 April 2022

Short link: <https://rb.gy/c1etey>



145. The Influence of Diet, Water Intake, Exercise, Education Level, and Income on the Quality of Sleep in the Saudi Population: A Cross-Sectional Study

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Abstract Background: Sleep quality is known to affect and be affected by multiple factors in one's life through physiological and psychological manners. The study aimed to assess the influence of diet, water intake, exercise, level of education, and income on the quality of sleep of the Saudi population. **Materials and methods:** The study was a cross-sectional design that used a validated standardized fact-based questionnaire developed based on the Insomnia Severity Index. The data collection continued for three months, during which subjects were approached and interviewed in many locations, ensuring the Saudi population's best representation. **Results:** The study included 496 subjects, of whom 74% were men. Most of the participants (51.4%) were aged between 18 and 25 years old and were unmarried (64.2%). The education level of participants was between high school and bachelor's level (45-43%), respectively. Around 53% believed that they were following an unhealthy diet, although 42% of the total had a normal BMI. About 44% of participants consumed about 1-2 L of water daily, and 42% never exercised. The majority (39%) earned an income of >5000 Saudi Riyals. Forty-two percent of the participants reported subthreshold insomnia. The data analysis showed that social status and diet were significantly related to sleeping quality ($P = 0.051$, $P = 0.027$). Additionally, the level of education was found to be an important confounding factor. **Conclusion:** Diet and social status were significantly related to insomnia, and educational level served as a significant confounding factor. Neither water intake, exercise, BMI category, age, nor gender were associated with insomnia.

Journal: Cureus

Publication date: 12 April 2022

Short link: <https://rb.gy/lhwp2i>



146. Depression and Quality of Life Among Caregivers of Pediatric Cancer Patients

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Abstract: Background: This study aimed to assess the prevalence of depression, depressive symptoms, and quality of life among caregivers of pediatric cancer patients and the associated risk factors. Methodology: In total, 73 participants were recruited for this cross-sectional study in King Abdullah Specialist Children Hospital. Two self-administered questionnaires were used, the Patient Health Questionnaire 9 (PHQ9) and World Health Organization Quality of Life (WHOQOL), to assess the depressive symptoms as well as the prevalence of clinical depression and quality of life, respectively. Data were analyzed using SPSS (IBM Corp., Armonk, NY, USA) to assess the level of depression and quality of life and the associated factors using Fisher's exact and Mann-Whitney tests. Results: It was found that 90.4% were females and 9.6% were males, with 49.3% being between the ages of 31 and 40. Regarding the level of depression, 47.80% had mild depression. There were no significant associations between the baseline characteristics and the level of depression. Gender was significantly associated with all four domains of quality of life, age was significant in physical health and environmental domains, duration of illness was significant only in the physical health domain, while education level was found to be not significantly associated with any of the domains. Conclusions: This study found that nearly half of the participants had mild levels of depression, and the four domains of the WHOQOL were significantly affected by several risk factors. We recommend further research into this topic with larger sample sizes, as well as a follow-up assessment of caregivers for a more accurate representation of caregivers' depression and quality of life. We recommend that in addition to the assessment of pediatric cancer patients, caregivers must also be assessed due to the burden associated with the task of being a caregiver.

Journal: Cureus

Publication date: 18 April 2022

Short link: <https://rb.gy/z3wjnv>



147. The association of timing of pharmacological prophylaxis and venous thromboembolism in patients with moderate-to-severe traumatic brain injury: A retrospective cohort study

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Abstract **OBJECTIVES:** Patients with traumatic brain injury (TBI) have an increased risk for venous thromboembolism (VTE). The current guidelines recommend pharmacologic prophylaxis, but its timing remains unclear. **METHODS:** In this retrospective cohort study, patients with moderate-to-severe TBI admitted to a tertiary care intensive care unit between 2016 and 2019 were categorized into two groups according to the timing of pharmacologic prophylaxis: early if prophylaxis was given within 72 h from hospital admission and late if after 72 h. **RESULTS:** Of the 322 patients in the cohort, 46 (14.3%) did not receive pharmacological prophylaxis, mainly due to early brain death; 152 (47.2%) received early pharmacologic prophylaxis and 124 (38.5%) received late prophylaxis. Predictors of late pharmacologic prophylaxis were lower body mass index, intracerebral hemorrhage (odds ratio [OR], 3.361; 95% confidence interval [CI], 1.269–8.904), hemorrhagic contusion (OR, 3.469; 95% CI, 1.039–11.576), and lower platelet count. VTE was diagnosed in 43 patients on a median of 10 days after trauma (Q1, Q3: 5, 15): 6.6% of the early prophylaxis group and 26.6% of the late group ($P < 0.001$). On multivariable logistic regression analysis, the predictors of VTE were Acute Physiology and Chronic Health Evaluation II score, subarachnoid hemorrhage, and late versus early pharmacologic prophylaxis (OR, 3.858; 95% CI, 1.687–8.825). The late prophylaxis group had higher rate of tracheostomy, longer duration of mechanical ventilation and stay in the hospital, lower discharge Glasgow coma scale, but similar survival, compared with the early group. **CONCLUSIONS:** Late prophylaxis (>72 h) was associated with higher VTE rate in patients with moderate-to-severe TBI, but not with higher mortality.

Journal: Annals of Thoracic Medicine

Publication date: 19 April 2022

Short link: <https://rb.gy/arviv4>



148. Primary spinal cord glioblastoma: A rare cause of paraplegia

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Abstract Background: Primary spinal glioblastomas are extremely rare neoplasms and account for only 0.2% of glioblastoma cases. Due to the rare incidence of spinal cord glioblastoma in the literature, its natural history/ outcome remains undetermined. The present article describes the clinical presentation, radiological/pathological characteristics, and outcome of the primary spinal cord glioblastoma. Case Description: Two young patients initially presented with paresis that rapidly progressed to paraplegia. Nondermatomal sensory deficits were also noted, mainly affecting the lower limbs. Neuroradiological imaging revealed an extensive intramedullary spinal cord lesion, with no evidence of concurrent intracranial space-occupying lesions. Thoracic laminectomy, followed by tumor debulking and/or biopsy, was performed. The histomorphology was suggestive of glioblastoma, the World Health Organization grade 4 (Isocitrate Dehydrogenase-wild type). They were discharged in stable condition and were started on chemoradiotherapy, with clinicoradiological follow-up. One patient passed away after 9 months of initial presentation. The other patient was alive at 6-month follow-up. Conclusion: Primary spinal glioblastoma is a rare and challenging tumor. Patients commonly present with a progressive paresis, resulting in paraplegia, regardless of the surgical resection extent, and received adjuvant chemotherapy. Therefore, primary spinal cord glioblastoma should be considered in patients reporting a rapid lower limb weakness with neuroradiological evidence of extensive, exophytic intramedullary lesion of the spine. A biopsy-proven histopathological diagnosis is of indisputable importance to establish the final diagnosis and plan treatment options.

Journal: Surgical Neurology International

Publication date: 22 April 2022

Short link: <https://rb.gy/tzbftb>

149. Medical education at the time of COVID-19: A national multi-institutional experiences in undergraduate education in Saudi Arabia

Authors: Nouf Alrumaihi*, Mona Hmoud AlSheikh*, Rania G Zaini*, Abdulaziz Alamri*, Ayyub Patel*, Ali Alassiri*, Hussein M Ageely*, Hamza Abdulghani*, Ahmad Alamro*, Ahmad Alrumayyan¹, Khalid Fouda Neel*, Mona M Soliman*

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Abstract Background: The coronavirus disease-2019 (COVID-19) pandemic has disrupted medical education worldwide. This study investigates how Saudi medical colleges face the pandemic and proceed with teaching and assessment plans. The study also highlights the best practices employed by Saudi medical colleges during the time of COVID-19 crisis and proposes a contingency plan in the event of future outbreaks necessitating similar containment measures. **Methods:** This cross-sectional study was conducted among medical colleges in Saudi Arabia between June and August 2020. A convenience sampling method was applied. An online questionnaire was designed. The questionnaire consisted of six main parts: basic demographic data, curriculum, teaching and learning, learning management systems (LMS), assessment, and lessons learned. The questions targeting the educational process focused on what was happening before and what was done during the pandemic. Data were collected using Google Forms. The data was analyzed using SPSS. **Results:** A variety of teaching modalities were used before the pandemic, including class lectures (95.46%), problem-based learning (70%), case-based learning (47.25%), team-based learning (43.67%), videos/online interaction (24.58%), and flipped classroom (18.13%). During the pandemic, 97.87% of the participants used video lectures. During the pandemic, PBL and tutorial usage were reduced to 40.09% and 48.44% compared to 71.59% and 64.91% before the pandemic, respectively. Most faculty members (65.39%) reported no problems (nor did they encounter any obstacles) during online classes. Fully 96.18% of participants used Blackboard LMS during the pandemic. During the COVID-19 pandemic, 50.83% of participants reported utilizing continuous assessment, and 50.35% reported that the summative (final) assessment they performed was an online assessment. Most participants reported (85.68%) use online multiple-choice questions, followed by students' projects (34.84%), online SAQs (25.53%), and online objective structured clinical examinations (21.47%) if the pandemic were to continue. **Conclusions:** This study's value lies in the large sample of faculty and nationwide distribution of responses. Study results enable an understanding of early heuristic responses to online education, which may be used as a guide for mitigation efforts and to identify success stories, obstacles, key issues, and solutions.

Journal: Journal of Nature and Science of Medicine

Publication date: 28 April 2022

Short link: <https://rb.gy/cugnv8>



150. Early seizures in stroke - frequency, risk factors, and effect on patient outcomes in a tertiary center in Saudi Arabia

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Abstract Objectives: To determine the frequency, risk factors, and outcomes of Early seizure (ES) after stroke in a Saudi cohort. Methods: A retrospective study was conducted in King Abdulaziz Medical City, Riyadh, KSA. All stroke patients whether they had first or recurrent stroke were included from February 2016 to December 2017. Data were analyzed using the SAS software version 9.4. Results: Out of 665 patients, 456 (68.6%) were males and 564 (85.2%) were Saudis; the cohort's mean age was 60.6±12.6 years. Fifty-one (7.7%) patients had ES, which were more common in women ($p=0.0123$). Loss of consciousness ($p=0.0402$) and confusion (<0.0007) were associated with ES, whereas unilateral weakness ($p=0.001$) and unilateral numbness ($p=0.0317$) at presentation decreased the risk of ES. Vascular risk factors did not differ between patients with and without ES. Hemorrhagic stroke was associated with ES ($p=0.0054$), whereas patients with small vessel disease were less likely to develop ES ($p=0.0013$). Patients with ES had more severe stroke (NIHSS >5) ($p=0.0139$), more ICU admissions (49% vs. 26.2%; $p=0.0005$), longer length of hospital stay (44.9 days vs. 24.9 days; $p=0.0018$), higher rates of stroke-related complications (e.g. recurrent stroke, pulmonary embolism, hospital acquired infections, and need for tracheostomy and gastrostomy tube placement) ($p\leq0.0001$), and were likely to be more severely disabled defined as mRS 3-5 at discharge (47.7% vs. 40.8%; $p=0.0055$) or to die in hospital (11.8% vs. 4.6%; $p\leq0.0001$). Conclusion: The ES after stroke were common in our cohort. Increased stroke severity and confusion were independent predictors of ES. The ES were associated with higher rates of in-hospital complications, longer length of hospital stay, and worse outcomes at discharge.

Journal: Neurosciences Journal

Publication date: April 2022

Short link: <https://rb.gy/hcyi7k>



151. Expanding the genotype and phenotype spectrum of SYT1-associated neurodevelopmental disorder

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Abstract In this study, we expand the genotypes and phenotypes and identify discriminating features of this disorder. Methods: We describe 22 individuals with 15 de novo missense SYT1 variants. The evidence for pathogenicity is discussed, including the American College of Medical Genetics and Genomics/Association for Molecular Pathology criteria, known structure-function relationships, and molecular dynamics simulations. Quantitative behavioral data for 14 cases were compared with other monogenic neurodevelopmental disorders. Results: Four variants were located in the C2A domain with the remainder in the C2B domain. We classified 6 variants as pathogenic, 4 as likely pathogenic, and 5 as variants of uncertain significance. Prevalent clinical phenotypes included delayed developmental milestones, abnormal eye physiology, movement disorders, and sleep disturbances. Discriminating behavioral characteristics were severity of motor and communication impairment, presence of motor stereotypies, and mood instability. Conclusion: Neurodevelopmental disorder-associated SYT1 variants extend beyond previously reported regions, and the phenotypic spectrum encompasses a broader range of severities than initially reported. This study guides the diagnosis and molecular understanding of this rare neurodevelopmental disorder and highlights a key role for SYT1 function in emotional regulation, motor control, and emergent cognitive function.

Journal: Genetics in Medicine

Publication date: April 2022

Short link: <https://rb.gy/sgqiag>



152. Saudi association for the study of liver diseases and transplantation position statement on the hepatology workforce in Saudi Arabia

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Abstract The field of hepatology has evolved significantly over the last two decades. Hepatology practice in Saudi Arabia (SA) was dominated by hepatitis B and C viruses but is now being overtaken by patients with non-alcoholic fatty liver disease. These patients require greater medical attention as their care is more complex compared to patients with viral hepatitis. In addition, liver transplantation (LT) has expanded significantly in SA over the last three decades. There is a necessity to increase the hepatology workforce to meet the demand in SA. The time has come to reinforce the transplant hepatology fellowship program, that was launched recently, and to develop a nurse practitioner practice model to meet these demands. In addition, SA is going through a health care reform to enhance health care delivery which may affect the financial compensation policies of various specialties including gastroenterology and hepatology. Therefore, the Saudi Association for the Study of Liver diseases and Transplantation (SASLT) established a task force to discuss the current and future demands in the hepatology workforce in SA, as well as to discuss different avenues of financial compensation for transplant hepatologists in LT centers.

Journal: Saudi journal of gastroenterology

Publication date: April 2022

Short link: <https://rb.gy/hpekzz>



153. International trends of nursing career path: A systematic review

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Abstract On-the-job professional development activities allow nurses to increase their knowledge and skills without needing to leave the work environment. However, a clear career path for nurses' professional development is still lacking. Aim: Our systematic review aims to identify the national and international trends regarding on-the-job training for nursing career path development. Methods: We conducted an electronic search for studies published from 2000 to 2019 using the Cumulative Index to Nursing and Allied Health Literature, PubMed, and Medline databases. We included studies in our review if they described on-the-job professional development activities for nurses, were written in English, and were published in indexed journals. We used the Preferred Reporting Items for Systematic Review and Meta-Analysis guidelines and the guideline for conducting systematic reviews in medical education. Results: We included a total of 18 studies. The sample size ranged from 2 to 1600 participants. The on-the-job professional development activities we conducted were of short, medium, and long durations. In all studies, the activities increased nurses' knowledge and skills. No data were reported about nurses' retention in most of the studies. Only one study reported that using e-learning and clinical training with nurse-mentors in a community setting for a long period of time increased their retention. Conclusion: Numerous on-the-job professional development activities are available for nurses. However, a clear career path for nursing professional development needs to be developed, especially for nurses holding diplomas. On-the-job professional development activities allow nurses to increase their knowledge and skills without needing to leave the work environment. However, a clear career path for nurses' professional development is still lacking.

Journal: Saudi Journal for Health Sciences

Publication date: 2 May 2022

Short link: <https://rb.gy/rzji8l>



154. The relationship between lifestyle and academic achievement among health profession students

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Abstract Background: Lifestyle has significant effects on grade point average (GPA). Lifestyle and GPA are majorly interconnected, and the way students live affects their GPA. This study aims to find relationship between lifestyle factors such as depression, anxiety, and physical activity (PA) with academic achievement. Methods: This analytic cross-sectional study was conducted in a largest public sector university in Saudi Arabia from October 2019 to February 2020. A survey was distributed to the college students of medicine, pharmacy, dentistry, and applied medical sciences using quota sampling technique, and all students who agreed on participation were included (N = 406). Data were collected using three self-administered questionnaires: Generalized anxiety disorder-7, Patient Health Questionnaire-9, and International Physical Activity Questionnaire. Analysis of variance was done to assess the association of study variables. A test with p-value < 0.05 was considered to be significant Results: The response rate was 90%. The study did not find a significant relation between depression, anxiety, or PA, and GPA. However, analysis revealed a significant association between components of lifestyle with demographics. The female participants showed higher rates of depression and anxiety than male participants did (p = 0.008, 0.023, respectively). In the study population, younger students were found more depressed than older students were (p = 0.025). Additionally, pharmacy students reported higher depression than other health professional students did (p = 0.042) and students with both alive parents had lower rates of depression (p = 0.025). Conclusion: Although study did not find any association between the level of PA, psychosocial status and academic achievement; however, a significant association between the genders, age, colleges, and alive parents with healthy lifestyle. Longitudinal studies with multiple institutions are recommended.

Journal: International Journal of Medicine in Developing Countries

Publication date: May 2022.

Short link: <https://rb.gy/v77ure>



155. COVID-19 infection related olfactory dysfunction in Saudi Arabia: Community-based study

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Abstract: Background: loss of smell is a common symptom of coronavirus infections. Studies have shown that patients following recovery from COVID-19 develop olfactory dysfunction which can persist for an extended period. The purpose of this study is to assess the long-term olfactory dysfunction and its associated factors in individuals with a history of infection COVID-19 infection, as well as the impact of olfactory dysfunction on quality of life in Saudi Arabia. **Methods:** A questionnaire based cross-sectional study was conducted targeting individuals with a history of COVID-19 infection. **Results:** A total of 174 participants were included in this study. The percentage of anosmia, hyposmia, parosmia, and phantosmia among the participants was 11.5%, 37.4%, 40.8%, and 33.3% respectively. Parosmia was significantly associated with olfactory training (P-value= 0.019). Olfactory training and age group from 46 to 55 years were showed significant association with phantosmia (ghost odors) (P-value= 0.008, 0.012) respectively. 28.7% of participants reported that their smell sense problems caused them to eat less than previously, and 21.8% reported that they ate out less. 13.8% stated that their smell sense issues have a negative impact on their daily social activities, and according to 5.2%, changes in the smell sense isolated them socially. **Conclusion:** Long-term olfactory dysfunction was shown to be common among individuals who had a history of COVID-19 infection. The quality of life of those who are affected by olfactory dysfunction is negatively impacted. Further research is recommended to understand the pathophysiology of anosmia, hyposmia, and phantosmia in COVID-19 patients.

Journal: Medical Science

Publication date: 02 May 2022

Short link: <https://rb.gy/ozbz4j>



156. Subcutaneous Splenosis Presenting 37 years post-traumatic splenectomy; A Case Report

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Abstract Introduction: The term splenosis refers to autotransplantation of splenic tissue in ectopic sites. Ectopic splenic tissue may be found in the liver, thorax, pelvis and subcutaneous tissues following traumatic splenectomy. Although clinically insignificant, local symptoms such as abdominal pain may arise. In this paper we report a case of subcutaneous splenosis presenting 37 years post-traumatic splenectomy. **Case presentation:** A 40-year-old medically free lady presented to our institution with a surgical history of post-traumatic splenectomy at the age of three and two cesarean sections. She complained for nonpainful right upper quadrant soft mass that has been stable in size over the years. Her laboratory results, including peripheral blood smear, were all within normal limits and no asplenic changes were detected. SPECT scan confirmed extraperitoneal splenosis in right upper quadrant. **Discussion:** Splenosis is an acquired form of ectopic splenic tissue that is defined as an auto-transplantation of a viable splenic tissue. It commonly occurs after traumatic rupture of the spleen.⁵ Splenosis has been widely reported around the world with an incidence of 16-67% after traumatic splenic rupture or splenectomy. Subcutaneous splenosis is an extremely rare condition, mostly observed in abdominal surgical scars. It is believed to follow laparotomy for splenectomy where splenic cells auto-implant or spread hematogenously at different locations. **Conclusion:** Subcutaneous splenosis is a rare consequence of post-traumatic splenectomy that can manifest itself up to three decades after. Although concerning to the patient and alarming to the surgeon as it may resemble more serious entities such as abdominal wall sarcoma, surgical removal of asymptomatic splenosis is subject to the location of mass and patients' wishes.

Journal: International Journal of Surgery Case Reports

Publication date: 02 May 2022

Short link: <https://rb.gy/odpvee>



157. Orientation of Healthcare Educators Towards Using an Effective Medical Simulation-Based Learning: A Q-Methodology Study

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Abstract Purpose: This study explores the healthcare educators' orientations about medical simulation in clinical skills training —its benefits, needs, challenges, and implications for proper implementation and integration into curricula. **Methods:** The study used a Q-sort technique, allowing quantitative and qualitative representation of the participants' orientations and was conducted at King Saud bin Abdulaziz University for Health Sciences in Riyadh, Saudi Arabia. A total of 22 healthcare educators from different roles were included. Participants pre-sorted into three categories and then ranked statements related to medical simulation, by level of agreement, and they answered open-ended and demographic questions. Data was uploaded to Ken-Q Analysis application to conduct Q-factor analysis. **Results:** A total of 22 healthcare educators participated in the study. Q-factor analysis was performed with principal component analysis and varimax rotation, identifying three factors. Most educators shared a similar orientation regarding the benefits of using simulation-based learning. Most participants considered medical simulation a simple, effortless, and beneficial method of learning. However, challenges in scheduling sessions and obtaining the necessary resources, such as human resources and funds, and lack of training had a negative impact on some participants' motivation to use medical simulation. **Conclusion:** Healthcare educators shed light on the influence of multiple factors on using medical simulation. The possibility for students to learn practical and clinical skills was a leading factor. Financial resources, funds, and faculty training were identified as challenges and needs. It is important for institutions and leaders to be aware of the variations in faculty perceptions and to provide resources and training to improve the current use of medical simulation.

Journal: Advances in Medical Education and Practice

Publication date: 13 May 2022

Short link: <https://rb.gy/dlceic>



158. The effect of intermittent pneumatic compression on deep-vein thrombosis and ventilation-free days in critically ill patients with heart failure

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Abstract There are contradictory data regarding the effect of intermittent pneumatic compression (IPC) on the incidence of deep-vein thrombosis (DVT) and heart failure (HF) decompensation in critically ill patients. This study evaluated the effect of adjunctive use of IPC on the rate of incident DVT and ventilation-free days among critically ill patients with HF. In this pre-specified secondary analysis of the PREVENT trial (N = 2003), we compared the effect of adjunctive IPC added to pharmacologic thromboprophylaxis (IPC group), with pharmacologic thromboprophylaxis alone (control group) in critically ill patients with HF. The presence of HF was determined by the treating teams according to local practices. Patients were stratified according to preserved ($\geq 40\%$) versus reduced ($< 40\%$) left ventricular ejection fraction, and by the New York Heart Association (NYHA) classification. The primary outcome was incident proximal lower-limb DVT, determined with twice weekly venous Doppler ultrasonography. As a co-primary outcome, we evaluated ventilation-free days as a surrogate for clinically important HF decompensation. Among 275 patients with HF, 18 (6.5%) patients had prevalent proximal lower-limb DVT (detected on trial day 1 to 3). Of 257 patients with no prevalent DVT, 11/125 (8.8%) patients in the IPC group developed incident proximal lower-limb DVT compared to 6/132 (4.5%) patients in the control group (relative risk, 1.94; 95% confidence interval, 0.74-5.08, $p = 0.17$). There was no significant difference in ventilator-free days between the IPC and control groups (median 21 days versus 25 days respectively, $p = 0.17$). The incidence of DVT with IPC versus control was not different across NYHA classes (p value for interaction = 0.18), nor across patients with reduced and preserved ejection fraction (p value for interaction = 0.15). Ventilator-free days with IPC versus control were also not different across NYHA classes nor across patients with reduced or preserved ejection fraction. In conclusion, the use of adjunctive IPC compared with control was associated with similar rate of incident proximal lower-limb DVT and ventilator-free days in critically ill patients with HF.

Journal: Scientific reports

Publication date: 20 May 2022

Short link: <https://rb.gy/ghfc0e>



159. Lessening Organ Dysfunction With Vitamin C (LOVIT) Trial: Statistical Analysis Plan

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Abstract Background: The LOVIT (Lessening Organ Dysfunction with Vitamin C) trial is a blinded multicenter randomized clinical trial comparing high-dose intravenous vitamin C to placebo in patients admitted to the intensive care unit with proven or suspected infection as the main diagnosis and receiving a vasopressor. Objective: We aim to describe a prespecified statistical analysis plan (SAP) for the LOVIT trial prior to unblinding and locking of the trial database. Methods: The SAP was designed by the LOVIT principal investigators and statisticians, and approved by the steering committee and coinvestigators. The SAP defines the primary and secondary outcomes, and describes the planned primary, secondary, and subgroup analyses. Results: The SAP includes a draft participant flow diagram, tables, and planned figures. The primary outcome is a composite of mortality and persistent organ dysfunction (receipt of mechanical ventilation, vasopressors, or new renal replacement therapy) at 28 days, where day 1 is the day of randomization. All analyses will use a frequentist statistical framework. The analysis of the primary outcome will estimate the risk ratio and 95% CI in a generalized linear mixed model with binomial distribution and log link, with site as a random effect. We will perform a secondary analysis adjusting for prespecified baseline clinical variables. Subgroup analyses will include age, sex, frailty, severity of illness, Sepsis-3 definition of septic shock, baseline ascorbic acid level, and COVID-19 status. Conclusions: We have developed an SAP for the LOVIT trial and will adhere to it in the analysis phase.

Journal: JMIR Research Protocols

Publication date: 20 May 2022

Short link: <https://rb.gy/dzkkxex>



160. Changes in the glycosylated hemoglobin levels and body mass index after decompression surgery in patients with lumbar spinal stenosis in a tertiary care center, Saudi Arabia

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Abstract **OBJECTIVES:** Lumbar spinal decompression surgery is a well-studied intervention in its benefit in pain control. It can also improve physical activity that indirectly facilitates glycemic control in diabetic patients and weight loss in obese patients. This study aimed to assess the changes of glycosylated hemoglobin (HbA1c) and body mass index (BMI) in patients with lumbar spinal stenosis (LSS) post-intervention at 6- and 12-month follow-ups. **METHODS:** This was a retrospective cohort study of patients with LSS who had lumbar decompression, with or without instrumentation at King Abdulaziz Medical City, from 2016 and 2020. Patients over 18 years, treated surgically for LSS, were included with a minimum of a 1-year follow-up. Patients with Type 1 diabetes mellitus, with comorbidities, that limited physical activity, or without follow-up records were excluded from the study. **RESULTS:** In total, 140 patients were included in the study. They had three underlying diseases: LSS (n = 87, 62.1%), spondylolisthesis (n = 37, 26.4%), and degenerative disc disease (n = 16, 11.4%). Results showed that obese patients were associated with the lower BMI at 6- and 12-month follow-ups compared to the non-obese. In addition, there was a statistical difference in HbA1c change at follow-ups between controlled (HbA1c <7) and uncontrolled diabetes groups (HbA1c ≥7). **CONCLUSION:** Lumbar spinal decompression can help in the reduction of BMI of obese patients with LSS. However, there is a need for extensive investigation of the reasons for the contradicting results of an increase in the HbA1c level at 12-month follow-up in the current study.

Journal: Journal of Musculoskeletal Surgery and Research

Publication date: 21 May 2022

Short link: <https://rb.gy/21g8hd>



161. Attitude of pediatricians toward suspected cases of child sexual abuse (CSA) in Saudi Arabia

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Abstract Objective To assess the attitudes of pediatricians working at the Ministry of National Guard-Health Affairs (MNGHA) to report cases of child sexual abuse (CSA) and to determine the association between the demographic, cultural characteristics, and the attitude toward reporting. Methods A self-administered, hard copy questionnaire was distributed to 277 pediatricians, and the response rate was 58.48%. The sensitivity/specificity emphasis mean score was calculated. Categorical variables were tested against the sensitivity/specificity emphasis mean score using an ANOVA and an independent sample *t*-test. The reliability of the questionnaire was measured with Cronbach's alpha. Results In total, 153 completed questionnaires were analyzed. The responses were inclined toward balanced (indecisive toward reporting) and high specificity (favors the decision not to report suspected CSA). No significant difference was found in the sensitivity/specificity mean score between the different levels of professionals, experience, age, gender, and number of prior child abuse-related courses. The skepticism scale showed, for the different professional levels, that the staff physician/resident believed the 3- to 5-year-old girls and boys to be genuine. The consultants/associate consultants believed 6- to 12-year and 13- to 17-year-old girls and boys to be true most of the time. Nearly half of the participants indicated that their reporting decision was affected by the possible consequences of reporting suspected CSA for the children's families and the social perceptions of sexually abused children as adults. Conclusion The results highlight the low reporting rates of CSA cases. The findings suggest a lack of training and experience of the professionals in this area of assessing, detecting, and reporting CSA cases.

Journal: International Journal of Pediatrics and Adolescent Medicine

Publication date: 25 May 2022

Short link: <https://rb.gy/q6rw2n>



162. Assessment of the Knowledge Level of First Aid among Medical Students in Work Environment

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Abstract First aid is one of the most important life-saving skills a health provider specifically or anybody generally must have. It can be defined as the first treatment one provides at the site of the accident to the injured person until full medical treatment is available. In some emergency situations, simple first aid can make a life-or-death difference. Aim. This study is designed to evaluate the knowledge of first aid among medical students at KSAU-HS in Riyadh, Saudi Arabia. Methods. The cross-sectional study is conducted in KSAU-HS, Riyadh, about the knowledge of first aid among medical students. A self-administered structured questionnaire is used for the purpose of data collection. The main variables are as follows: to compare the knowledge of first aid between male and female medical students, among different years of study, and identify the percentage that have knowledge of first aid. Results. Out of 326 students, 10 students (3.1%) scored excellent, 99 (30.4%) good, 136 (41.7%) average, 75 (23%) poor, and 6 (1.8%) very poor. Conclusion. The level of knowledge improved with the advancement in years, but this was not sufficient, and more training should be given to all medical students on first aid.

Journal: Journal of Environmental and Public Health

Publication date: 30 May 2022

Short link: <https://rb.gy/maydfo>



163. Salvage of an iatrogenic partial allograft nephrectomy during caesarean section—a case report

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Abstract Since transplanted kidney allografts are standardly placed in a heterotopic pelvic position, any surgical intervention in the pelvis carries the potential risk for allograft injury. A 41-year-old female G4P2 with history of prior kidney transplants presented for an elective cesarean sections (CS). During the CS, profound bleeding was encountered and was later realized to be from the transplanted kidney allograft. A complete transection of the upper pole with the injury extending to the hilar structures was noted. Careful intraoperative evaluation led to the decision favoring a salvage attempt of the remaining part of the allograft. The patient continues to enjoy sufficient allograft function 6 months after the incident. To conclude, although CS after kidney transplantation is considered safe, the risk of allograft injury remains possible with potentially catastrophic consequences. This case highlights the importance of rapid surgical expertise and appropriate preoperative evaluation, preparation and planning.

Journal: Journal of Surgical Case Reports

Publication date: May 2022

Short link: <https://rb.gy/3wevb0>



164. A Likert Scale Versus a Visual Analogue Scale and the Participant Response: A cross Sectional Study

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Abstract This study aims to assess whether the VAS responses are as reliable as the Likert responses from the perspective of dental students. The preference of each scale and the influence of gender and level of education on the preferred format were also assessed.

This causal comparative quantitative study was conducted at the College of Dentistry (COD) at King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) using a non-probability convenient sampling technique with all second, third and fourth year male and female dental students. The survey instrument used was the well-established course evaluation at KSAU-HS. The questionnaire was distributed at two different times to the same respondents with the different measurement scales. Participants who completed both formats of the survey were included. NCSS software (Version 20) ® was used for data entry and analysis. Of the 244 participants invited to participate, 127 responded to both surveys yielding a response rate of - 52%. Comparing the Likert and the scroll bar responses, the equivalence threshold criterion (a minimum of 0.7 lower band of the 95% confidence interval for ICC) was met for all the scale/item scores, except for four of the 16 items. The estimated ICCs for the rest of the items ranged between 0.67 and 0.84. The measurement equivalence criteria was preserved for the overall ICC (0.854, 95% CI 0.793 - 0.897). The males were 2.9 times more likely to prefer Likert type responses than the females. There was no conclusive evidence that either the VAS or the Likert scale was superior. However, when choosing a response scale type, it is important to consider the study objective and the context, including the type of study population, the construct being assessed during the development or modification of instruments and the study design.

Journal: Journal of International Dental and Medical Research

Publication date: May 2022

Short link: <https://rb.gy/xn9h45>



165. Germline predisposition to pediatric Ewing sarcoma is characterized by inherited pathogenic variants in DNA damage repair genes

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Abstract More knowledge is needed regarding germline predisposition to Ewing sarcoma to inform biological investigation and clinical practice. Here, we evaluated the enrichment of pathogenic germline variants in Ewing sarcoma relative to other pediatric sarcoma subtypes, as well as patterns of inheritance of these variants. We carried out European-focused and pan-ancestry case-control analyses to screen for enrichment of pathogenic germline variants in 141 established cancer predisposition genes in 1,147 individuals with pediatric sarcoma diagnoses (226 Ewing sarcoma, 438 osteosarcoma, 180 rhabdomyosarcoma, and 303 other sarcoma) relative to identically processed cancer-free control individuals. Findings in Ewing sarcoma were validated with an additional cohort of 430 individuals, and a subset of 301 Ewing sarcoma parent-proband trios was analyzed for inheritance patterns of identified pathogenic variants. A distinct pattern of pathogenic germline variants was seen in Ewing sarcoma relative to other sarcoma subtypes. FANCC was the only gene with an enrichment signal for heterozygous pathogenic variants in the European Ewing sarcoma discovery cohort (three individuals, OR 12.6, 95% CI 3.0-43.2, $p = 0.003$, FDR = 0.40). This enrichment in FANCC heterozygous pathogenic variants was again observed in the European Ewing sarcoma validation cohort (three individuals, OR 7.0, 95% CI 1.7-23.6, $p = 0.014$), representing a broader importance of genes involved in DNA damage repair, which were also nominally enriched in individuals with Ewing sarcoma. Pathogenic variants in DNA damage repair genes were acquired through autosomal inheritance. Our study provides new insight into germline risk factors contributing to Ewing sarcoma pathogenesis.

Journal: The American Journal of Human Genetics

Publication date: 2 June 2022

Short link: <https://rb.gy/msrw39>



166. Weight gain after renal transplant: Incidence, risk factors, and outcomes

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Abstract Background: Renal transplantation is the definitive treatment for patients with end-stage renal disease (ESRD). It is associated with better quality of life and patient survival. Nevertheless, these benefits come with rising concerns about weight gain and metabolic abnormalities, which adversely impact transplant outcomes. Objective: The objective of this study is to estimate the incidence of weight gain in the first year post-renal transplant in addition to the assessment of potential risk factors and the resulting outcome of the graft. Methods: We conducted a single-center retrospective cohort study of all 295 patients who underwent kidney transplantation at King Abdulaziz Medical City (KAMC) between January 2016 and December 2019. Clinical and laboratory variables were collected from electronic records. Continuous variables were reported as mean \pm standard deviation. Comparison between groups was assessed by unpaired t-test or Mann-Whitney U test while follow-up data were compared using paired t-test and repeated measures ANOVA. Association between the potential risk factors and the weight gain was assessed by means of binary logistic regression analysis. Results: Significant weight gain was observed in 161 (54.6%) patients. Females were 119 (40.30%) of the cohort. The mean age was 45.3 ± 15.1 years. The prevalence of diabetes was 234 (79.6%), while hypertensives constituted 77 (26.3%). The comparison between patients who gained weight significantly and patients with stable weight showed a numerical higher prevalence of female gender in patients who had more weight gain (44.1% vs. 35.8%), higher diabetes, higher rate of a living donor, and statistically significant lower dialysis duration before transplant. Other clinical and laboratory variables were comparable between the two groups. Conclusion: Our study showed a high incidence of clinically significant weight gain among patients post-renal transplantation. Patients with lower dialysis duration, a living kidney donor and those who are obese at baseline were at higher risk of gaining weight. Patients who underwent kidney transplantation should be monitored closely for weight gain and further studies are needed to determine the risk factors and appropriate interventions.

Journal: PloS one

Publication date: 02 June 2022

Short link: <https://rb.gy/iq9apc>



167. The effectiveness of the clinical skill sessions as perceived by the medical students at KSAU HS, Saudi Arabia

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Abstract Background: A clinical skills session is a method of learning that focuses on performing procedures rather than receiving the information in a classical lecturing method. In a clinical session, undergraduate students acquire the clinical skills required for clinical practice, including history taking, examination skills, procedural skills, treatment planning, and communication skills. **Methods:** This cross-sectional study was done at the College of Medicine, King Saud bin Abdulaziz University for Health Sciences in Riyadh, Saudi Arabia from October 2018 to April 2019. The sample consisted of students from the preclinical and clinical phases and male and female students (n = 323). **Results:** The study included 323 medical students. Almost half (47%, n = 152) of the students had a good perception of the effectiveness of the clinical skills sessions. There was a significant difference between the perception scores and gender in all the domains. No significant differences were identified in the preclinical and clinical years regarding the tutor and the content domain. However, the preclinical students rated the organization domain higher. **Conclusion:** The research indicated that the sample did not positively perceive the effectiveness of the clinical skill sessions they received in their years of training. The College of Medicine should enhance and promote the importance of clinical skills to the medical students to improve their clinical performance and reduce medical errors and patient safety after graduation. The majority of the students were optimistic about the clinical skills tutors and the organization's effort.

Journal: International Journal of Medicine in Developing Countries

Publication date: 04 June 2022

Short link: <https://rb.gy/kxp0ft>



168. A Pattern of Lipid Profile Among Saudi Adults With Type 1 Diabetes Mellitus in a Tertiary Hospital: A Retrospective Study

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Abstract Objective: Dyslipidemia is prevalent in adults living with type 1 diabetes, and it can worsen the presentation of microvascular complications such as retinopathy. This study aims to identify the pattern coupled with the frequency of dyslipidemia in diabetic adults who followed up at different clinics in King Abdulaziz Medical City, Riyadh, and evaluate the associations with demographic and clinical characteristics. **Methods:** A cross-sectional, retrospective chart review study of 514 adults with type 1 diabetes was conducted in a tertiary health care facility in the central region of Saudi Arabia. Demographics were retrieved by using the implemented electronic medical records. Fasting lipid profile, glycated hemoglobin (HbA1c), and thyroid-stimulating hormone (TSH) levels were checked for all subjects. **Results:** Five hundred and fourteen (514) subjects aged 18-65 years were studied (mean age: 26.1 ± 7.1 years). There were 318 (62%) females in the sample, and their mean age was significantly different from the mean age of males ($p = 0.01$). The mean duration of having diabetes was 12.8 ± 6.9 years. The prevalence of lipid abnormalities included abnormal low-density lipoprotein (LDL) (70%), hypercholesterolemia (23%), abnormal high-density lipoprotein (HDL) (8%), and hypertriglyceridemia (5%). Abnormal HDL was significantly higher in males than in females ($p < 0.001$). There were no statistically significant differences in the prevalence of other lipid abnormalities between the two genders and the age group $< \text{or} \geq 25$ years. There was no statistically significant difference in the mean of the tested lipids levels between the two genders. One hundred and forty-three (143) (27.8%) patients had more than one abnormal lipid condition. A statistically significant difference was observed in the mean HbA1c between males and females ($p = 0.001$). Otherwise, there was no significant association of lipid abnormalities with gender, age, diabetes duration, and weight. **Conclusion:** The most prevalent lipid abnormality was high LDL cholesterol. Nearly a third of the tested individuals had more than one lipid abnormality. Furthermore, poor glycemic control was linked to abnormal lipid profiles. Consequently, local programs must aim to screen and intervene early to delay and prevent future severe vascular complications related to non-treated dyslipidemia.

Journal: Cureus

Publication date: 3 June 2022

Short link: <https://rb.gy/ekcryd>



169. Cushing's Syndrome With Acute Psychosis: A Case Report

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Abstract Cushing syndrome is a rare disease that rarely presents as acute psychosis. In this case, the patient presented with acute psychosis and agitation as the first manifestations of the disease which led to the admission of the patient to a psychiatry hospital for one month, as it was difficult to restrain her sufficiently for performing appropriate diagnostic tests due to disturbing behavior. She responded well to treatment with olanzapine and lorazepam to treat the patient's agitation, and successfully complete her evaluation. Thereafter, she was diagnosed with a pituitary tumor and underwent pituitary lesion resection via a microscopic transsphenoidal as needed. Two months after surgery, her cortisol levels returned to baseline, and she became calmer and decreased the tensivity of her psychosis; however, it was only five months after surgery that her psychotic symptoms and disturbed behavior ceased.

Journal: Cureus

Publication date: 8 June 2022

Short link: <https://rb.gy/rnkdnf>



170. Testicular cancer among Saudi adults: Hands on a nationwide Cancer Registry over 10 years

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Abstract Background/objective: Testicular cancer (TC) is one of the most curable solid malignancies affecting young adults. The objective of this study was to identify factors affecting survival of Saudi adults who were diagnosed with testicular cancer over 10 years. Methods: This was a retrospective study with data extracted from the Saudi Cancer Registry for Saudi Adults diagnosed with TC from 2008 to 2017. We collected demographic information, including age, marital status, region of residency, year of diagnosis, and the survival status. In addition, the tumor factors included the basis of diagnosis, the origin of the tumor, histopathological group and subtype, and tumor behavior, stage, and laterality were collected. Results: A total of 869 patients were included, with a median age of 30 (IQR: 25–38). The highest percentage of the cases was 37.5% (326) in the Central region, followed by the Western region 24.6% (214). The primary site of the tumor was the testis 96.9% (842), 3.1% (27) in the undescended testis. The histopathological examination revealed seminoma in 44.8% (389), 33.5% (291) mixed germ cell tumor, 8.4% (73) embryonal carcinoma, 6.1% (53) teratoma, 2.6% (23) yolk sac tumor, 1.6% (14) choriocarcinoma, 0.3% (3) Leydig cell tumor, and 2.6% (23) sarcomas. Kaplan-Meier analysis revealed significant association between survival and the age groups ($p = 0.001$), histopathology group ($p = 0.04$), histopathology subtypes ($p = 0.01$), and the stage of the tumor ($p < 0.001$). Conclusions: A notable increase in the incidence of TC among Saudi adults was seen, with a mortality rate of 5.4% over a period of 10 years. Longer survival was associated with age groups, seminomatous germ cell tumor, and lower tumor stage.

Journal: Arab Journal of Urology

Publication date: 10 June 2022

Short link: <https://rb.gy/f43lsw>



171. The Outcome of Immediate Administration of Dexamethasone in Children With Croup (Laryngotracheobronchitis) in King Abdullah Specialized Children's Hospital

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Abstract Background: The study aimed to compare the effect of the immediate or late dexamethasone administration on patient recovery and identify predictors for relapse among children with croup. **Methods:** A retrospective cross-sectional study was conducted using the electronic medical record (Best Care) of all croup patients between 2014 and 2018 in King Abdullah Specialized Children's Hospital (KASCH), in Riyadh, Saudi Arabia. Out of the 329, only 186 patients matched our inclusion criteria. Statistical analysis was conducted with the SPSS V.22 software package (IBM Corp., Armonk, NY). The main outcome variable was early recovery or relapse. The chi-square test and logistic regression were used to assess the relationship between the independent variables with recovery or relapse among croup patients. A p-value of <0.05 was used to determine the significance of the test. **Results:** Fifty-three recovered out of the 186 patients. Moreover, 50 of the recovered patients were treated in the ER. In addition, out of the 53 patients who recovered, 40 patients were treated as inpatients (IPs). Those who were given dexamethasone immediately for both recovery and relapsed groups were 29% and 71%, respectively while those who were given dexamethasone late were 34% for the recovery group. On the other hand, 119 patients relapsed. Out of those patients who relapsed, 111 were treated in the ER. Moreover, out of relapsed patients, 79 patients were treated as IPs. Furthermore, out of 186 patients, 86 had chronic illnesses. Twenty-four percent (24%) of those with chronic illnesses recovered, and 76% relapsed (P-value=0.04). Also, there was a significantly higher trend of administration of dexamethasone immediately in the ER in 69% of children with a p-value <0.001. **Conclusion:** In conclusion, the difference between the early and late administration of dexamethasone in both recovery and relapse is not significant. Also, the presence of chronic illnesses affects relapses more significantly.

Journal: Cureus

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Short link: <https://rb.gy/jpvm1t>



172. A Young Man With Acute Kidney Injury and Uveitis: An Unusual Presentation and Case Report

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Abstract Tubulointerstitial nephritis with uveitis (TINU) is an uncommon autoimmune syndrome that involves multiple systems. It usually presents with acute kidney injury (AKI) and unilateral or bilateral uveitis. We present a 15-year-old male, fit and well, who attended emergency room (ER) with a four-month history of epigastric pain associated with nausea, vomiting, and weight loss of 10 kg. Initial clinical and laboratory evaluation confirmed AKI. A diagnostic kidney biopsy confirmed acute tubulointerstitial nephritis, and a slit-lamp examination confirmed acute left anterior uveitis consistent with a diagnosis of TINU. He was initially treated with corticosteroids which resulted in prompt resolution of AKI; however, uveitis persisted necessitating the addition of further immunosuppressants.

Journal: Cureus

Publication date: 14 June 2022

Short link: <https://rb.gy/ajovwg>



173. Hand Grip Strength as an Index of Health Does Not Associate With Insomnia: A Cross-Sectional Study

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Abstract Introduction: Insomnia is one of the most prevalent diseases globally, with many adults around the world suffering from at least one of its symptoms. It has a significant effect on the body's normal physiology and may lead to the development of chronic diseases that impair the main functional domains of health and cognition if left untreated. Handgrip strength (HGS) has previously been linked to several diseases that occur in tandem with insomnia. Thus, this study aimed to investigate the association between HGS and insomnia. **Materials and methods:** This is a cross-sectional study in which the involved participants were approached in different locations. The participants were surveyed using the Insomnia Severity Index (ISI) to evaluate the presence of insomnia. A hydraulic hand dynamometer was used to measure the HGS of the participants' right and left hands. **Results:** A total of 494 questionnaires were collected, including 365 (74%) males and 129 females (26%). About 16% of females had insomnia, compared to 15% of males. There was no significant association between gender and insomnia ($P=0.873$). The difference between the mean HGS for the right and left hands among males and females was not statistically significant ($P>0.05$). The correlation coefficients of the right and left HGS scores with insomnia were $r=0.019$ and $r=0.018$, respectively, which showed no statistically significant association ($P>0.05$). **Conclusions:** The study found no significant association between HGS and insomnia. The study recommends conducting further large-scale studies focusing on specific groups in the population to understand the relationship between HGS and chronic sleep disturbance.

Journal: Cureus

Publication date: 21 June 2022

Short link: <https://rb.gy/h57xqe>



174. Current State of Antimicrobial Stewardship and organ transplantation in Saudi Arabia

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Abstract Background: Antimicrobial resistance constitutes a major public health issue that leads to poor outcomes and increased costs associated with healthcare. Solid organ transplant recipients are more prone due to prolonged exposure to antimicrobials. **Methods:** We reviewed existing programs in the Kingdom of Saudi Arabia and pattern of drug resistance, and the extent of transplant medicine in the kingdom through published articles in databases and official documents from health authorities. **Results:** A national committee for antimicrobial resistance was established to set the guidelines required for ASP, especially when there is a high prevalence of antimicrobial resistance. A survey noted that ASPs are implemented in only 26% of Saudi MOH hospitals. Factors affecting the implementation of ASPs in Saudi hospitals included a lack of necessary staff resources and specific ASP staff/teams to advocate adopting ASP in the organizations. Specific attention should be given to transplant patients as transplantations are expected to increase in the next few years. No antimicrobial stewardship programs are currently specifically tailored to transplant centers. **Conclusion:** The current healthcare system transformation in Saudi Arabia should take into consideration the urgent need for effective ASP that might help face the increasing trends in the MDRO prevalence rate. This article is protected by copyright. All rights reserved.

Journal: Transplant Infectious Disease

Publication date: 26 June 2022

Short link: <https://rb.gy/auheha>



175. Risk of thyroid carcinoma in patients treated surgically with assumed benign cytology in Riyadh, Saudi Arabia

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Abstract Objectives: This study aimed to report the rate of thyroid malignancy in benign fine-needle aspirations (Bethesda II) at King Abdulaziz Medical City and evaluate the factors that affect false-negative outcomes of FNA. Methods: All patients referred for thyroidectomy from 2009 to 2019 were reviewed (n = 1968). Only patients with a benign FNA, corresponding to the Bethesda II, were included (n = 384). Information on age, gender, body mass index (BMI), serum thyroid-stimulating hormone, type of surgery and histopathological outcomes were retrieved. Results: Of the sample (n = 384) with an initial benign FNA, 63 patients had a malignancy on postoperative pathological examination, yielding an overall false-negative rate of 16.4%. The most frequently reported histopathological type was papillary thyroid microcarcinomas (n = 52). For the false-negative group, the mean age was 43.8 years (range 21-70 years) with an 84.1% female predominance. The surgical choice for 74% (n = 46) of cases was total thyroidectomy. Age, gender, thyroid function and BMI did not affect the false-negative rate of benign FNA (p > 0.05). Conclusions: This study found a higher risk of malignancy compared to the literature related to benign FNA. The risk of malignancy should be considered, even with benign FNA.

Journal: ACTA Otorhinolaryngologica Italica

Publication date: 30 June 2022

Short link: <https://rb.gy/x3vzmn>



176. Intraoperative diagnosis of seminoma in a man with cryptorchidism and Klinefelter Syndrome planning for m-TESE: A case report

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Abstract Undescended testes are more likely to undergo malignant transformation than normally descended testes. We present the case of a 33-year-old male smoker who had been suffering from primary infertility for 4 years. This patient had bilateral undescended testes and a frozen section specimen revealed seminoma. In this report, we discussed how important it is to use a combination of different diagnosis modalities to reach a diagnosis.

Journal: Urology Case Reports

Publication date: 30 June 2022

Short link: <https://rb.gy/to8ysf>

177. Child neglect in Saudi Arabia: The neglected form of child maltreatment

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Abstract Objectives: To shed light on types, family profiles, risk factors, and outcomes of child neglect in Saudi Arabia. **Methods:** A retrospective chart review was carried out at King Abdullah Specialized Children's Hospital, Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia. Cases of child neglect diagnosed by the Suspected Child Abuse and Neglect (SCAN) team were reviewed. Data were extracted from patients' electronic charts and SCAN team records. **Results:** A total of 309 cases of child neglect were diagnosed between 2015-2019. Mean age of victims was 4.4 ± 4.1 years, and 51.8% were male gender. Supervisory neglect was the most common form (63.1%), followed by medical neglect (39.2%), emotional neglect (6.8%), physical neglect (5.5%), and educational neglect (3.2%). Children between the ages of one and 3 years were 3.3 times more likely to be victims of supervisory neglect and girls were 4.5 times more likely to be victims of educational neglect. Children living with ≥ 4 siblings were 7 times more likely to be victims of physical neglect and 1.9 times of medical neglect. With regard to emotional neglect, children of unemployed fathers were 3.5 times more likely to be parentally neglected than children of employed fathers. Worsening of the underlying disease (30%) and internal injuries (23.5%) were the most common consequences of neglect. Mortality attributed to neglect was documented in 8 (2.6%) children. **Conclusion:** Although child neglect is common in Saudi Arabia, it has not been recognized as an important cause of morbidity and mortality of children. This implies the need for a national protocol that would help identify high-risk families for early detection and implementation of prevention programs.

Journal: Saudi Medical Journal

Publication date: June 2022

Short link: <https://rb.gy/4vuidl>



178. Prevalence and Predictors of Scoliosis and Back Pain in 591 Adolescents: A Randomized, Stratified, Cross-Sectional Study in Riyadh, Saudi Arabia

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Abstract Purpose Owing to the difficulty of establishing a screening program for scoliosis and back pain, along with their disabling consequences and the lack of local prevalence rates, we sought to study the prevalence of scoliosis and back pain in adolescents in Saudi Arabia and the burden reported by the affected age group on the health system. **Materials and methods** A school-based, cross-sectional pilot study covering all school districts in Riyadh, Saudi Arabia, was conducted. Students between 12 and 18 years of age were included. Students with any spinal or neurological disorders were excluded. Physical examinations to screen for scoliosis and student-filled questionnaires to assess back pain and health-related quality of life were performed. **Results** Of the 700 students, 591 met the inclusion criteria. High suspicion of adolescent idiopathic scoliosis (AIS) was considered in 174 students (29.44%). In addition, 45.42% of the students had a history of back pain. The Oswestry Disability Index showed that 87 students had disabilities. The average Scoliosis Research Society-22 score was 3 out of 5. A significant difference was found in the self-image and mental health domains for AIS ($p = 0.04$, $p = 0.02$, respectively). Age showed a significant increase in the odds ratio of a positive physical exam for every increase of one year in age ($p < 0.01$). **Conclusion** Identifying the prevalence rates and early associated factors during adolescence would help lower the burden on the health system and benefit public health in general. A nationwide study is required to identify the relationship between scoliosis and back pain.

Journal: Cureus

Publication date: 1 July 2022

Short link: <https://rb.gy/n2zrwy>



179. Benefit of natriuresis and cardiac resynchronisation therapy in acute decompensated heart failure with cardiorenal syndrome and hypernatraemia

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Abstract A man in his eighties with acute heart failure and cardiorenal syndrome developed severe hypernatraemia with diuresis. In this situation, palliation is often considered when renal replacement therapy is inappropriate. The literature to guide treatment of dysnatraemia in this setting is limited. Diuretics often worsen hypernatraemia and fluid replacement exacerbates heart failure. We describe a successful approach to this clinical Catch-22: sequential nephron blockade with intravenous 5% dextrose. Seemingly counterintuitive, the natriuretic effect of this combination had not previously been compared with diuretic monotherapy for heart failure. Yet this immediately effective strategy generated a high natriuresis-to-diuresis ratio and functioned as a bridge to cardiac resynchronisation therapy (CRT). In conjunction with a low salt diet, CRT facilitated the maintenance of sodium homeostasis and fluid balance. Thus, by improving the underlying pathophysiology (ie, inadequate cardiac output), CRT may enhance the outcomes of patients with cardiorenal syndrome and hypernatraemia.

Journal: BMJ Case Reports CP

Publication date: 4 July 2022

Short link: <https://rb.gy/qltkdy>



180. The optimal oral body temperature cutoff and other factors predictive of sepsis diagnosis in elderly patients

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Abstract Introduction: The aim of this study was to identify the optimal oral temperature cut-off value and other factors predictive of sepsis in elderly patients presenting to emergency department. Methods: A hospital-based retrospective study was performed on all elderly patients who presented to the Adult Emergency Department at King Abdulaziz Medical City in Riyadh (January to December 31, 2018). Results: Of total of 13,856 patients, 2170 (15.7%) were diagnosed with sepsis. The associated area under the curve estimate was 0.73, 95% confidence interval (CI) 0.72-0.74. Body temperature ≥ 37.3 was found as optimal cut-point with sensitivity = 50.97% and specificity = 87.22% and 82.39% of patients with sepsis will be correctly classified using this cut-off. An increase of 1° in body temperature was associated with an odds ratio of 9.95 (95% CI 8.95-11.06, $P < 0.0001$). Those aged ≥ 100 years having 11.12 (95% CI 2.29-20.88, $P < 0.0001$) times the likelihood for sepsis diagnosis compared with those aged 60-69 years. People admitted in weather such as winter, spring, or autumn were more likely to develop sepsis than people admitted in summer. Conclusion: The risk factors of sepsis such as age, temperature, and seasonal variation inform important evidence-based decisions. The hospitals dealing with sepsis patients should assess older patients for other severe illnesses or co-morbid that might lead to sepsis if left untreated. Therefore, older patients need to be prioritized over younger patients. The body temperature of patients admitted to hospitals needs to be monitored critically and it is important to consider seasonal fluctuations while managing cases of sepsis and allocating resources. Our findings suggest that clinicians should explore the possibility of sepsis in elderly patients admitted to emergency units with oral temperature $\geq 37.3^{\circ}\text{C}$. Risk factors for sepsis reported in this study could inform evidence-based decisions.

Journal: Annals of Thoracic Medicine

Publication date: 9 July 2022

Short link: <https://rb.gy/9m1upy>



181. Resveratrol Modulates Bone Mineral Density and Bone Mineral Content in A Rat Model of Male Hypogonadism

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Abstract Objective: To determine whether resveratrol (Res) can correct osteoporosis induced in a rat model of male hypogonadism. Methods: Thirty-two rats were randomly divided into 4 groups, 8 in each group; 1) a control sham group: underwent a similar surgical procedure for induction of orchiectomy (ORCD) without ligation of any arteries or veins or removal of the testis and epididymis; 2) a control + Res-treated group (Con+Res): underwent sham surgery similar to the control, but was then treated with Res, as described below; 3) an ORCD-induced group: bilateral ORCD surgery as described above, and 4) a ORCD+Res-treated group: bilateral ORCD surgery followed by Res treatment. Res treatment began 4 weeks after ORCD and continued for 12 weeks. After 12 weeks, bone mineral density (BMD) and bone mineral content (BMC) were measured in the tibia and femur of each rat's right hind leg. Blood levels of bone turnover indicators such as deoxypyridinoline (Dpd), N-telopeptide of type I collagen (NTX I), alkaline phosphatase (ALP), and osteocalcin (OC), as well as receptor activator of nuclear factor kappa B (RANK) and osteoprotegerin (OPG) were assessed. Results: ORCD significantly decreased BMD ($P<0.01$) and significantly increased bone resorption, manifested by increased RANK. In addition, it inhibited serum levels of OPG and OC. Res treatment after ORCD effectively increased serum levels of bone formation markers such as OPG and OC, compared with testisectomized rats ($P<0.05$). Conclusion: Res could ameliorate bone loss induced by male hypogonadism, possible via restoration of the normal balance between RANK and OPG.

Journal: Chinese Journal of Integrative Medicine

Publication date: 7 July 2022

Short link: <https://rb.gy/bt3ere>



182. Laparoscopic management of ventriculoperitoneal shunt extrusion through urethra in an infant: Case report and review of literature

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Abstract Ventriculoperitoneal (VP) shunting is a well-established procedure for the management of hydrocephalus. Its complications might include distal migration of the shunt and organ perforation. However, bladder perforation and subsequent extrusion of the shunt per the urethra is a rare complication. In this report, we present this exceptional event with a minimally invasive approach of management in a 7-months-old girl.

Journal: Urology Case Reports

Publication date: July 2022

Short link: <https://rb.gy/dq7jcv>



183. The Impact of Acute Care Surgery Model on the Management of Acute Appendicitis and Cholecystitis: A Single-Center Study

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Abstract Background Acute care surgery (ACS) is a novel model for the provision of emergency general surgery (GS) care. Investigating the impact of the ACS team on the management of acute emergencies can help in establishing proper management measures and improving patient care in an emergency setting. The study aims to compare the performance indicators and patient outcomes such as hospital length of stay (LOS), time to diagnosis, and operation before and after the implementation of the acute care system. Methods The study reviewed two retrospective cohorts: the pre-ACS system (n = 202) from January 2012 to December 2013 and the post-ACS system (n = 188) from January 2014 to December 2015, which were done in a tertiary care center. All adult patients diagnosed with acute appendicitis and cholecystitis requiring emergency surgery were included. Results There was an improvement in the time interval between GS referral to the diagnosis of acute appendicitis and cholecystitis ($p = 0.07$) and from diagnosis to the start of the operation ($p = 0.38$). Patients in the post-ACS model had a shorter hospital stay than the pre-ACS model patients with [$M = 3.69$ SD(3.18) days versus $M = 3.57$ SD (3.60) days, $p = 0.25$]. Time from the emergency department arrival to GS referral did not show an improvement [$M = 4.36$ SD(3.34)] hours in the pre-ACS model versus [$M = 4.53$ SD(3.98)] hours in the ACS model, $p = 0.86$). Conclusion The ACS model led to earlier diagnosis of acute appendectomy and cholecystectomy cases and reduced the LOS. The introduction of the ACS model in Saudi Arabia showed improvement in patient care during acute emergencies. Further studies including multiple centers with larger sample sizes and longer review periods are needed to evaluate the efficiency and cost-effectiveness of the ACS model.

Journal: Cureus

Publication date: 10 July 2022

Short link: <https://rb.gy/2xnkyt>



184. Machine learning decision tree algorithm role for predicting mortality in critically ill adult COVID-19 patients admitted to the ICU

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Abstract Background: Coronavirus disease-19 (COVID-19) is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and is currently a major cause of intensive care unit (ICU) admissions globally. The role of machine learning in the ICU is evolving but currently limited to diagnostic and prognostic values. A decision tree (DT) algorithm is a simple and intuitive machine learning method that provides sequential nonlinear analysis of variables. It is simple and might be a valuable tool for bedside physicians during COVID-19 to predict ICU outcomes and help in critical decision-making like end-of-life decisions and bed allocation in the event of limited ICU bed capacities. Herein, we utilized a machine learning DT algorithm to describe the association of a predefined set of variables and 28-day ICU outcome in adult COVID-19 patients admitted to the ICU. We highlight the value of utilizing a machine learning DT algorithm in the ICU at the time of a COVID-19 pandemic. **Methods:** This was a prospective and multicenter cohort study involving 14 hospitals in Saudi Arabia. We included critically ill COVID-19 patients admitted to the ICU between March 1, 2020, and October 31, 2020. The predictors of 28-day ICU mortality were identified using two predictive models: conventional logistic regression and DT analyses. **Results:** There were 1468 critically ill COVID-19 patients included in the study. The 28-day ICU mortality was 540 (36.8 %), and the 90-day mortality was 600 (40.9 %). The DT algorithm identified five variables that were integrated into the algorithm to predict 28-day ICU outcomes: need for intubation, need for vasopressors, age, gender, and PaO₂/FiO₂ ratio. **Conclusion:** DT is a simple tool that might be utilized in the ICU to identify critically ill COVID-19 patients who are at high risk of 28-day ICU mortality. However, further studies and external validation are still required.

Journal: Journal of Infection and Public Health

Publication date: 15 July 2022

Short link: <https://rb.gy/n1alzb>



185. Growth assessment in down syndrome after cardiac surgery

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Abstract Objective To assess the effect of cardiac surgery on growth catch-up of Down syndrome (DS) children with failure to thrive (FTT) and congenital heart disease (CHD) and investigate other causes of FTT in DS children. Method We conducted a retrospective observational study in tertiary cardiac center from 2015 to 2018. We included all cases of DS diagnosed with CHD and FTT who completed a 1-year follow-up after cardiac surgery. We divided the cases into two groups; “normalize group” includes children who normalized their growth parameters and “underweight group” includes those who remained in FTT category during the follow-up period. We compared both groups for multiple risk factors. Result Most of DS had FTT upon surgery. Fifty percent of cases completed 1-year follow-up including 29 (60%) in the normalized group and 19 (40%) in underweight group. Within 6 months post-surgery, the normalized group though did not reach yet normalization of growth parameters, demonstrated statically significant improvement in weight for age, weight Z-score in compared to underweight group. Within 12 months post-surgery, the normalized group achieved normalization of growth parameters and continue to show more statistically significant differences in growth parameters. Both groups had comparable post-operation course. Univariate analysis of possible peri-operative risk factors showed no difference between both groups except for presence of untreated subclinical hypothyroidism in 58% of the underweight group versus 17% in control group ($p = 0.005$). Conclusion FTT in DS patient is multifactorial which needs thorough investigation and work up by multidisciplinary team. Cardiac surgery may not guarantee the improvement of growth parameters.

Journal: Egyptian Pediatric Association Gazette

Publication date: 18 July 2022

Short link: <https://rb.gy/zo15sv>



186. A case report on the association between QTc prolongation and remdesivir therapy in a critically ill patient

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Abstract Remdesivir is a direct-acting inhibitor of SARS-CoV-2 RNA-dependent RNA polymerase that is used to treat severe COVID-19 infections. We report a patient with severe COVID-19 pneumonia who experienced palpitations and syncope two days after starting remdesivir therapy. The QTc interval was prolonged on the Electrocardiogram (ECG) without any significant electrolyte abnormalities or concomitant use of medications with QTc prolongation. Although the cardiac side effects of remdesivir therapy have been well documented, the link between remdesivir therapy and QTc interval prolongation in patients with severe COVID-19 has only been observed in a few cases. Because this arrhythmia has the potential to result in sudden cardiac death, practitioners should be aware of the QTc interval prolongation associated with remdesivir therapy.

Journal: IDCases

Publication date: 18 July 2022

Short link: <https://rb.gy/stcxxx>



187. The morbidity and mortality rates following surgery in metastatic spine disease patients

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Abstract Background Metastasis is one of the most frequent causes of cancer-related deaths globally. Several studies have investigated the surgical outcome of a metastatic spine; however, the results are discordant. This research aims to study the mortality and morbidity rates of surgical intervention for metastatic spine disease and the predictors of postoperative complications in a tertiary care center. Materials and Methods A retrospective chart review was conducted. The population consisted of patients who underwent surgical intervention for metastatic spine disease in a tertiary-care hospital from 2016 to 2020. The primary outcomes were intraoperative and postoperative complications, 30-day mortality, 90-day mortality, and the 1-year survival rates. Results A total of 47 patients underwent a surgical intervention during the period. Breast cancer was the most frequent primary lesion for the metastasis, followed by multiple myeloma and lung cancer. Postoperative surgical complications occurred in 34% of the sample, and 41% reported marked neurological improvement following surgery. The 30-day and 90-day mortality rates were 2% and 12%, respectively. The overall one-year survival rate was 64%. Conclusion The current study indicated that despite the risk and complexity of the surgical intervention to the metastatic spine, the surgery resulted in an acceptable rate of morbidity and mortality.

Journal: Journal of Spine Practice

Publication date: 19 July 2022

Short link: <https://rb.gy/slyrko>

188. Early Diagnosis of Pulmonary Embolism Related to Clinical Presentation and Vital Signs in the Emergency Department at King Saud Medical City

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Abstract Background: Pulmonary embolism (PE) is a common acute life-threatening cardiovascular disorder. It is the third most common cause of hospital-related death and early detection and management of PE are crucial. The study aimed to evaluate the association between vital signs and laboratory investigations with PE. Methods: This is a retrospective, hospital records-based, observational study, conducted among patients who were admitted to the emergency department of King Saud Medical City in Riyadh, Saudi Arabia with a suspected diagnosis of PE during the period of March 2021 to March 2022. Data were collected by searching patients' files and recording demographic data, and information about the clinical presentation, workup, and outcome. Data were entered and analyzed using SPSS version 26 (IBM, Armonk, NY), utilizing Chi-square statistics to test differences between groups, and logistic regression analyses to identify predictors of PE. Results: The study included 92 patients, with a preponderance of females (70.7%), and those aged 40-60 years (51.1%). Diabetes mellitus (44.6%), and hypertension (30.4%) were the most common comorbidities among others, while shortness of breath (SOB) (83.7%), and chest pain (44.6%) were among the most commonly reported symptoms. A majority of patients had tachycardia (64.1%), while about half had low oxygen saturation (51.5%), and nearly one-third had tachypnea (29.3%), which was more predominant among those not diagnosed with PE. Logistic regression analysis revealed that SOB, respiratory rate, and oxygen saturation were the only significant predictors of PE. Conclusion: Although being an integral part of the initial assessment in the hospital, measuring the vital signs is not always reflective of the likelihood of PE, and they should not be the only metric relied upon to make decisions about treatment approaches in patients with PE. Physicians should ensure the employment of evidence-based clinical prediction rules and guidelines when diagnosing and managing PE.

Journal: Cureus

Publication date: 20 July 2022

Short link: <https://rb.gy/btmukk>



189. Rate of Cardiovascular Implantable Electronic Device-Related Infection at a Tertiary Hospital in Saudi Arabia: A Retrospective Cohort Study

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Abstract Introduction Cardiovascular implantable electronic devices (CIEDs) are long-term cardiac treatments that address a variety of cardiac diseases. In the recent years, a steady growth has been noticed in CIEDs, mainly due to expanding indications for their usage. Possible device-related infection, whether pocket or systemic, which leads to high morbidity and mortality, is one of the most worrying complications. In addition, there are limited studies conducted on the topic of CIED infection rate and their clinical presentation both regionally and locally. Methods In this retrospective cohort study, we reviewed the medical records of all patients with CIEDs who presented to our medical center (implanted, followed up, or referred to our hospital) between January 2016 and January 2019. The medical records were extracted from the BestCare electronic medical records system (ezCaretech Co, Seoul, Korea). All consecutive patients were included as we had no exclusion criteria. Results During the three years of the study period, a total of 612 patients with CIEDs were identified at our medical center. Among this cohort, 436 subjects (71.2%) were male and 176 (28.8%) were female. Thirty-four patients experienced device-related infections from among the total patient population (n = 612) who presented with CIEDs between January 2016 and January 2019, for a total rate of 5.6%. Of the infected patients, 29 (85%) presented with local infections and five (15%) presented with systemic infections. Conclusion The infection rate of 5.6% observed in this study was higher than expected. Therefore, we conclude that action should be taken to reduce infection rates at our medical center to at least that seen in prior studies or below that, if possible. Moreover, we found that CIED infections were often caused by *Staphylococcus* species and commonly affected the elderly and patients with chronic diseases such as diabetes and hypertension. Most of the identified cases were local infections, although systemic infections were common in those with renal disease. Further studies are needed to control the risk factors and to better understand the role of antibiotics, antiseptic prophylaxis, and other methods in avoiding CIED infection and associated complications.

Journal: Cureus

Publication date: 20 July 2022

Short link: <https://rb.gy/cg0ogc>



190. Loss of FOCAD, operating via the SKI messenger RNA surveillance pathway, causes a pediatric syndrome with liver cirrhosis

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Abstract Cirrhosis is usually a late-onset and life-threatening disease characterized by fibrotic scarring and inflammation that disrupts liver architecture and function. While it is typically the result of alcoholism or hepatitis viral infection in adults, its etiology in infants is much less understood. In this study, we report 14 children from ten unrelated families presenting with a syndromic form of pediatric liver cirrhosis. By genome/exome sequencing, we found recessive variants in FOCAD segregating with the disease. Zebrafish lacking focad phenocopied the human disease, revealing a signature of altered messenger RNA (mRNA) degradation processes in the liver. Using patient's primary cells and CRISPR-Cas9-mediated inactivation in human hepatic cell lines, we found that FOCAD deficiency compromises the SKI mRNA surveillance pathway by reducing the levels of the RNA helicase SKIC2 and its cofactor SKIC3. FOCAD knockout hepatocytes exhibited lowered albumin expression and signs of persistent injury accompanied by CCL2 overproduction. Our results reveal the importance of FOCAD in maintaining liver homeostasis and disclose a possible therapeutic intervention point via inhibition of the CCL2/CCR2 signaling axis.

Journal: Nature Genetics

Publication date: 21 July 2022

Short link: <https://rb.gy/07irpv>



191. Prevalence of Associated Autoimmune Diseases Among Adults With Type 1 Diabetes Mellitus: A Cross-Sectional Study

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Background The relationship between type 1 diabetes mellitus (T1DM) and other autoimmune diseases has been known; however, the actual prevalence in the adult population nor clinical symptoms has not been determined locally. **Objectives** We aim to determine the prevalence of associated autoimmune diseases (Hashimoto's thyroiditis, celiac disease (CD), and adrenal insufficiency (AI)) and evaluate the most reporting symptoms and glycemic control assessment, as well as microvascular complications and hypoglycemia episodes. **Methods** A cross-sectional study of 251 patients with T1DM at the diabetic clinic of King Abdulaziz Medical City in Riyadh (KAMC-RD), Saudi Arabia, was conducted. Autoimmune serologies including thyroid peroxidase (TPO) antibody and tissue transglutaminase IgA (tTG-IgA) antibody were checked with hormonal studies such as thyroid-stimulating hormone (TSH), morning serum cortisol, and short Synacthen test (SST) with duodenal biopsy results all were reviewed if present. Patients were directly interviewed to evaluate for the most common symptoms (including hypoglycemia episodes) for the preceding two weeks. Glycemic control was assessed by measuring glycated hemoglobin (HbA1c). Microvascular complications (i.e., nephropathy and retinopathy) were estimated by looking at the urine albumin/creatinine ratio (ACR) besides the ophthalmology's visit notes. **Conclusion** Autoimmunity in Saudi adults with type 1 diabetes mellitus was significant with equal prevalence among both genders and age groups with no or slight difference. Clinical manifestations of autoimmunity were higher in women. Diabetes chronicity and poor glycemic control were the major complications; therefore, early glycemic control is advocated. Regular screening for autoimmunity and its complications is recommended for type 1 diabetic patients. Autoimmunity was found almost similar to previous literature.

Journal: Cureus

Publication date: 23 July 2022.

Short link: <https://rb.gy/j4zspu>



192. Outcomes of Road Traffic Accidents Before and After the Implementation of a Seat Belt Detection System: A Comparative Retrospective Study in Riyadh

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Abstract Introduction Road traffic accidents (RTAs) are considered a major cause of death in Saudi Arabia. As seat belt compliance provides significant safety among drivers, a camera detection system has been implemented in March 2018 to enforce seat belt utilization, which can decrease the severity of road traffic injuries. There are no previous studies in the country that have assessed the effectiveness of a seat belt camera detection system on the severity of RTA-related injuries. Methods A retrospective cohort study was conducted at King Abdulaziz Medical Trauma Center in Riyadh, Saudi Arabia. The study included 688 adult patients who were involved in RTAs from the period of March 2016 to March 2020. A data extraction form included sociodemographics, clinical variables, and outcome measures. The data were analyzed using Statistical Analysis Software (SAS) to evaluate the primary outcome measures: mortality, ejection from the vehicle, ICU admissions, and severity measures (injury severity score (ISS) and Glasgow Coma Scale (GCS)) before and after the implementation of seat belt detection system. Associations of the outcome measures in the pre-implementation and the post-implementation periods' seat belt detection were assessed using regression tests. Results There was no significant difference in the mean age between the pre-implementation and post-implementation periods of the seat belt detection system (31.39 years and 32.57 years, respectively). All of the outcome measures have improved following the implementation of the seat belt detection system. Mortality and ejection rates decreased significantly with 58% lower risk of death (OR= 0.42; 95% CI= 0.2,0.8) and 37% lower risk of ejection (OR= 0.63; 95% CI= 0.42,0.94). ICU admissions showed a slight decline in the post-implementation period compared to the pre-implementation period (30.37% vs. 31.37, $p<0.7764$). Severity measures (ISS and GCS) were slightly improved in the post-implementation period. Head and neck injuries were dominant in the pre-implementation period, and chest injuries were the most common body injuries after the implementation. Conclusion This study highlights the direct association between compliance with seat belt use and the primary outcome measures among patients who survived a road traffic accident. All of the outcome measures showed improvement in the post-implementation period, which indicates the effectiveness of the newly implemented seat belt detection system. These findings raise awareness to the public in regard to seat belt compliance.

Journal: Cureus

Publication date: 26 July 2022

Short link: <https://rb.gy/7pmscq>



193. Proof-of-concept, rapid, instrument-free molecular detection of *Neisseria gonorrhoeae* and ciprofloxacin susceptibility

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Abstract Objectives: To develop instrument-free point-of-care methods using recombinase polymerase amplification (RPA) technology coupled with a simple lateral flow detection system to detect *Neisseria gonorrhoeae* and susceptibility to ciprofloxacin. Methods: For identification of gonococcal infection, an RPA-based method was developed targeting the gonococcal porA pseudogene (NG-porA-RPA). For ciprofloxacin susceptibility, predictive WT sequences at codons 91 and 95 of the gonococcal gyrA DNase gene were targeted. Given the known complexities of SNP detection using RPA (e.g. the ability to accommodate mismatches) we trialled several different assays incorporating various additional non-template mismatches in the oligonucleotide sequences to reduce affinity for the mutant (resistant) gyrA sequences. Assays were evaluated using a bank of *N. gonorrhoeae* (n = 10) and non-gonococcal (n = 5) isolates and a panel of *N. gonorrhoeae* nucleic acid amplification test (NAAT)-positive clinical sample extracts (n = 40). Results: The NG-porA-RPA assay was specific to *N. gonorrhoeae* and provided a positive percentage agreement (PPA) of 87.5% (35/40) compared with a commercial *N. gonorrhoeae* NAAT when applied to the 40 clinical sample extracts. For gyrA, the non-template bases successfully reduced banding intensity for double-mutant strains (mutations at both 91 and 95), but not for rarer single-mutant (91 only) strains. The most promising gyrA assay, NG-gyrA-RPA08, correctly detected 83% (25/30) of infections from NAAT-positive clinical samples confirmed to have WT gyrA sequences based on Sanger sequencing. Conclusions: These proof-of-concept data show that RPA technology has considerable promise for detecting *N. gonorrhoeae* and associated antibiotic susceptibility and would offer a diagnostic-based stewardship strategy identified as urgently needed by the WHO.

Journal: Journal of Antimicrobial Chemotherapy

Publication date: 26 July 2022

Short link: <https://rb.gy/wsctv>



194. Management of Atopic Dermatitis in Adults in Saudi Arabia: Consensus Recommendations from the Dermatological Expert Group

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Abstract Background: Atopic dermatitis (AD) is a long-term, pruritic, recurrent, systemic, inflammatory skin disorder. In the Middle East region, the burden of AD is understudied, and there is a dearth of AD guideline documents for practitioners. Methods: An expert panel meeting, encompassing 12 dermatologists from the Kingdom of Saudi Arabia (KSA), was congregated to develop evidence- and experience-based consensus recommendations for AD management, especially in adults in KSA. They completed a questionnaire with seven clinical statements, and a consensus was defined when the responses of $\geq 75\%$ of participants coincided. Results: The expert recommendations were as follows: American Association of Dermatology guidelines are to be followed for defining AD; Eczema Area and Severity Index or SCORing atopic dermatitis index may be used to quantify the disease severity; Dermatology Life Quality Index may be used to determine the impact of AD on patients' quality of life; Atopic Dermatitis Control Tool may be used to assess long-term disease control in AD patients; and the European guidelines are to be followed for the management of AD. In AD patients who are inadequately controlled with topical or systemic therapies, the preferred systemic agent for use either alone or in combination with topical treatments is dupilumab, cyclosporine, methotrexate, phototherapy, or other available systemic treatments that may include mycophenolate mofetil or oral corticosteroids. Conclusion: These expert recommendations assist physicians by providing a reference framework for optimal care of adult AD patients.

Journal: Clinical, Cosmetic and Investigational Dermatology

Publication date: 26 July 2022

Short link: <https://rb.gy/hsrvpg>



195. Ocular manifestations of COVID-19 in the pediatric age group

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Abstract The coronavirus disease 2019 (COVID-19) is now known to be associated with several ocular manifestations. The literature thoroughly discussed those that affect adults, with a lesser focus in the pediatric age group. We aim to outline the various pediatric ocular manifestations described in the literature. The manifestations may be divided into isolated events attributed to COVID-19 or occurring in the new multisystem inflammatory syndrome in children (MIS-C), a novel entity associated by COVID-19 infection. Ocular manifestations have virtually affected all ages. They manifested in neonates, infants, children, and adolescents. Episcleritis, conjunctivitis, optic neuritis, cranial nerve palsies, retinal vein occlusion, retinal vasculitis, retinal changes, orbital myositis, orbital cellulitis were reported in the literature with this emerging viral illness. Conjunctivitis was the most common ocular manifestation in MIS-C in nearly half of the patients. Other ocular manifestations in MIS-C were anterior uveitis, corneal epitheliopathy, optic neuritis, idiopathic intracranial hypertension, and retinitis. The clinical outcome was favorable, and children regain their visual ability with minimal or no deficits in most of the cases. Further follow-up may be warranted to better understand the long-term effects and visual prognosis.

Journal: European Journal of Ophthalmology

Publication date: 27 July 2022

Short link: <https://rb.gy/svbnbr>



196. Combination of norepinephrine with phenylephrine versus norepinephrine with vasopressin in critically ill patients with septic shock: A retrospective study

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Abstract Purpose: To evaluate the outcomes of patients with septic shock treated with a combination of norepinephrine with phenylephrine compared to norepinephrine with vasopressin. Materials and methods: This was a retrospective cohort study including adults admitted between 2002 and 2017 with septic shock according to the Sepsis 3 criteria. We compared outcomes of patients treated with norepinephrine with phenylephrine to those treated with norepinephrine with vasopressin. Multivariate analysis was carried out to evaluate the association of norepinephrine with phenylephrine compared to norepinephrine with vasopressin with in-hospital mortality. Results: During the study period, 158 patients with septic shock were treated with norepinephrine with phenylephrine and 129 with norepinephrine with vasopressin. Crude in-hospital mortality was not different between the two groups [91/158 (57.6%) versus 80/129 (62.5%), $p = 0.40$]. There was also no difference in ICU length of stay or hospital length of stay. Multivariate analysis demonstrated no significant association of norepinephrine with phenylephrine with in-hospital mortality compared to norepinephrine with vasopressin (OR 0.62 (95% confidence interval 0.31, 1.23, $p = 0.17$)). Conclusion: Phenylephrine used as a second-line vasoactive agent combined with norepinephrine may be a reasonable option compared to vasopressin. However, this finding needs to be validated in a randomized controlled trial.

Journal: Journal of Critical Care

Publication date: 28 July 2022

Short link: <https://rb.gy/tljlr7>



197. Saudi consensus recommendations on the management of Neuromyelitis Optica Spectrum Disorders (NMOSD)

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Abstract This article focuses on the diagnosis and management of neuromyelitis optica spectrum disorder (NMOSD). NMOSD is an autoimmune, demyelinating condition characterized by inflammation of the optic nerve and/or the spinal cord, with symptoms that can range from mild impairment of movement to paralysis. The newly approved diagnostic criteria have improved the accuracy of NMOSD diagnosis. The management of NMOSD is under major revolution due to the many new therapeutic options. The role of the antibodies directed at aquaporin-4 (AQP4) has materialized as a biomarker for NMOSD. Several new treatments that target variable aspects in immunopathology such as IL-6, complement, or depletion of B cells are emerging. The management of AQP4-negative patients remains challenging.

Journal: Multiple Sclerosis and Related Disorders

Publication date: 28 July 2022

Short link: <https://rb.gy/e1bevz>

198. Saudi consensus recommendations on the management of multiple sclerosis: MS management in children and adolescents

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Abstract Multiple sclerosis (MS) most commonly presents in young adults, although 3–5% of patients develop MS prior to the age of 18 years. The new and comprehensive consensus for the management of MS in Saudi Arabia includes recommendations for the management of MS and other CNS inflammatory demyelinating disorders in pediatric and adolescent patients. This article summarizes the key recommendations for the diagnosis and management of these disorders in young patients. Pediatric and adult populations with MS differ in their presentation and clinical course. Careful differential diagnosis is important to exclude alternative diagnoses such as acute disseminated encephalomyelitis (ADEM) or neuromyelitis optica spectrum disorders (NMOSD). The diagnosis of MS in a pediatric/adolescent patient is based on the 2017 McDonald diagnostic criteria, as in adults, once the possibility of ADEM or NMOSD has been ruled out. Few data are available from randomized trials to support the use of a specific disease-modifying therapy (DMT) in this population. Interferons and glatiramer acetate are preferred initial choices for DMTs based on observational evidence, with the requirement of a switch to a more effective DMT if breakthrough MS activity occurs.

Journal: Multiple Sclerosis and Related Disorders

Publication date: 28 July 2022

Short link: <https://rb.gy/qkxysi>



199. Assessment of Physicians' Knowledge and Awareness About the Hazards of Radiological Examinations on the Health of Their Patients at a Tertiary Care Hospital, Riyadh, Saudi Arabia

Authors:

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Abstract Background One of the vital tools in diagnosing a variety of medical conditions is through radiological examinations which can lead to severe biological effects if precautions are not taken. To limit the harmful effects, as low as reasonably achievable (ALARA) was implemented. ALARA aims to minimize the time, increase the distance, and promote the use of protective shielding. Method The cross-sectional study included 454 physicians in King Abdulaziz Medical City (KAMC) and King Abdullah Specialist Children's Hospital (KASCH), Riyadh, Saudi Arabia. The study assessed physicians' knowledge and awareness about the hazards of radiological examinations on their patients' health using a self-administered questionnaire to measure knowledge, attitude, and practice (KAP). KAP was compared with the sociodemographic characteristics using the Mann-Whitney Z-test as well as Kruskal Wallis H-test. Results Out of 454 physicians, males exceeded the females (61.7% vs 38.3%) with nearly three-quarters (72.5%) working in King Abdulaziz Medical City. The most commonly mentioned specialty was internal medicine, while the least common specialty was orthopedics. Based on a cutoff point of 60%, it was revealed that poor knowledge was observed in 70.5% of physicians. With regards to attitude, 65.2% of physicians had a positive attitude. For practices, 49.8% had poor practices while 50.2% had good practices. The mean scores for knowledge, attitude and practice were 9.19 (SD 7.03) out of 23 points, 1.89 (SD 1.06) out of 3 points, and 5.43 (SD 1.67) out of 8 points, respectively. Conclusion In conclusion, poor knowledge, practice, and positive attitude were detected among physicians. However, our study was limited by the use of a self-administered online questionnaire.

Journal: Cureus

Publication date: 30 July 2022

Short link: <https://rb.gy/bzwzjf>



200. Pattern and Magnitude of Utilization of Information Resource Facilities and Services at Health Sciences Library in the Midst of COVID – 19 Pandemic

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Abstract Background: Medical librarians support curriculum and research by delivering appropriate and highquality information and facilities to students and faculty members. COVID-19 pandemic disrupted physical teaching and learning worldwide endorsing virtual education which was supported by digital information resources. The purpose of this study was to evaluate the extent of utilization of physical and digital learning resources along with customer satisfaction in a health science library before and during the COVID-19 pandemic. Methods: An online self-administered questionnaire was administered using Microsoft Forms to students and faculty members. Data were analyzed using SPSS version 24. Qualitative variables were analyzed using mean and standard deviation. A Chi-square test was carried out to compare customers' satisfaction with the utilization of information resources before and during the pandemic. A p-value < 0.05 was considered to be statistically significant. Results: A total of 230 participants were included in the study. The library was visited by 18.7% and 26.1% of customers daily, and weekly respectively before the COVID-19 pandemic. However, none of them used the library daily during a pandemic, while digital library usage increased during this time. A significant reduction in the level of customers' satisfaction was observed with the physical library services in coronavirus outbreaks compared to satisfaction before the pandemic, $p=0.028$. Participants were satisfied with the utilization of digital library services during the pandemic compared to the prepandemic period, $p= 0.024$. Conclusion: The use of digital libraries surged during the pandemic resulting in a rapid adaptation of electronic books and journals. Librarians' have played a vital role in the current catastrophe by improving awareness of stakeholders regarding e-resources.

Journal: Library Philosophy and Practice

Publication date: July 2022

Short link: <https://rb.gy/3rcagj>



201. Prevalence of anti-SARS-CoV-2 antibody in hemodialysis facilities: a cross-sectional multicenter study from Madinah

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Abstract Background: Since the occurrence of coronavirus disease in 2019 (COVID-19), the global community has witnessed its exponential spread with devastating outcomes within the general population and specifically within hemodialysis patients.

Objectives: Compare the state of immunity to SARS-CoV-2 among hemodialysis patients and staff. Design: Cross-sectional study with a prospective follow-up period. Patients and methods: We prospectively tested for SARS-CoV-2 antibodies in dialysis patients using dialysis centers staff as controls. The participants were tested on four occasions when feasible for the presence of anti-SARS-CoV-2 antibodies. We also analyzed factors that might be associated with seropositivity. Main outcome measures: SARS-CoV-2 positivity using immunoglobulin G (IgG) levels SAMPLE SIZE: 830 participants, 677 patients and 153 dialysis centers staff as controls. Results: Of the total participants, 325 (257 patients and 68 staff) were positive for SARS-CoV-2 IgG antibodies, for a prevalence of 38.0% and 44.4% among patients and staff, respectively ($P=.1379$). Participants with a history of COVID-19 or related symptoms were more likely to have positive IgG ($P<.0001$). Surprisingly, positivity was also center-dependent. In a multivariable logistic regression, a history of infection and related symptoms contributed significantly to developing immunity. Conclusion: The high prevalence of SARS-CoV-2 antibody among hemodialysis patients and previously asymptomatic staff suggested past asymptomatic infection. Some centers showed more immunity effects than others.

Journal: Annals of Saudi Medicine

Publication date: 4 August 2022

Short link: <https://rb.gy/8rg4ci>



202. The antiplatelet activity of camel milk in healthy and aluminum chloride-intoxicated rats

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Abstract This study examined the effect of camel milk on some marker of blood coagulation markers in aluminum chloride (ALCl₃)-treated rats. Rats (n = 6) were assigned as control, control + fresh camel milk (1 ml), ALCl₃ (0.5 mg/kg), and ALCl₃ + fresh camel milk (1 ml and 0.5 mg/kg, respectively). Treatments were conducted orally for 30 days and daily. Administration of camel milk to control and ALCl₃-intoxicated rats significantly increased platelet count, bleeding time, and collagen epinephrine (CEPI)-induced platelet aggregation. It also lowered plasma levels of thromboxane B₂ and hepatic levels of glutathione (GSH) and the activities of antioxidant enzymes, catalase (CAT) and superoxide dismutase (SOD). While the treatment with camel milk has no effect on the liver structure, values of activated partial prothrombin time (aPTT), and levels of prothrombin time (PT) in control rats, it improved liver architectures and decreased serum levels alanine and aspartate aminotransferases (ALT and AST, respectively), and reduced values of both aPTT and PT in ALCl₃-intoxicated rats. In conclusion, camel milk inhibits platelets activity and aggregation in both control and ALCl₃-intoxicated rats.

Journal: Saudi Journal of Biological Sciences

Publication date: August 2022

Short link: <https://rb.gy/nsnkgd>



203. The effect of intensity of conditioning regimen on the outcome of HSCT in children with sickle cell disease

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Abstract Allogeneic hematopoietic stem cell transplantation (HSCT) provides a cure for patients with sickle cell disease (SCD). This study describes the effect of conditioning regimen intensity on HSCT outcomes among children younger than 14 years with SCD. Methods Transplants from HLA-matched related donors (MRD) and unrelated donors (MUD) using either myeloablative conditioning (MAC) regimens or reduced intensity conditioning (RIC) regimens were considered. Event-free survival (EFS) was the primary endpoint. Secondary endpoints included overall survival (OS) and occurrence of GVHD. Results 48 SCD patients underwent HSCT, 45 (93.8%) patients had MRD, 1 (2.1%) had 9/10 related donor, and 2 (4.1%) had MUD. The median age at transplant was 8.6 years (range, 3.1–13.8). Conditioning regimens were myeloablative (MAC) in 41 (85.4%) patients and of reduced intensity in 7 (14.6%) patients. EFS at 2 years was 100% among MAC group compared to 29% in the RIC group ($p < .001$). The median follow-up was 43.4 months (range 26.8–134). All events in the RIC group were secondary graft failure. However, OS was 100% in both groups at 2 years. Acute GVHD II–IV was diagnosed in 2 (4.1%) patients. Chronic GVHD occurred in 2 (4.1%) patients. GVHD did not occur in patients who underwent MUD HSCT. Conclusions MAC in children with SCD is well tolerated and associated with an excellent outcome for HLA-matched HSCT in SCD. There was a high rate of secondary graft failure with the use of RIC. Future studies are needed to optimize RIC regimens in HSCT of children with SCD.

Journal: Clinical Transplantation

Publication date: 5 August 2022

Short link: <https://rb.gy/amibsw>



204. Graft and Patient Outcomes of Kidney Transplant Tourism: A Single-Center Experience

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Abstract Background The supply-demand mismatch between organ donor and patient waiting for transplant has led to the growth of transplant tourism. This type of transplant is considered unethical and illegal, as it is usually performed in poor environments and carries a higher risk of infectious, vascular, and immunological complications. Methods In this single-centered retrospective cohort study, we compared patients who underwent transplant tourism to patients who were transplanted locally and followed up in our hospital from January 2015 to December 2018. Result A total of 254 local transplants and 60 patients from the transplant tourism group were included. Transplant tourism recipients were younger otherwise both groups were similar in gender, body mass index, diabetes, and hypertension. Recipients in the transplant tourism group had a significantly higher rate of delayed graft function (18.3% vs. 6.3%, $p = 0.005$), acute rejection (40% vs. 7.9%, $p < 0.001$), and higher posttransplant infection in general. With more urological complications and higher graft failure at 3-years' follow-up (11.7% vs. 0.8%, $p < 0.001$). Conclusion Transplant tourism is associated with a higher risk of infection and poor graft outcomes. Extra efforts are required to cut down transplant tourism by educating patients about its clinical risk and ethical considerations. In addition, measures to increase the number of deceased donor pool to provide a better alternative options for patients are essential.

Journal: Avicenna Journal of Medicine

Publication date: 16 August 2022.

Short link: <https://rb.gy/bvgtk>



205. Case Report: Bi-allelic missense variant in the desmocollin 3 gene causes hypotrichosis and recurrent skin vesicles

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Abstract Background: Hypotrichosis with Recurrent Skin Vesicles (HYPTSV) is an extremely rare condition, having autosomal recessive inheritance. Here in we report a 4-years- old Saudi boy who presented with a history of recurrent skin blisters that are localized to the extremities and hypotrichosis since birth. Methods: The present study describes a consanguineous Saudi family segregating HYPTSV in an autosomal recessive fashion. A single proband (II-1) exhibited features such as diffused non-scarring alopecia on the scalp, intraepidermal blister, post-inflammatory hyperpigmented macules, and follicular hyperkeratosis. DNA of the index was subjected to whole-genome sequencing (WGS). Furthermore, 3D protein modeling was performed for the mutated and normal protein. Results: WGS revealed a novel bi-allelic missense variant (c.154G>C; p. Val52Leu) in the *DSC3* gene, which segregated perfectly using Sanger sequencing. In addition, 3D protein modeling revealed a substantial change in the mutated *DSC3* protein as compared to the normal *DSC3* protein. Conclusion: This is the 3rd novel variant reported in the *DSC3* gene associated with the HYPTSV phenotype. This report further strengthens the evidence that bi-allelic variants in the *DSC3* cause severe HYPTSV in humans.

Journal: Frontiers in Genetics

Publication date: 17 August 2022

Short link: <https://rb.gy/rkvs1o>



206. Epstein–Barr Virus (EBV) and Multiple Sclerosis Disease: A Biomedical Diagnosis

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Abstract Multiple sclerosis (MS) is a degenerative disease that affects 2.8 million people worldwide. It is a central nervous system disease (CNS), in which the myelin sheath covering the brain and spinal cord neurons is attacked. If the myelin sheath is damaged, a person can suffer permanent damage to the nerves. There are a number of factors that can increase a person's risk of developing MS, such as obesity, smoking, vitamin D deficiency, certain tissue types (HLADRB115 : 01) and infection with the Epstein–Barr virus (EBV). The latter virus can cause infectious mononucleosis, which can, in turn, result in lifelong infection in the host. To establish the relationship between MS and EBV, the author conducted a study on 1176 MS patients admitted to Saudi Arabia King Abdulaziz City centers. The researcher determined that MS occurred twice as much in females as it did in males, and also that EBV was much more widespread in MS female patients than MS male patients (27 : 1). Age was not a factor in the occurrence of EBV. There were limitations on data completeness and availability. Other trials using larger cohorts of patients are needed.

Journal: Computational Intelligence and Neuroscience

Publication date: 18 August 2022

Short link: <https://rb.gy/eil0pu>



207. Awareness of Medical Students toward Circadian Rhythm and Sleep Disorder Based on Biomedical Diagnosis

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Abstract Background. Sleep disorders affect an individual's mental and physical health and vice versa. Sleep medicine is underrecognized as a specialty; therefore, many sleep disorders go undiagnosed. This study is aimed at assessing the knowledge of medical students toward circadian neuroscience and sleep disorder based on biomedical diagnosis. Methods. This cross-sectional study was conducted in both male and female medical colleges from the third to the sixth year. A self-administered structured questionnaire consisting of sociodemographic data and the Assessment of Sleep Knowledge in Medical Education (ASKME) survey assessed the students' general knowledge and attitude towards sleep disorder and sleep medicine. Chi-square/Fisher exact tests were used to analyse the participants' knowledge level toward specific sociodemographic data. Also, for two-level continuous variables, the Wilcoxon two-sample test was used. Results. The total number of participants was 296, with 154 female and 142 male participants. The prevalence of inadequate knowledge was considerable with 96.62% of students, compared to adequate knowledge with only 3.38%. The students' attitude to sleep medicine was negative 14.53% and positive among 85.47%. We found that gender was significantly associated with attitude with a value = 0.0057. The specific interest in sleep medicine had a significant association with knowledge and attitude, value of 0.0522 and 0.0059, respectively. Conclusion. This study concluded that medical students possess inadequate knowledge regarding sleep medicine, yet they have a positive attitude towards it.

Journal: BioMed Research International

Publication date: 18 August 2022

Short link: <https://rb.gy/9djecd>



208. The Early and Late Postoperative Complications of Pediatric Neuromuscular Scoliosis at King Abdulaziz Medical City, Riyadh, Saudi Arabia: A Case Series

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Abstract Background

Neuromuscular Scoliosis (NMS) is defined as “a coronal plane spinal curvature of 10 degrees or more, measured by the Cobb method, in the setting of muscle imbalance secondary to an underlying neuropathic or myopathic disease”. Patients who have the disease usually manifest with diminished balance, asymmetrical seating, abnormal gait, and decreased pulmonary function, which are related to the change in spine posture. Surgery benefits patients with NMS in terms of stopping disease advancement and improving quality of life, but is known to be associated with certain complications in this population. The aim of this study is to identify the most common complication in NMS patients after surgical correction. **Methods** This study is a chart review-based retrospective case series that has covered patients’ data going from 2015 to 2019. The study focused on patients who underwent scoliosis correction surgery of both genders and mainly of a single ethnicity, with the inclusion of patients aged 9 to 18 years old. Under consecutive sampling, the study has met a sample size of 14 patients. **Results** Most of the study subjects nine (64%) were female. The age median was 13 years (2.25). The highest documented intraoperative complication was blood loss in 11 (79%) patients. The most prevalent early postoperative complication was urinary tract infection in two (14%) patients. No late postoperative complications were documented in the study. **Conclusion** The study concluded that blood loss was the most common intraoperative complication. Pulmonary problems were one of the least reported complications. Possible reasons for these findings and prevention methods should be the focus of future studies.

Journal: Cureus

Publication date: 19 August 2022

Short link: <https://rb.gy/0dazcq>



209. Prevalence and risk factors of osteoporosis in Saudi end-stage renal disease patients on hemodialysis

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Abstract Background: Osteoporosis is characterized by a decrease in bone mineral density, thereby increasing the risk of pathological fractures. It is a common complication of chronic kidney disease. However, there is limited local data on the prevalence of osteoporosis in end-stage renal disease. Objective: The current study evaluated the epidemiology of osteoporosis in end-stage renal disease patients at a Saudi Arabian tertiary care center. Methods: This cross-sectional retrospective study was conducted using data obtained between 1 January 2016 and 31 December 2019 at the Dialysis Center at King Abdulaziz Medical City, Riyadh, Saudi Arabia. End-stage renal disease patients who were aged ≥ 50 years and underwent hemodialysis for at least 1 year were included, while those with documented metabolic bone disease and absence of bone mineral density data were excluded. Results: Sixty-four end-stage renal disease patients undergoing hemodialysis met the inclusion criteria. The patients underwent bone mineral density measurement at the discretion of the treating physician. The mean patients' age was 73 ± 11.5 years and 76% were women. The overall prevalence of osteoporosis was 37.5%, and it was similarly distributed among women and men (38.8% and 33.3%, respectively). Nine of the 15 male patients (60%) and 24 of the 49 female patients (49%) had fractures. Twenty-five (39%) patients used glucocorticoids. Osteoporosis was most commonly identified in the femoral neck (26.2%), followed by proximal femur (19.4%), and lumbar spine (18.8%). A high rate of osteoporosis was significantly associated with older age and being underweight. Conclusion: A high rate of low bone mineral density was demonstrated in end-stage renal disease patients. The femoral neck was the most common osteoporosis site in this patient population, and advanced age and underweight were possible risk factors for low bone mass.

Journal: Saudi Journal of Medicine and Medical Sciences

Publication date: 22 August 2022.

Short link: <https://rb.gy/m0as7t>



210. The Job Demands in Predicting Burnout During COVID-19 Among Teaching Faculty at KSAU-HS, Jeddah, Saudi Arabia

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Abstract Purpose This study aimed to assess the burnout among faculty members of King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), Jeddah, during the COVID-19 pandemic and investigate their adaptations to online teaching. Patients and Methods The study utilized a survey research design, and a validated questionnaire was e-mailed to faculty members. The Maslach Burnout Inventory – Educators Survey was used to assess burnout in three domains (emotional exhaustion, depersonalization, and personal accomplishment), in addition to their adaptations to online teaching. Results A total of 112 faculty members completed the survey with a response rate of 25%. Females comprised 50.9% of the sample. Burnout assessment among faculty showed moderate emotional exhaustion and personal accomplishment. In contrast, the level of depersonalization was low. When assessing the impact of the shift to online education during the pandemic, 87.5% of the respondents reported increased confidence in online teaching and learning effectiveness. Conclusion Faculty members at KSAU-HS reported moderate emotional exhaustion. Fortunately, this had a moderate impact on students’ intellectual development and well-being. Most of the faculty feedback supported online teaching during the pandemic.

Journal: Advances in Medical Education and Practice

Publication date: 22 August 2022

Short link: <https://rb.gy/u0jzoy>

211. Peripheral neuropathy associated with tofacitinib use in alopecia universalis

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Abstract Alopecia areata (AA) is an autoimmune disease characterized by nonscarring hair loss. Alopecia universalis (AU) is the advanced form of AA characterized by complete scalp and body hair loss. Traditional medical therapies for AA include topical and intralesional corticosteroids, topical anthralin immunotherapy, and light therapy. Tofacitinib is a Janus kinase-1 and 3 inhibitor used in the treatment of AA. In this report, we describe a 20-year-old female with AU refractory to topical therapies; thus, she was started on tofacitinib. Mild peripheral neuropathy was an unanticipated side effect that could be kept into consideration.

Journal: Journal of Dermatology and Dermatologic Surgery

Publication date: 22 August 2022

Short link: <https://rb.gy/jiskxb>



212. Awareness and knowledge of postoperative surgical site infections in patients from Saudi Arabia: A multi-regional cross-sectional study

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Abstract Background: Knowledge regarding surgical site infections (SSIs) can help reduce hospital stay, morbidity, and mortality associated with SSI. Objectives: This study aimed to determine the knowledge and awareness of SSI among patients undergoing surgeries across Saudi Arabia. Methods: This multi-center cross-sectional study included adult patients (aged >18 years) who underwent surgery at six centers located across the five regions of Saudi Arabia. A 36-item questionnaire was used to elicit data regarding demographics, patient's health status, procedures, and hospitalization history and awareness and knowledge about SSIs. Results: A total of 375 patients were included (equally for all five regions of Saudi Arabia). Most patients were male (55.7%) and aged 18–34 years (44%). Most respondents (49.1%) had poor awareness; being illiterate and from the Northern region were significant factors ($P = 0.001$). Patients with no history of surgery ($P = 0.001$) or SSI ($P = 0.003$) also had poor awareness levels. In terms of knowledge, 45.8% and 35.2% of the participants had fair and poor knowledge, respectively, with the level of knowledge being significantly associated with region ($P = 0.001$). Patients those aged >65 years had poor knowledge ($P = 0.033$), while of males had good knowledge ($P = 0.02$). Patients with no history of surgery had poor knowledge of SSIs ($P = 0.003$). Only 32.8% of the patients recalled having been educated by healthcare workers. About 42% learned of SSIs from sources outside the hospital, with internet/social media platforms accounting for 48.4% of such sources. Conclusion: A significant proportion of the patients included in this study had poor awareness and knowledge of SSIs. The study highlights the need for strengthening the preoperative patient education in Saudi Arabia to reduce the likeliness of SSIs.

Journal: Saudi Journal of Medicine and Medical Sciences

Publication date: 22 August 2022

Short link: <https://rb.gy/vujjq0>



213. Recurrent urethral stricture with dual lumen managed by a single stage dorsal Onlay buccal mucosal graft Urethroplasty: a case report

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Abstract Urethral stricture is defined as any abnormal narrowing throughout the entire length of the male urethra. Anterior urethral stricture is the most common site which accounts for more than 90% of cases in developed countries. One of the possible long-term outcomes of urethral stricture treatment is stricture recurrence. Refractory urethral strictures to initial management present surgical challenges to the reconstructive surgeon. It has been reported in the literature that buccal mucosal grafts in complex anterior urethral strictures have lately become a well-established management modality for bulbar and penile urethral strictures. Here, we are presenting an interesting case of a patient with a dual lumen urethra due to recurrent urethral stricture.

Journal: Journal of Surgical Case Reports

Publication date: 23 August 2022

Short link: <https://rb.gy/duktfc>



214. Mesenchymal stem cell therapy: A review of clinical trials for multiple sclerosis

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Abstract Multiple sclerosis (MS) is a disease of the central nervous system (CNS) that is the result of the body's own immune cells being auto-reactive to the myelin regions of the body as if these regions were foreign antigens. This demyelination process is damaging to the electrical conductivity of neurons. The current medicines are only capable of fighting off the symptoms of the disease, but not the disease itself. Specialized stem cells, known as mesenchymal stem cells (MSCs), seem to be the candidate therapy to get rid of MS. MSCs can be isolated from multiple sources of the person's body, and even from the umbilical cord (UC) and placenta of a donor. These cells have anti-inflammatory effects so they can target the overactivity and self-antigen attacks by T cells and macrophages; this immune system overactivity is characteristic of MS. MSCs show the ability to locate into brain lesions when injected and thus can compensate for the loss of the brain function by differentiating into neuronal precursor cells and glial cells. The author has listed tables of clinical trials that have utilized MSCs from different sources, along with the years and the phase of study completed for each trial. The consensus is that these cells work on inhibiting CD4⁺ and CD8⁺ T cell activation, T regulatory cells (Tregs), and macrophage switch into the auto-immune phenotype. The best source of MSCs seems to be the UC due to the easiness of extraction, the noninvasive method of collection, their higher expansion ability and more powerful immune-modulating properties compared to other locations in the body. Studies showed there was a significant decline of mRNA expression of several cytokines after the administration of MSCs derived from the UC (UCMSCs). Other researchers were able to repair the defects of Tregs in MS patients by co-culturing Tregs from these patients with UCMSCs, which decreased the production of the pro-inflammatory cytokine IFN γ , and also suggested a strong link between Tregs lack of functionality in MS patients with the pathogenesis of the disease.

Journal: Regenerative Therapy

Publication date: 23 August 2022

Short link: <https://rb.gy/akw5mv>



215. Knowledge and Awareness of Syncope Among the Population of Riyadh: A Cross-Sectional Study

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Abstract Background Although syncope is a common emergency in medical settings, no research has yet evaluated the general population's awareness regarding it. This study investigated the general population's knowledge and awareness of syncope and if they could differentiate syncopal and non-syncopal causes of transient loss of consciousness (TLOC).

Methodology A cross-sectional study was conducted in Riyadh through a validated, self-administered Arabic questionnaire that was distributed to the general population through social media using Google Forms (convenience sampling). Participants younger than 18 or not from Riyadh were excluded from the study. Two cardiologists validated the questionnaire, following which forward and backward translation was done. The questionnaire contained three sections. The first section included demographic data and chronic conditions. In the second section, participants were asked if they or one of their relatives had ever experienced syncope. The third section had eight scenarios assessing the participants' syncope knowledge. Subjects with \geq five correct answers were considered to be aware. Results The number of total responses was 405 participants. Regarding demographic data, 53% of the participants were female, 33% had a medical background, and 76% had a university degree ($n = 214$, $n = 134$, and $n = 306$, respectively). The mean age of the participants was 33.2 ± 13.3 years. Participants who were aware of syncope represented 55% ($n = 221$). Among the syncope cases, orthostatic syncope had the highest number of correct answers (79%, $n = 319$), followed by vasovagal syncope (61%, $n = 246$). Males performed better in cases one ($p = 0.001$), two ($p = 0.004$), and seven ($p = 0.01$). Conclusions The results of this study showed that most participants were considered aware of syncope. Gender, marital status, and having a medical background had a significant influence on the results.

Journal: Cureus

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Short link: <https://rb.gy/vaec9p>



216. The Effectiveness of Students' Performance in Preclinical Fixed Prosthodontics Course in Predicting Subsequent Clinical Performance

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Abstract

Purpose: To evaluate the correlation between students' achieved grades in a preclinical fixed prosthodontics course and their performance in the same discipline's clinical courses.

Materials and methods: This study was conducted in 2019 on 76 students who passed all preclinical and clinical fixed prosthodontics courses. Their final examination grades in preclinical and clinical prosthodontics courses were compiled and made anonymous. The Statistical Package for the Social Sciences (SPSS Version 23) was used to analyze the data. Descriptive statistics and correlation coefficient were used to assess the relation between preclinical and clinical grades. **Results:** A statistically significant positive correlation existed between the students' preclinical and combined clinical final examination grades ($r = 0.45$, $p < 0.001$). In relation to sex, females showed a significantly higher correlation ($r = 0.56$, $p = 0.001$) compared to males ($r = 0.25$, $p = 0.1$). In addition, students' clinical grade prediction from their preclinical performance was 20.5%. **Conclusion:**

These findings emphasize the importance of preclinical courses and suggest that maximizing preclinical years' efforts can reflect positively on students' competence in their future clinical practice.

Journal: Journal of Prosthodontics

Publication date: January 2022

Short link: <https://rb.gy/ysng7b>

217. Frequency and Risk Factors of Diabetic Ketoacidosis in a Specialized Children's Hospital, Riyadh: A Cross-sectional Study

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Abstract

Objective: Diabetic ketoacidosis (DKA) is a life-threatening complication and a leading cause of hospitalization in patients with type 1 diabetes mellitus (T1DM). We aimed to assess the risk factors of admissions of children with DKA in a specialized children's hospital to reduce morbidity and inform appropriate prevention and intervention strategies.

Methods: We conducted a retrospective review of all DKA admissions at King Abdullah Specialized Children's Hospital, Riyadh (March 2015–December 2017). Data were gathered from newly diagnosed patients with T1DM and known patients ≤ 14 years old with DKA criteria. The main variables were frequency, precipitating factors, and other characteristics of DKA admissions in both groups.

Results: A total of 116/562 patients with T1DM (mean age 8.9 ± 3.0 years) had 146 DKA episodes, of which 42/116 (36.2%) were newly diagnosed. The frequency of DKA admissions were 146/562 (26.0%), of which 42/141 (29.8%) were newly diagnosed versus 104/421 (24.7%) known T1DM patients. The majority were 10–14 years old ($p \leq 0.001$), and 77.8% were females. Missing insulin was the main cause of DKA ($p = 0.001$) among known patients with T1DM. Recurrent episodes ($n = 30/146$, 20.5%) occurred in 15/116 patients and were more common in children ≥ 10 years of age ($p = 0.024$). The mean length of stay was 2.6 ± 2.0 days and increased with DKA severity ($p = 0.008$).

Conclusions: Most DKA episodes were in patients with known T1DM and missing insulin was the leading cause of DKA. In addition to awareness campaigns to prevent DKA as an initial presentation, intervention strategies should also target high-risk groups of known patients of T1DM such as adolescents and patients with recurrent episodes.

Journal: Oman Medical Journal

Published date: January 2022

Short Link: <https://rb.gy/h5xipi>



218. Awareness regarding COVID-19 and its effects on mental health among pre-professional health sciences students at King Saud bin Abdulaziz University for health sciences in Riyadh and Jeddah, Saudi Arabia

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Abstract

In light of the outbreak caused by the COVID-19 and its impact on the physical and mental wellbeing, we explored the consequences of this pandemic on the mental health among pre-professional health sciences students and their awareness regarding the virus. A descriptive observational cross-sectional study was conducted at King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) in Jeddah and Riyadh campuses. Data was collected from 770 participants using an online questionnaire, and statistical analysis was performed using SPSS. The majority of the participants (87.5%) considered governmental authorities as their main source of information, and therefore, they were up to date on the general information regarding COVID-19. For findings on mental health, it was found that 61.9% were exhibiting variant degrees of depression, as well as 50% expressing signs of extremely severe anxiety. However, 50.9% of the participants expressed no signs of stress during this pandemic. An association was found between gender and mental health showing females to have higher tendencies to express signs of extremely severe depression, anxiety, and stress. An association was also found between parents' marital status and anxiety. Analysis revealed that participants with separated parents were the least among the participants to show no signs of anxiety, as well as reporting the highest numbers in the "extremely severe" anxiety category. With the increased awareness and higher than normal levels of the investigated mental illnesses, we advise that proper action should be considered to address this issue.

Journal: Environmental Science and Pollution Research

Publication date: July 2022

Short link: <https://rb.gy/ebtk2y>



219. Non-invasive Follicular Thyroid Neoplasm with Papillary-Like Nuclear Features (NIFTP) Lowers the Risk of Malignancy in the Bethesda System for Reporting Thyroid Cytopathology Diagnostic Categories

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Abstract

Background: The introduction of non-invasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) has been shown to decrease the risk of malignancy (ROM) in The Bethesda System for Reporting Thyroid Cytopathology. This knowledge may alter the management of patients with thyroid nodules. **Objectives:** To correlate cytological diagnosis with histological diagnosis for establishing the ROM of all Bethesda system categories after the introduction of NIFTP. **Methods:** This was a retrospective cohort study. All consecutive fine-needle aspiration cytology (FNAC) specimens collected from January 1, 2013, to December 31, 2017, at King Abdullah Medical City, Jeddah, Saudi Arabia, were assessed, and patients who underwent surgical excision of thyroid nodules were further analyzed. The ROM and overall ROM for each Bethesda category were calculated with and without considering NIFTP as a malignant tumor. **Results:** Overall, 1066 FNAC specimens were collected, of which 281 had a surgical correlation. Our cases included 18 (6.4%) non-diagnostic (ND), 109 (38.8%) benign, 28 (9.9%) atypia/follicular lesion of undetermined significance (AUS/FLUS), 39 (13.8%) follicular neoplasm or suspicion for follicular neoplasm (FN/SFN), 20 (7.1%) suspicion for malignancy (SM), and 67 (23.8%) malignant (POM) cases. After considering NIFTP diagnosis on resection specimens, the ROM decreased as follows: ND, 38.8% to 27.7% ($P = 0.2388$); benign, 21.1% to 11.9% ($P = 0.0343$); AUS/FLUS, 50% to 39.2% ($P = 0.2089$); FN/SFN, 53.8% to 33.3% ($P = 0.0336$); SM, 85% to 75% ($P = 0.2147$); POM, 95.5% to 88% ($P = 0.0582$). **Conclusion:** The introduction of NIFTP would significantly decrease the ROM of thyroid FNAC in both benign and FN/SFN categories of the Bethesda system.

Journal: Saudi Journal of Medicine & Medical Sciences

Published: August 2022

Short link: <https://rb.gy/faldad>



220. Impact of COVID-19 pandemic on quality of partner relationship and sexual activity among COVID positive males: a cross sectional study

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Abstract

Objective: Our aim was to assess sexual activity, partner relationships among males who had been infected with COVID-19, to study the impact of COVID-19 infection on partner relationship and to find out the association between partner and sexual relationship during lockdown. **Materials and methods:** A cross sectional study was conducted in Saudi Arabia through social media platforms via online questionnaire between December 1, 2020 and January 31, 2021 among 871 participants after a pilot study among 20 participants of which 497 were included in the study. Statistical analysis was conducted using SPSS version 20.0 (IBM Inc., Armonk, NY, USA). Responses were presented as frequencies and percentages and the association was studied using Chi squared test/Fisher's exact test. The value of $p \leq .05$ was considered significant. **Results:** Out of the total study participants, nearly 85% of them belonged to the age range of 18 to 39 years, more than half of the participants were married. In the six months prior to the study being conducted, 268 respondents (53.9%) did not have sexual relationships. Respondents with positive COVID-19 infection reported that their partner lived with them in the same house during home isolation and was also found to be significantly associated with having intact sexual relationships in the last six months of the lockdown period (p -value $< .001$). Moreover, respondents who reported having good relationships with their partners during the pandemic were found to be significantly associated with having intact sexual relationships during the pandemic lockdown (p -value $< .001$). **Conclusions:** Among the COVID-19-positive respondents, sexual activity and partner relationships were largely found to be intact during the pandemic lockdown period.

Journal: European Review for Medical and Pharmacological Sciences

Published date: June 2022

Short link: <https://rb.gy/h9wtzs>



221. The Relation Between Body Mass Index and Musculoskeletal Injury

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Abstract: Background: The nature and extent of the relation between body mass index (BMI) score and the risk of Musculoskeletal (MSK) injury are still unclear, with few studies investigating. So, the purpose of this study was to assess the association between BMI scores and MSK injury and to see if the site of MSK injury is affected by a specific BMI score. In addition, the risk of MSK injuries was compared among different adult age groups. Methods: The study population included all patients above 18 years old with musculoskeletal injuries between January 2009 and December 2019 at King Abdulaziz Medical City (KAMC). The estimated sample size was 377. The study subjects were distributed according to their BMI into four categories (underweight, normal weight, overweight, and obese). Also, they were divided according to their age into young adults, middle age, and older adults. Each MSK injury was identified by its location as upper extremity, axial skeleton, or lower extremity. Results: Only gender and age were significantly related to the site of injury, with P-values (0.018) and (0.001), respectively. As for the BMI category, its relation with the site of injury was nonsignificant (P-value: 0.092). The younger age group (≤ 35) has a significantly higher chance to be injured in the upper extremities compared with the older adults (≥ 56) (P-value = 0.014). While the axial skeleton (especially the lower back) was the most common site of injury in obese, overweight, and underweight categories, patients with normal BMI have lower extremities as their most common site of injury. Conclusion: Although a higher BMI is associated with an increased risk of MSK injury, the difference in the BMI score seems to not effect the site of injury. By contrast, both gender and age group have a significant relationship with the site of MSK injury.

Journal: Cureus

Publication date: 1 September 2022.

Short link: <https://rb.gy/jcrxiz>



222. Prevalence of shoulder pain and disability in young Saudi bodybuilders, Riyadh, Saudi Arabia

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Abstract: Background: The shoulder complex has been alluded to as one of the most common regions of sports injury. Bodybuilding is getting more popular among Saudi youth in recent years. A vast number of bodybuilders suffer from pain during bodybuilding training. The aim of the study is to assess the prevalence and risk factors of shoulder pain and disability in young Saudi bodybuilders, Riyadh, Saudi Arabia. Materials and Methods: this is a cross-sectional study that included subjects from multiple large gyms that offer bodybuilding equipment throughout Riyadh city. All subjects were sampled conveniently. Collected data included demographical data and a disability and pain tools (Disability of the Arm, Shoulder and Hand [DASH], and Penn Shoulder Score [PSS] scales). Results: A total of 363 subjects participated in this study. the point, last month, last 6 months, last year, and lifetime prevalence of shoulder pain among bodybuilders were 23.4%, 35.5%, 51.4%, 57.6%, and 67.2%, respectively. 111 (30.6%) received treatment because of a shoulder injury and they either received medication, physiotherapy, or surgery with 37%, 57%, and 6%, respectively. Positive DASH sports disability has a significant higher prevalence of shoulder pain of all types ($P < 0.001$). Using the categorization of the pain score, bodybuilders with a positive PSS have significantly higher prevalence of shoulder pain of all types ($P < 0.001$). Conclusions: Shoulder pain and disability are very prevalent in bodybuilding reaching up to 67.2% in lifetime prevalence of bodybuilders.

Journal: Saudi Journal of Sports Medicine

Publication date: 4 April 2022.

Short link: <https://rb.gy/krmawy>



223. Knowledge and attitude of pregnant women in the Kingdom of Saudi Arabia toward Noninvasive prenatal testing: A single center study

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Abstract: Background: Noninvasive prenatal testing (NIPT) is a screening tool for chromosomal aneuploidies. Prior knowledge of NIPT is an inherent factor in the decision-making process. We assessed the knowledge and attitude of pregnant women related to prenatal testing with a particular focus on NIPT. Methods: A prospective cross-sectional study, using a culturally validated questionnaire, was conducted with 342 pregnant women of whom 74.9% consented for prenatal screening. Mean age and gestational weeks \pm standard deviation was 31 ± 5 and 26 ± 11 , respectively. Results: A positive/very positive attitude was observed to ultrasound, followed by FCT, NIPT, and lastly to CVS. More than half of the participants (56.1%) had no previous knowledge of NIPT. A reaching significance association was detected between education and knowledge of NIPT. Significant association was detected between risk for aneuploidy and knowledge of NIPT. The majority (74%) indicated their willingness to perform the test. The effect and value of society on the pregnant women to make a decision regarding NIPT was negligible. Conclusion: The pregnant women in the current study displayed a lack of knowledge and awareness regarding prenatal screening, particularly the NIPT. We recommend that pregnant women receive adequate counseling regarding prenatal screening to increase their awareness and knowledge of prenatal testing, including NIPT.

Journal: Molecular Genetics & Genomic Medicine

Publication date: July 2022

Short link: <https://rb.gy/loxms7>



224. Predictors of tympanostomy tube extrusion time in otitis media with effusion

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Abstract Objectives: To investigate the impact and predictors of tympanostomy tube (TT) extrusion. Methods: A retrospective study on 258 ears underwent TT insertion during 2016-2018 at King Abdullah Specialized Children's Hospital, Riyadh, Saudi Arabia. Patients were followed for 36-48 months postoperatively to detect the recurrence rate. The sample was divided into 2 groups based on extrusion time and were compared to determine the predictors of TT extrusion. Results: Otitis media with effusion (OME) recurrence after TT insertion was detected in 28.7%. A shorter TT extrusion time was associated with a higher recurrence ($p=0.002$). Small TTs increased the probability of early TT extrusion (odds ratio = 5.144; 95% confidence interval: [1.602-16.519]). Conclusion: More than one-fourth of the patients who underwent TT insertion for OME developed recurrence. Tympanostomy tube extrusion earlier than 12 months was associated with a higher recurrence rate. Small TTs increased the probability of early TT extrusion.

Journal: Saudi Medical Journal

Publication date: July 2022

Short link: <https://rb.gy/6fwmiy>

225. Practice of Family Physicians in the Management of Osteoporosis Among Older Female Patients at King Abdulaziz Medical City, Riyadh, Saudi Arabia

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Abstract Background Osteoporosis is one of the major worldwide health concerns and carries medical, social, and financial impacts due to its significant morbidity and mortality. The aim of this study was to explore the practice of family physicians in osteoporosis management in older female patients. Method This study was performed in a cross-sectional manner. Data, including patient and disease characteristics and management practices, were obtained from the electronic patient chart for female patients aged 60 years and older who were followed in family medicine clinics at King Abdulaziz Medical City, Riyadh, Saudi Arabia, during the period from January 1, 2018, to December 31, 2020. Management was checked and evaluated against osteoporosis management guidelines. Results In 42 patients out of 250, an osteoporosis diagnosis was missed. Among the 208 charts that were reviewed, the mean patient age was 72.06 years, and the mean duration of the disease according to the initial dual-energy X-ray absorptiometry (DXA) scan was 3.68 years. Laboratory tests were performed for only about half of the patients. Vitamin D was given only to 54.3% while calcium supplements were given only to 53.4%. Almost one-third of the patients have not been prescribed any antiosteoporosis medications. Conclusion The current study documented that older females with osteoporosis were not well-managed in the investigated family medicine settings. Continuous professional development activities and periodic practice reviews are suggested to improve this situation.

Journal: Cureus

Publication date: 19 February 2022

Short link: <https://rb.gy/auagn3>

226. A Mixed Neuroendocrine/Non-Neuroendocrine Neoplasm Arising in the Background of Ulcerative Colitis: A Case Report and Review of the Literature

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Abstract BACKGROUND Inflammatory bowel disease (IBD) is a chronic, potentially life-long, disorder, including ulcerative colitis (UC) and Crohn's disease (CD). Ulcerative colitis (UC) is an idiopathic chronic inflammatory disorder affecting the mucosa of the colon; it starts at the rectum and continues proximally in a continuous pattern to include up to the entire colon, called pancolitis. Patients with ulcerative colitis are at particularly higher risk of developing colorectal cancer (CRC) than the general population. Adenocarcinoma is the most common type of colorectal malignancy reported in the general population and IBD patients. One of the rarest types reported are the neuroendocrine neoplasms (NENs), which account for only 1% of all colorectal cancers, and it is very infrequent in IBD patients. Moreover, mixed neuroendocrine/non-neuroendocrine neoplasm (MiNEN) is a rare aggressive subtype of NENs that involves the colon in the background of an underlying chronic inflammatory process. CASE REPORT A 57-year-old woman, known to have long-term cirrhosis and ulcerative colitis, came to the Emergency Department with a suspected large-bowel obstruction. Imaging (CT scan of the abdomen) showed an obstructive transverse colon mass along with multiple descending colon masses. Biopsy of the transverse tumor confirmed the diagnosis of mixed neuroendocrine/non-neuroendocrine neoplasm (MiNEN). CONCLUSIONS Although neuroendocrine tumors are rare, strong association exist between MiNENs and ulcerative colitis. Further studies and reports can help better understand the pathogenesis, diagnosis, management, and prognosis of these cases.

Journal: The American Journal of Case Reports

Publication date: 3 March 2022.

Short link: <https://rb.gy/emlfq7>

227. Stroke at Moderate and High Altitude

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Abstract Background: Stroke at high altitude is an understudied area in stroke research. With improvements in road infrastructure, access to high-altitude areas for recreation and living purposes has risen. Subsequently, it has been anticipated that due to normal physiological changes to high altitude the incidence of stroke is also likely to increase in these regions. Methods: We searched PubMed for available literature about stroke at high altitude. Cross-referencing was done from available articles and through other scientific search engines. Relevant case series and case reports were included in this review of the topic. Results: Only one review article, eight case series (including review of literature), and seven case reports were identified that could be included in this review. Most of the available data come from moderate and high altitude. Conclusions: There is limited available literature about stroke at high and extreme altitudes. Stroke at high altitude is likely to become an important subset of stroke population. Currently, there is inadequate knowledge about the incidence and prevalence, mechanisms, and stroke outcomes. Cerebral venous thrombosis is more common than arterial stroke. Stroke is probably secondary to conventional risk factors, polycythemia, and other coagulopathies. A case-control study may identify the at-risk population for stroke at moderate and high altitudes.

Journal: High Altitude Medicine & Biology

Publication date: 28 Mar 2022

Short link: <https://rb.gy/sww4uv>



228. A case series for Enneking Stage III vertebral hemangiomas management, outcome, and literature review

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Abstract: OBJECTIVES: Vertebral hemangiomas are benign, slow-growing tumors. They represent 2–3% of spinal tumors and are incidentally found. Various treatment protocols have been described for Enneking Stage III vertebral hemangiomas. However, a comprehensive treatment protocol is still lacking. This case series aimed to describe the management of Enneking Stage III vertebral hemangiomas in two centers. METHODS: This case series was performed by retrospectively reviewing the medical records of all patients diagnosed with Enneking Stage III vertebral hemangiomas at two centers in Riyadh, Saudi Arabia, from 2010 to 2020. RESULTS: Eleven patients had Enneking Stage III vertebral hemangiomas. Mean follow-up was 47.5 ± 24.1 (range 9–120) months. All patients were symptomatic; the most common presentations were neurological deficits with or without myelopathy ($n = 6$). Ten patients underwent surgical decompression with instrumentation. One patient refused surgery and underwent vertebroplasty and repeated sclerotherapy. All patients regained full neurological recovery during their follow-ups with a mean duration of 49.4 (range, 14–120) months. No recurrence was reported. CONCLUSION: In all 11 patients, they showed full recovery and clinical improvement regardless of treatment variety. Therefore, a larger study comparing various treatment methods is needed to reach a gold standard approach.

Journal: Journal of Musculoskeletal Surgery and Research

Publication date: 14 February 2022

Short link: <https://rb.gy/ekmbtz>



229. The association between IVF and chromosomal abnormalities compared to spontaneous conception

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ABSTRACT: In vitro fertilization (IVF) is a process by which an egg is extracted by needle aspiration and then combined with a sperm so that fertilization can occur outside the body. Genetic defects, such as chromosomal abnormalities, are considered rare among the general population; however, even though their incidence among IVF-conceived children is uncommon, several alarming studies were published on the increased risk of chromosomal abnormalities IVF/intracytoplasmic sperm injection (ICSI)-conceived children compared to universal rates. This study aimed to review the literature and present data to answer whether IVF or ICSI is associated with an increased risk of chromosomal abnormalities inborn after IVF/ICSI treatment compared to spontaneously conceived children. Relevant published scientific articles were searched in the Medline database, using combinations of the following key terms: “IVF,” “in vitro fertilization,” “ICSI,” “intracytoplasmic sperm injection,” “natural conception,” “spontaneous conception,” along with “chromosomal abnormalities,” “chromosomal defects,” “sex chromosome aneuploidy,” and “trisomy.” The eligible studies were considered as studies exploring the association of IVF/ICSI with chromosomal abnormalities compared to spontaneous conception. The search included studies published from 1992 to 2018. The results for the association of chromosomal abnormalities and IVF remain unclear. As many studies proved a significant increase in chromosomal abnormalities and syndromes among the IVF population, other studies were contradicting and contributed the abnormalities to several environmental and technical factors.

Journal: Journal of Biochemical and Clinical Genetics

Publication date: Septamper 2021

Short link: <https://rb.gy/iv86gc>



230. Prevalence, Risk Factors, and Outcomes of Platelet Transfusion Refractoriness in Critically Ill Patients: A Retrospective Cohort Study

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Abstract Background. Refractoriness to platelet transfusion is an understudied phenomenon in critically ill patients. Our objective was to evaluate the prevalence, risk factors, and clinical outcomes of platelet refractoriness among patients in a tertiary-care intensive care unit (ICU). **Methods.** A retrospective cohort study included all patients (age >14 years) who were admitted to a tertiary-care medical-surgical ICU between 2011 and 2016 and received ≥ 2 platelet transfusions during their ICU stay. We calculated platelet increment (PI) and corrected count increment (CCI). **Results.** A total of 267 patients were enrolled in the study, collectively receiving 1357 transfusions with a median of 4.0 (interquartile range: 2.0, 6.0) transfusions per patient. The median pretransfusion platelet count was $31000.0 \times 106/L$ (interquartile range: 16000.0, 50000.0). The median PI was $6000 \times 106/L$. The prevalence of platelet transfusion refractoriness was 54.8% based on $PI < 10000 \times 106/L$ and 57.0% based on $CCI < 5000$. Patients admitted under hepatology/liver transplant had the highest rates of platelet refractoriness (69.6%), while those under general surgery had the lowest rate (43.2%). Younger age, nontrauma admission, and larger spleen size were associated with platelet refractoriness. Finally, refractoriness was associated with increased length of stay in the ICU ($= 0.02$), but not with mortality. **Conclusions.** Platelet transfusion refractoriness was highly (>50%) prevalent in ICU patients. However, it was not associated with increased mortality

Journal: Critical Care Research and Practice

Publication date: 24 September 2021

Short link: <https://rb.gy/vuxzbt>

231. Recurrent Tubercular Episcleritis

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Abstract

Ocular tuberculosis (TB) is one of the extrapulmonary manifestations of mycobacterium TB. Episcleritis is a rare entity that may affect patients in endemic areas of TB. In this paper, we report a case of presumed recurrent episcleritis attributed to TB. TB should be kept as a possible cause of recurrent simple episcleritis upon encountering patients with endemic backgrounds to prevent the complication sequelae and halt recurrence.

Journal: Middle East African Journal of Ophthalmology

Publication date: Septamper 2021

Short link: <https://rb.gy/z7lkd9>

232. Evolution of practice patterns in the management of acute respiratory distress syndrome: A secondary analysis of two successive randomized controlled trials



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Abstract

Purpose: We sought to examine changes in acute respiratory distress syndrome (ARDS) management over a 12-year period of two successive randomized trials. **Methods:** Analyses included baseline data, from eligible patients, prior to influence of trial protocols, and daily study data, from randomized patients, of variables not determined by trial protocols. Mixed linear regressions examined changes in practice year-on-year. **Results:** A total of 2376 patients met the inclusion criteria. Over the 12-year period, baseline tidal volume index decreased (9.0 to 7.0 ml/kg, $p < 0.001$), plateau pressures decreased (30.8 to 29.0 cmH₂O, $p < 0.05$), and baseline positive end-expiratory pressures increased (10.8 to 13.2 cmH₂O, $p < 0.001$). Volume-controlled ventilation declined from 29.4 to 14.0% ($p < 0.01$). Use of corticosteroids increased (baseline: 7.7 to 30.3%; on study: 32.6 to 61.2%; both $p < 0.001$), as did neuromuscular blockade (baseline: 12.3 to 24.5%; on study: 55.5 to 70.0%; both $p < 0.01$). Inhaled nitric oxide use increased (24.9 to 65.8%, $p < 0.05$). We observed no significant change in prone positioning (16.2 to 18.9%, $p = 0.70$). **Conclusions:** Clear trends were apparent in tidal volume, airway pressures, ventilator modes, adjuncts and rescue therapies. With the exception of prone positioning, and outside the context of rescue therapy, these trends appear consistent with the evolving literature on ARDS management.

Journal: Journal of Critical Care

Publication date: October 2021

Short link: <https://rb.gy/sfpg4a>



233. Ellagic acid protects against non-alcoholic fatty liver disease in streptozotocindiabetic rats by activating AMPK

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Abstract

Context: Ellagic acid (EA) is used in traditional medicine to treated hyperlipidaemia. **Objective:** This study examined if AMPK mediates the anti-steatotic effect of ellagic acid (EA) in streptozotocin (STZ)-induced type 1 diabetes mellitus in rats. **Materials and methods:** Adult male Wistar rats (130 ± 10 g) were divided into 6 groups (n $\frac{1}{4}$ 8 rats/group) as control, control \downarrow EA, control \downarrow EA \downarrow CC an AMPK inhibitor, T1DM, T1DM \downarrow EA, and T1DM \downarrow EA \downarrow CC. The treatments with EA (50 mg/kg/orally) and CC (200 ng/rat/i.p.) were given the desired groups for 12 weeks, daily. **Results:** In T1DM-rats, EA reduced fasting glucose levels (44.8%), increased fasting insulin levels (92.8%), prevented hepatic lipid accumulation, and decreased hepatic and serum levels of total triglycerides (54% & 61%), cholesterol (57% & 48%), and free fatty acids (40% & 37%). It also reduced hepatic levels of ROS (62%), MDA (52%), TNF- α (62%), and IL-6 (57.2%) and the nuclear activity of NF- κ B p65 (54%) but increased the nuclear activity of Nrf-2 (4-fold) and levels of GSH (107%) and SOD (87%). Besides, EA reduced downregulated SREBP1 (35%), SREBP2 (34%), ACC-1 (36%), FAS (38%), and HMG-CoAR (49%) but stimulated mRNA levels of PPAR α (1.7-fold) and CPT1a (1.8-fold), CPT1b (2.9-fold), and p-AMPK (4-fold). All these events were prevented by the co-administration of CC. **Discussion and conclusions:** These findings encourage the use of EA to treat hepatic disorders, and non-alcoholic fatty liver disease (NAFLD). Further in vivo and in vitro studies are needed to validate its potential in clinical medicine.

Journal: Pharmaceutical Biology

Publication date: April 2022

Short link: <https://rb.gy/whgqhc>



234. Intravenous Vitamin C in Adults with Sepsis in the Intensive Care Unit

*The LOVIT Investigators and the Canadian Critical Care Trials Group**

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Abstract

Studies that have evaluated the use of intravenous vitamin C in adults with sepsis who were receiving vasopressor therapy in the intensive care unit (ICU) have shown mixed results with respect to the risk of death and organ dysfunction. **Methods:** In this randomized, placebo-controlled trial, we assigned adults who had been in the ICU for no longer than 24 hours, who had proven or suspected infection as the main diagnosis, and who were receiving a vasopressor to receive an infusion of either vitamin C (at a dose of 50 mg per kilogram of body weight) or matched placebo administered every 6 hours for up to 96 hours. The primary outcome was a composite of death or persistent organ dysfunction (defined by the use of vasopressors, invasive mechanical ventilation, or new renal-replacement therapy) on day 28.

Results A total of 872 patients underwent randomization (435 to the vitamin C group and 437 to the control group). The primary outcome occurred in 191 of 429 patients (44.5%) in the vitamin C group and in 167 of 434 patients (38.5%) in the control group (risk ratio, 1.21; 95% confidence interval [CI], 1.04 to 1.40; $P=0.01$). At 28 days, death had occurred in 152 of 429 patients (35.4%) in the vitamin C group and in 137 of 434 patients (31.6%) in the placebo group (risk ratio, 1.17; 95% CI, 0.98 to 1.40) and persistent organ dysfunction in 39 of 429 patients (9.1%) and 30 of 434 patients (6.9%), respectively (risk ratio, 1.30; 95% CI, 0.83 to 2.05). Findings were similar in the two groups regarding organ-dysfunction scores, biomarkers, 6-month survival, health-related quality of life, stage 3 acute kidney injury, and hypoglycemic episodes. In the vitamin C group, one patient had a severe hypoglycemic episode and another had a serious anaphylaxis event. **Conclusions:** In adults with sepsis receiving vasopressor therapy in the ICU, those who received intravenous vitamin C had a higher risk of death or persistent organ dysfunction at 28 days than those who received placebo.

Journal: New England Journal of Medicine

Publication date: July 2022

Short link: <https://rb.gy/mmlcfa>



235. Unmet Needs and Treatment of Relapsing-Remitting Multiple Sclerosis in Saudi Arabia: Focus on the Role of Ofatumumab

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Abstract Treatment-pattern data suggest that some patients with multiple sclerosis (MS) in the Kingdom of Saudi Arabia (KSA) may not be receiving optimal treatment. A virtual meeting of ten expert Saudi neurologists, held on October 23, 2020, discussed unmet needs in relapsing–remitting MS (RRMS), and the role of ofatumumab as a suitable treatment in the KSA. Multiple unmet needs were identified: poor quality of life, with high rates of depression and anxiety; a negative impact of MS on work ability; treatment choices that may compromise efficacy for safety or vice versa; inconvenient or complex dosage regimens; and limited access to patient education and support. Early use of highly effective disease-modifying treatments (DMTs) results in better patient outcomes than starting with less effective treatments and downstream escalation, but this strategy may be underutilized in the KSA. B cells are important in MS pathogenesis, and treatments targeting these may improve clinical outcomes. Ofatumumab differs from other B cell–depleting therapies, being a fully human monoclonal antibody that binds to CD20 at a completely separate site from the epitope bound by ocrelizumab, and being administered by subcutaneous injection. When compared with teriflunomide in two randomized, phase 3 clinical trials in patients with RRMS, ofatumumab was associated with significant reductions in annualized relapse rates, rates of confirmed disability worsening, and active lesions on magnetic resonance imaging. The incidence of adverse events, including serious infections, was similar with the two treatments. Ofatumumab is a valuable first- or second-line treatment option for RRMS in the KSA, particularly for patients who would benefit from highly effective DMTs early in the disease course, and for those who prefer the convenience of self-injection. Future research will clarify the position of ofatumumab in RRMS treatment, and comparative cost data may support the broad inclusion of ofatumumab in formularies across the KSA.

Journal: Neurology and Therapy

Publication date: September 2022

Short link: <https://rb.gy/wm81ze>



236. Proportion and predictors of Hypogonadism Recovery in Men with Macroprolactinomas treated with dopamine agonists

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Abstract Introduction: Hypogonadism is the most common form of hypopituitarism in men with macroprolactinoma. However, evidence on factors related to hypogonadism recovery is limited. Objectives: We estimated the proportion of hypogonadism in men with macroprolactinoma exclusively treated with dopamine agonists, and we assessed the factors predicting hypogonadism recovery. Patients and methods: This was a multicenter retrospective study of men with macroprolactinoma identified using ICD 9 and 10 codes and treated between 2009 and 2019 in five centers in the United Arab Emirates and Saudi Arabia. We evaluated hypogonadism, defined as low total testosterone (TT) level with normal or low gonadotropins on presentation and during the last clinic visit. Results: A total of 79 patients (median age 32 years) were included in the study. The most common symptoms at presentation were headache (73.7%), erectile dysfunction (55.4%), and low libido (54.3%). The median tumor size was 2.9 cm (1.0-9.7) at diagnosis. Sixty-three patients (79.7%) had hypogonadism at baseline. Growth hormone deficiency (GHD) and hypothyroidism were present in 34.4% and 32.9% of patients, respectively. The median serum prolactin (PRL) level was 20,175 (min-max 2254 - 500,000) mIU/l with a median serum TT of 4.5 (min-max 0.4-28.2) nmol/l. Most patients were treated with cabergoline (n = 77, 97.5%) with a median of 6 (min-max 0.6-22) years. At follow-up, 65% of patients recovered their pituitary-testicular axis. Patients with recovered hypogonadism had smaller median tumor size (2.4 [1-5.4] vs. 4.3 [1.6-9.7], p = 0.003), lower PRL level (18,277 [2254 - 274,250] vs. 63,703 [3,365-500,000], p = 0.008), higher TT level (4.6 [0.6-9.2] vs. 2.3 [0.5-7.3], p = 0.008), lower PRL normalization time on medical therapy (8 months (0.7-72) vs. 24 (3-120), p = 0.009) as well as lower frequency of GHD (17.1% vs. 60%, p = 0.006) and secondary hypothyroidism (17.9% vs. 57.1%, p = 0.003) compared with those with persistent hypogonadism respectively. Age at diagnosis, presenting symptoms and duration of medical therapy did not predict hypogonadism recovery. Conclusions: About two-thirds of men with macroprolactinoma recover from hypogonadism, mostly with 24 months of therapy. Smaller adenoma size, lower prolactin level, earlier prolactin normalization, and higher testosterone patients were related to testosterone normalization.

Journal: Pituitary

Publication date: 6 July 2022

Short link: <https://rb.gy/sfpg4a>



237. Benefits and challenges of fostering research-focused communities of practice a specialised health sciences university: An exploratory study

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Abstract

Introduction: Structured undergraduate research, whether mandatory or elective, provides undergraduate students with a unique opportunity to develop their research skills. However, the majority of the students undertake individual research projects rather than working in a group. This study explores the perceived benefits and challenges of fostering research focused communities of practice at a specialised health sciences university in Riyadh, Saudi Arabia.

Methods: This cross-sectional study was conducted at the College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) Riyadh, Saudi Arabia. The study was approved by the Ethics Committee at the King Abdullah International Medical Research Center (KAIMRC). A self-administered questionnaire was developed that assessed the perceived benefits and challenges of doing research in groups. Data were collected using a mixture of a dichotomous and a 5-point Likert scale and were analysed using Statistical Program for Social Scientists (SPSS). **Results:** Of the 380 medical students invited to participate in this study, 307 completed the questionnaire, with a response rate of 80.7%. The majority of the medical students (87%) agreed on the importance of teamwork in conducting medical research. Almost all medical students (96%) believed patience and tolerance were required to make the team successful. Significant differences were found between junior and senior medical students regarding their perceived benefits (P -value = 0.0001) and challenges (P -value = 0.0007). **Conclusion:** Although most of the students believed that doing research in groups is essential and that working within such groups enhances their research knowledge, forming these research groups was not without problems. The need for patience and tolerance to keep the group together, the issue of free-riders and the difficulties related to which research group to join were some of the challenges students encountered.

Journal: Journal of Family Medicine and Primary Care

Publication date: September 2022

Short link: <https://rb.gy/tae4xv>



238. Readiness to change among parents of overweight/obese children in Saudi Arabia and influencing factors

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Abstract Background: Pediatric overweight/obesity is a major health problem worldwide. Accurate parental perception of children's weight status is crucial in preventing and tackling this issue. Despite the consistent increase in prevalence of the childhood obesity in Saudi Arabia, the role of the parents is not well described. This study aims to explore Saudi parents' readiness to change the lifestyle of their overweight/obese children and the barriers facing it. Individuals and Methods: Through a cross-sectional design, 362 parents of overweight/obese children attending King Abdulla Specialized Children's Hospital were selected and requested to fill a predesigned questionnaire reflecting their perception about their children's weight status and their preparedness to change their lifestyle. A Chi-square test was used to verify significance. A Pvalue of <0.05 was considered an indication of significance. Results: Among all overweight/obese children ($n = 362$), obese children formed 39.5 and 22.7% had morbid obesity. Only one half of the parents (49.7%) had correct perception about their children's weight. Correct perception increases significantly with an increase age of the child and in the presence of family history of diabetes, $P < 0.05$. Only 68.9% were worried about body weight of their children, the percentage was significantly higher in younger parents; parents with obese children and with a positive family history of hypertension $P < 0.05$. In total, 83.1% of the worried parents proceeded to preparation and action stages; the percentage was significantly higher among parents whom their children were free from identified comorbidities, $P < 0.05$. Conclusion: Misconception about real weight status of overweight/obese children is common in Saudi parents. Parents who have correct perception and worried about health status of their children are more likely to take actions. The first step in controlling children's obesity is to educate parents about how to recognize the real weight status of their children and to be aware about the health-related problems of obesity.

Journal: Journal of Family Medicine and Primary Care

Publication date: September 2022

Short link: <https://rb.gy/njh4xm>



239. Efficacy of ursodeoxycholic acid for primary biliary cholangitis: Experience from a tertiary care centre in Saudi Arabia

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Abstract: Background: Primary biliary cholangitis (PBC) is a progressive autoimmune cholestatic liver disease that primarily affects females more than males and may lead to end-stage liver disease. We studied baseline characteristics, and the biochemical and clinical response to ursodeoxycholic acid (UDCA), a first-line treatment option for patients with PBC, in a cohort of patients diagnosed with PBC from Saudi Arabia. **Methods:** A total of 30 patients meeting the diagnostic criteria of PBC who were being followed in the King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia, between January 1, 2008, and December 31, 2017, were enrolled in the study. The patients with autoimmune hepatitis, primary sclerosing cholangitis, and overlap syndromes were excluded. The baseline characteristics of the patients were recorded. The response to UDCA treatment was assessed according to the Barcelona, Paris I, Paris II, and Toronto criteria, and clinical outcomes, and biochemical changes were ascertained. **Results:** The mean age was 46 years \pm 11.7 with a female gender predominance of 93% (n = 28). Pruritus was the predominant symptom reported by 90% (n = 27) of the patients. A total of 23 (77.7%) patients underwent liver biopsy and all of them showed histological features suggestive of PBC. Cirrhosis was documented in 30% (n = 9) of the patients at baseline. Overall, 86.7% (n = 26) of the patients were positive for antimitochondrial antibodies. The biochemical response rates to UDCA based on Paris I, Paris II, Barcelona, and Toronto criteria were 73.3, 40, 56.7, and 53.3%, respectively. **Conclusion:** Over 10 years, 30 patients with PBC were diagnosed at a large referral center in Saudi Arabia. The response to UDCA treatment was inadequate.

Journal: Saudi Journal of Gastroenterology

Publication date: 23 February 2022

Short link: <https://rb.gy/eihkyd>



240. Pro106Leu MPL mutation is associated with thrombocytosis and a low risk of thrombosis, splenomegaly and marrow fibrosis

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Abstract The P106L mutation in the human myeloproliferative leukemia virus oncogene (MPL) was shown to be associated with hereditary thrombocythemia in Arabs. The clinical and bone marrow (BM) features of P106L mutation are unknown. Genetic databases at two tertiary hospitals in Saudi Arabia were searched to identify patients with the MPL P106L mutation. Clinical data were collected retrospectively and the BM aspirates and biopsies were independently reviewed by two hematopathologists. In total, 115 patients were included. Median age was 33 years of which 31 patients were pediatric and 65 were female. The mutation was homozygous in 87 patients. Thrombocytosis was documented in 107 patients, with a median platelet count of $667 \times 10^9/L$. The homozygous genotype was associated with a higher platelet count. Thirty-three patients had an evaluable BM and clustering of megakaryocytes was observed in 30/33 patients. At the time of last follow-up, 114 patients were alive. The median follow-up was 7.8 years from the time of thrombocytosis. No patients developed disease progression to myelofibrosis. The P106L mutation was associated with marked thrombocytosis at a younger age and with a low risk of thrombosis, splenomegaly, and marrow fibrosis. The BM demonstrated normal or hypocellular marrow with megakaryocyte clusters.

Journal: Platelets

Publication date: July 2022.

Short link: <https://rb.gy/so8fts>

241. Hereditary Hyperekplexia: The Saudi Experience

Authors: Amal Aldhilan *, Afnan Alhakeem *, Sumayah Al Hajjaj *, Musaad Abukhalid *, Hisham Aldhalaan *, Ehab Salah *, Muhammed Saeed *, Sadia Tabassum *, Heba Y El Khashab *, Mohammed Aljabri *, El-Sayed Ali *, Ali Alwadei *, Khalid Hundallah *, Abdulaziz Alghamdi *, Wejdan Hakami *, Shatha AlShafi *, Fowzan S Alkuraya *, Naif Alanazy *, Mohammed Zain Seidahmed *, Majid Alfadhel ¹, Brahim Tabarki *

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Abstract: Background: Hyperekplexia is a rare disorder characterized by exaggerated startle responses to unexpected sensory stimuli, recurrent apneas, and stiffness. Only few studies have been published on this disorder in populations with high rates of consanguinity. Methods: We retrospectively reviewed Saudi patients with genetically confirmed hereditary hyperekplexia using a standard questionnaire that was sent to nine major referral hospitals in Saudi Arabia. Results: A total of 22 Saudi patients (11 males, 11 females) from 20 unrelated families who had hereditary hyperekplexia were included. Based on molecular studies, they were classified into different subtypes: SLC6A5 variant (12 patients, 54.5%), GLRB variant (seven patients, 31.8%), and GLRA1 variant (three patients, 13.7%). All patients were homozygous for the respective causal variant. The combined carrier frequency of hereditary hyperekplexia for the encountered founder mutations in the Saudi population is 10.9 per 10,000, which translates to a minimum disease burden of 13 patients per 1,000,000. Conclusion: Our study provides comprehensive epidemiologic information, prevalence figures, and clinical characteristics of a large cohort of patients with hereditary hyperekplexia.

Journal: Pediatric Neurology

Publication date: September 2022

Short link: <https://rb.gy/m4eavl>



242. The Management and Outcome of Stroke Patients Admitted on Weekdays Compared to Weekends at the King Abdulaziz Medical City, Riyadh, Saudi Arabia

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Abstract Background and Purpose Stroke is an unexpected medical emergency that can result in significant disability. The weekend effect suggests that individuals with acute medical problems are not treated the same way on weekends as they are on weekdays. There is no previous published study about weekend effect on stroke patients from Saudi Arabia. Methods This was an IRB approved, retrospective, cohort study. All stroke patients admitted between January 2017 and December 2018 were included. Ten standards of care were chosen to assess compliance with standardized care. Seven measures were chosen for acute management of stroke. Results A total of 731 patients were included, 68.5% were males; 493 (67%) were admitted during weekdays and 238 (33%) on weekends. There was no difference for age ($P = .32$), gender ($P = .32$), nationality ($P = .62$), stroke subtype ($P = .27$) and stroke severity ($P = .69$) on weekday or weekend admission. In two-third patients, more than 70% of stroke orders were utilized, with no difference in thrombolysis rate ($P = .81$). There was no difference in recurrent stroke ($P = .86$), mortality or discharge disposition ($P = .34$) between the patients. The patients admitted during weekdays had less complications (38 vs 46%; $P = .04$). Conclusions There was no difference in the quality of care provided to stroke patients admitted during weekdays or weekends.

There was no difference in the use of acute intervention on weekends and weekdays. Patients had similar outcomes and discharge disposition whether admitted on weekdays or weekends, except that those admitted on weekends had a significantly greater overall number of complications.

Journal: The Neurohospitalist

Publication date: June 2022

Short link: <https://rb.gy/rn24f4>



243. Cross-Cultural Adaptation, Validation, and Arabic Translation of the Eustachian Tube Dysfunction Questionnaire (ETDQ-7)

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Abstract: Introduction The Eustachian Tube Dysfunction Patient Questionnaire (ETDQ-7) scale is used to assess the effectiveness of the treatment and to determine the severity of the eustachian tube dysfunction (ETD). There is currently no validated Arabic version of the ETDQ-7. Objectives The aim of the present study is to test the validity and the reliability of a translated Arabic version of the ETDQ-7. Methods A multicenter prospective validation study was conducted in Riyadh, Saudi Arabia. The ETDQ-7 was adapted and translated into Arabic using a standard validation methodology. Fifty-one patients diagnosed with Eustachian tube dysfunction and 45 healthy individuals were enrolled in the study. The known-groups method was used in the validity analysis. The test-retest method, item-total score correlation, and internal consistency analysis were used for the reliability analyses. Result The overall internal consistency of the Arabic ETDQ items was measured using Cronbach α (Cronbach $\alpha = 0.803$). The average and total ETDQ scores were significantly higher in the ETD group (17.6) than in the control group (9.87) ($p < 0.001$). The area under the curve for the total ETDQ score was 88.6% (95% confidence interval [CI]: 80.3–96.8%) Conclusion The Arabic version of the ETDQ-7 scale is a valid instrument for evaluating ETD. It can also be used as an important tool for diagnosis, patient follow-up, and treatment management.

Journal: International Archives of Otorhinolaryngology

Publication date: 22 February 2022

Short link: <https://rb.gy/8bqei7>



244. Epidemiology, Management, and Outcomes of Sepsis in Intensive Care Units Among Countries of Differing National Wealth Across Asia

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Abstract Rationale - Directly comparative data on sepsis epidemiology and sepsis bundle implementation in countries of differing national wealth remain sparse. Objectives - To evaluate across countries/regions of differing income status in Asia (a) the prevalence, causes, and outcomes of sepsis as a reason for ICU admission and (b) sepsis bundle (antibiotics administration, blood culture and lactate measurement) compliance and its association with hospital mortality. Methods - Prospective point-prevalence study among 386 adult intensive care units (ICU) from 22 Asian countries/regions. Adult ICU participants admitted for sepsis on four separate days (representing the seasons of 2019) were recruited. Measurements and Main Results - Overall prevalence of sepsis in ICU was 22.4% [20.9% vs 24.5% vs 21.3% in low-income/lower-middle-income (LICs/LMICs), upper-middle-income (UMICs), and high-income countries/regions (HICs) respectively, $p<0.001$]. Patients were younger and had lower severity of illness in LICs/LMICs. Hospital mortality was 32.6%, and marginally significantly higher in LICs/LMICs than HICs on multivariable generalized mixed model analysis [adjusted odds ratio (AOR) 1.84 (95% CI 1.00-3.37), $p=0.049$]. Sepsis bundle compliance was 21.5% at 1 hour (26.0% vs 22.1% vs 16.2% in LICs/LMICs, UMICs, and HICs respectively, $p<0.001$), and 36.6% at 3 hours (39.3% vs 32.8% vs 38.5% respectively, $p=0.001$). Delaying antibiotics administration beyond 3 hours was the only element independently associated with increased mortality [AOR 2.53 (95% CI 2.07-3.08), $p<0.001$]. Conclusions - Sepsis is a common cause of admission to Asian ICUs. Mortality remains high, and is higher in LICs/LMICs after controlling for confounders. Sepsis bundle compliance remains low. Delaying antibiotics administration beyond three hours from diagnosis is associated with increased mortality.

Journal: American Journal of Respiratory and Critical Care Medicine

Publication date: 28 June 2022

Short link: <https://rb.gy/10achw>



245. Seroprevalence of COVID-19 in Riyadh city during the early increase of COVID-19 infections in Saudi Arabia, June 2020

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Abstract Severe acute respiratory syndrome coronavirus (SARS-CoV-2) emerged in December 2019 and caused a global pandemic of the Coronavirus Disease 2019 (COVID-19). More than 170 million cases have been reported worldwide with mortality rate of 1-3%. The detection of SARS-CoV-2 by molecular testing is limited to acute infections, therefore serological studies provide a better estimation of the virus spread in a population. This study aims to evaluate the seroprevalence of SARS-CoV-2 in the major city of Riyadh, Saudi Arabia during the sharp increase of the pandemic, in June 2020. Serum samples from non-COVID patients (n = 432), patients visiting hospitals for other complications and confirmed negative for COVID-19, and healthy blood donors (n = 350) were collected and evaluated using an in-house enzyme-linked immunosorbent assay (ELISA). The overall percentage of positive samples was 7.80% in the combined two populations (n = 782). The seroprevalence was lower in the blood donors (6%) than non-COVID-19 patients (9.25%), $p = 0.0004$. This seroprevalence rate is higher than the documented cases, indicating asymptomatic or mild unreported COVID-19 infections in these two populations. This warrants further national sero-surveys and highlights the importance of real-time serological surveillance during pandemics.

Journal: Saudi Journal of Biological Sciences

Publication date: June 2022

Short link: <https://rb.gy/niuvc>

246. The variant artificial intelligence easy scoring (VARIES) system



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Abstract Purpose: Medical artificial intelligence (MAI) is artificial intelligence (AI) applied to the healthcare field. AI can be applied to many different aspects of genetics, such as variant classification. With little or no prior experience in AI coding, we share our experience with variant classification using the Variant Artificial Intelligence Easy Scoring (VARIES), an open-access platform, and the Automatic Machine Learning (AutoML) of the Google Cloud Platform. Methods: We investigated exome sequencing data from a sample of 1410 individuals. The majority (80%) were used for training and 20% for testing. The user-friendly Google Cloud Platform was used to create the VARIES model, and the TRIPOD checklist to develop and validate the prediction model for the development of the VARIES system. Results: The learning rate of the training dataset reached optimal results at an early stage of iteration, with a loss value near zero in approximately 4 min. For the testing dataset, the results for F1 (micro average) was 0.64, F1 (macro average) 0.34, micro-average area under the curve AUC (one-over-rest) 0.81 and the macro-average AUC (one-over-rest) 0.73. The overall performance characteristics of the VARIES model suggest the classifier has a high predictive ability. Conclusion: We present a systematic guideline to create a genomic AI prediction tool with high predictive power, using a graphical user interface provided by Google Cloud Platform, with no prior experience in creating the software programs required.

Journal: Computers in Biology and Medicine

Publication date: 14 April 2022

Short link: <https://rb.gy/tlwfz4>

247. Scoliosis secondary to herniated lumbar disc in an adolescent: A case report



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Abstract Background: Herniated nucleus pulposus is infrequent among children and adolescents. The first case of surgical intervention for disc herniation was reported in a 12-year-old child. Since then, very few cases or series of cases have been published. The current case report is of a 15-year-old girl with no history of spinal ailment, who presented with a large disc herniation in the L4–L5 region, associated with reactive secondary scoliosis and resolved following a successful surgical intervention. Case Description: A 15-year-old female with a known case of scoliosis and a history of lower back pain for nine months following a fall while playing football, without any past account of the spinal disease, was presented at the outpatient clinic. After a series of proper imaging, a large L4/5 HNP with positional secondary scoliosis was diagnosed. However, due to the persistence of symptoms for more than two months in radiculopathy and reactive scoliosis, the decision was made to proceed with L4/5 microscopic discectomy. After six months, the neurological examination was normal, with a significant improvement of scoliosis with the restoration of normal spine alignment seen in plain X-ray films. The right leg radiculopathy improved as well. Conclusion: Lumbar disc herniation in association with scoliosis needs a vigilant evaluation of signs and symptoms and appropriate diagnostic imaging. Imaging is vital in diagnosing underlying disease states and helps in clinical management and surgical planning. The appropriate treatment is a discectomy.

Journal: Journal of Spine Practice

Publication date: 19 July 2022

Short link: <https://rb.gy/zbknsr>

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248. Measuring Nurses' and Physicians' Attitudes and Perceptions of the Appropriate Interventions towards Intimate Partner Violence in Saudi Arabia



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Abstract Background: Intimate partner violence (IPV) is considered the most common form of violence against women worldwide, concerning public health, safety, and human rights. However, little to no studies in Saudi Arabia have explored the attitude and perception of health care providers working in emergency departments toward IPV. This study aimed to measure the attitude and perception of Emergency Room (ER) health care providers towards the appropriate intervention for IPV. Methods: This is a cross-sectional quantitative study. Data was collected from a convenient sample of nurses ($n = 88$) and physicians ($n = 18$) working in ER, using Readiness to Manage Intimate Partner Violence Survey (PREMIS). Data was collected from two hospitals in Riyadh, Saudi Arabia, and descriptive analysis was used to analyze the data. Results: The majority of the respondents were aged 18-40 ($n = 106$, 78%), while 22% were 41-60 years old, 69% were female, and 31% were male. Eighty-five percent were nurses and 15% were physicians. The majority of the respondents did not have any training on IPV and had gained knowledge or skills mostly during their medical/nursing classroom and clinical training. The analysis revealed that the participants had moderate levels of overall preparedness, knowledge about IPV, and perceived knowledge, with a mean score of 2.30, 18.62, and 2.18, respectively. The respondents had low scores in practice issues in new diagnosis (0.91), current screening (1.69), and actions when IPV is identified (0.91). The perceived preparedness and knowledge have a significant positive correlation, as shown by an r value of 0.8476 and a p -value of <0.05 . Conclusion: The study shows that participants stated minimal previous IPV knowledge and training. It is necessary to put in place adequate resources and specific training programs to overcome this issue for both ER nurses and physicians.

Journal: Healthcare

Publication date: 30 July 2022

Short link: <https://rb.gy/zlycgx>



249. Metaplastic breast carcinoma: an overview of the radio-pathologic features in retrospective cohort tertiary hospital

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Abstract Background Metaplastic breast carcinoma (MBC) is a rare type of breast carcinoma. It accounts for 0.2–1% of all invasive breast carcinoma. The aim of this study is to investigate the radiological features of this tumor and correlate them with the pathological findings. Results Of the 22 patients with pathology-proven metaplastic cancers, 18 patients (81.82%) presented with a palpable mass. The majority of the mammogram findings were masses with irregular shapes ($n = 12$, 63.16%) and indistinct margins ($n = 11$, 57.89%). Similarly, the majority of the ultrasound studies showed masses with irregular shapes ($n = 16$, 72.73%) and indistinct margins ($n = 8$, 36.36%). Most of the echopatterns were complex or with heterogeneous textures, each presented in eight cases (36.36%). More than half of the cases had a posterior acoustic enhancement ($n = 12$, 54.55%). Most of the cases tested negative for estrogen receptors, progesterone receptors and HER2 protein, and they were high-grade tumors with a high proliferative index (Ki-67%) of $> 15\%$. Conclusion MBC is a rare and distinct aggressive breast cancer with no definite characteristic imaging compared to other breast cancer. It shows a mass with irregular shape and indistinct margins in both mammogram and ultrasound. Additionally, it reveals posterior acoustic enhancement and rarely contains microcalcifications. The correlation with the pathological findings is crucial for the diagnosis and subsequent appropriate treatment.

Journal: Egyptian Journal of Radiology and Nuclear Medicine

Publication date: 15 April 2022

Short link: <https://rb.gy/gfgi6c>



250. Radiological outcome of bone disease in multiple myeloma patients pre- and post therapy: A single center experience.

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Abstract Objectives To find any correlation between the clinical response as per International Working Myeloma Group (IWMMG) response criteria and the radiological response at the end of treatment. Methods A retrospective cohort study was conducted, total of 39 patients whom diagnosed with multiple myeloma (MM) between January 2010 and December 2018 and fulfilled the study criteria were included. Results The high sensitivity and specificity of positron emission tomography/computed tomography (PET/CT) in detecting osteolytic myeloma lesions in the bones was strongly emphasized in our study. Follow up PET/CT, we found that while 17 patients showed complete remission in PET/CT, and 14 of these of patients demonstrated a complete clinical response at end of therapy assessment. Conclusion Although we did not find a statistically significant correlation between the response versus metabolic activity and the number of bone/bone marrow lesions, however, our study was limited by the absence of clear criteria for defining disease response in PET/CT in MM patients. Further prospective analysis would be needed to establish a defined criterion.

Journal: Saudi medical journal

Publication date: 1 August 2022

Short link: <https://rb.gy/vqjody>



251. Critically ill patients with diabetes and Middle East respiratory syndrome: a multi-center observational study

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Abstract Background: Diabetes is a risk factor for infection with coronaviruses. This study describes the demographic, clinical data, and outcomes of critically ill patients with diabetes and Middle East Respiratory Syndrome (MERS). Methods: This retrospective cohort study was conducted at 14 hospitals in Saudi Arabia (September 2012–January 2018). We compared the demographic characteristics, underlying medical conditions, presenting symptoms and signs, management and clinical course, and outcomes of critically ill patients with MERS who had diabetes compared to those with no diabetes. Multivariable logistic regression analysis was performed to determine if diabetes was an independent predictor of 90-day mortality. Results: Of the 350 critically ill patients with MERS, 171 (48.9%) had diabetes. Patients with diabetes were more likely to be older, and have comorbid conditions, compared to patients with no diabetes. They were more likely to present with respiratory failure requiring intubation, vasopressors, and corticosteroids. The median time to clearance of MERS-CoV RNA was similar (23 days (Q1, Q3: 17, 36) in patients with diabetes and 21.0 days (Q1, Q3: 10, 33) in patients with no diabetes). Mortality at 90 days was higher in patients with diabetes (78.9% versus 54.7%, $p < 0.0001$). Multivariable regression analysis showed that diabetes was an independent risk factor for 90-day mortality (odds ratio, 2.09; 95% confidence interval, 1.18–3.72). Conclusions: Half of the critically ill patients with MERS have diabetes; which is associated with more severe disease. Diabetes is an independent predictor of mortality among critically patients with MERS.

Journal: BMC infectious diseases

Publication date: December 2021

Short link: <https://rb.gy/5sa7ia>



252. COVID-19 Critical Care Simulations: An International Cross-Sectional Survey

Authors: Mohamad-Hani Temsah*, Abdulkarim Alrabiaah*, Ayman Al-Eyadhy*, Fahad Al-Sohime*, Abdullah Al Huzaimi*, Nurah Alamro^{1,7}, Khalid Alhasan^{1,8}, Vaibhavi Upadhye⁹, Amr Jamal*, Fadi Aljamaan*, Ali Alhaboob*, Yaseen M. Arabi^{1,2,3}, Marc Lazarovici*, Ali M. Somily* and Abdulaziz M. Boker*

Affiliations: 1 National Guard Health Affairs, Riyadh, Saudi Arabia, 2 King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia, 3 King Abdullah International Medical Research Center, Riyadh, Saudi Arabia,

Abstract Objective: To describe the utility and patterns of COVID-19 simulation scenarios across different international healthcare centers. **Methods:** This is a cross-sectional, international survey for multiple simulation centers team members, including team-leaders and healthcare workers (HCWs), based on each center's debriefing reports from 30 countries in all WHO regions. The main outcome measures were the COVID-19 simulations characteristics, facilitators, obstacles, and challenges encountered during the simulation sessions. **Results:** Invitation was sent to 343 simulation team leaders and multidisciplinary HCWs who responded; 121 completed the survey. The frequency of simulation sessions was monthly (27.1%), weekly (24.8%), twice weekly (19.8%), or daily (21.5%). Regarding the themes of the simulation sessions, they were COVID-19 patient arrival to ER (69.4%), COVID-19 patient intubation due to respiratory failure (66.1%), COVID-19 patient requiring CPR (53.7%), COVID-19 transport inside the hospital (53.7%), COVID-19 elective intubation in OR (37.2%), or Delivery of COVID-19 mother and neonatal care (19%). Among participants, 55.6% reported the team's full engagement in the simulation sessions. The average session length was 30–60 min. The debriefing process was conducted by the ICU facilitator in (51%) of the sessions followed by simulation staff in 41% of the sessions. A total of 80% reported significant improvement in clinical preparedness after simulation sessions, and 70% were satisfied with the COVID-19 sessions. Most perceived issues reported were related to infection control measures, followed by team dynamics, logistics, and patient transport issues. **Conclusion:** Simulation centers team leaders and HCWs reported positive feedback on COVID-19 simulation sessions with multidisciplinary personnel involvement. These drills are a valuable tool for rehearsing safe dynamics on the frontline of COVID-19. More research on COVID-19 simulation outcomes is warranted; to explore variable factors for each country and healthcare system. **Keywords:** COVID-19, simulations, healthcare workers, healthcare preparedness, international survey

Journal: Frontiers in Public Health

Publication date: 21 Sep 2021

Short link: <https://rb.gy/0gz8bi>



253. Gastric perforation leading to the diagnosis of classic Ehlers–Danlos syndrome: a case report

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Abstract we present the case of a 14-year-old Saudi girl who visited our emergency department with abdominal pain and vomiting. Initially, she was diagnosed with gastroenteritis and discharged once her condition stabilized. After 48 hours, she developed severe abdominal pain with recurrent vomiting and peritonitis evident on clinical examination. Initial abdominal x-ray failed to show any free air; however, enhanced computed tomography revealed free air and contrast extravasation in the proximal gut. During exploratory laparotomy, a large perforation was found on the anterior wall of the stomach due to the underlying ischemia. The posterior wall had ischemic mucosa with an intact healthy serosa. A free-hand partial gastrectomy was performed to resect all ischemic parts of the stomach. Detailed examinations and laboratory workup were carried out after the surgery to figure out the possible underlying cause. The clinical findings during the physical examination supported marfanoid features. Marfan's syndrome and related disorders sequencing panel was requested, and Deoxyribonucleic acid (DNA) samples were sent. Given results were supporting the diagnosis of classical Ehlers–Danlos syndrome, the patient was labeled as a case of Ehlers–Danlos syndrome. During the postoperative period, she developed a wound infection that was managed successfully with vacuum-assisted closure dressing. She recovered well without gastrointestinal sequelae in the 4 years of follow-up. **Conclusions:** Heritable systemic connective tissue diseases must be given serious consideration in young patients with unusual spontaneous perforation. Such patients might develop life-threatening conditions that require immediate intervention. Hence, correct and timely diagnosis is important to prepare for the anticipated complications.

Journal: Journal of Medical Case Reports

Publication date: December 2021

Short link: <https://rb.gy/xhkm8o>



254. Vulvar Leiomyosarcoma in Pregnancy

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Abstract Vulvar leiomyosarcoma is a rare smooth muscle malignant neoplasm but it is the commonest type of vulvar sarcomas. It may mimic benign tumors and misdiagnosis could delay proper management. We report a case of a 38-year-old pregnant woman with leiomyosarcoma of the vulva. The patient presented to her primary general practitioner with a small vulvar mass that she had first noticed one year prior. The tumor was suspected to be benign Bartholin's cyst and treated with antibiotics. The patient declined improvement and had many consultations to different clinics where she had been diagnosed and treated the same. The tumor size started to grow rapidly after she got pregnant, and the patient was referred to our hospital where she underwent tumor resection. Histopathology revealed leiomyosarcoma. The patient had further assessment and close follow-up and has had no recurrence for 12 months. There is little literature available on vulvar leiomyosarcoma, most of which are case reports, and most gynecologic oncologists will go through their whole careers without seeing a single case.

Journal: Cureus

Publication date: 14 October 2021

Short link: <https://rb.gy/na9qui>



255. Mutated VWA8 Is Associated With Developmental Delay, Microcephaly, and Scoliosis and Plays a Novel Role in Early Development and Skeletal Morphogenesis in Zebrafish

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Abstract Von Willebrand A domain-containing protein 8 (VWA8), also named KIAA0564, is a poorly characterized, mitochondrial matrix-targeted protein having a putative ATPase activity. VWA8 is comprising of ATPase-associated domains and a VWFA domain associated with ATPase activity inside the cell. In the present study, we describe a large consanguineous family of Saudi origin segregating a complex developmental syndrome in an autosomal recessive fashion. All the affected individuals exhibited severe developmental disorders. DNA from three patients was subjected to whole-exome sequencing followed by Sanger sequencing. VWA8 knock-down zebrafish morpholinos were used to study the phenotypic effect of this gene on zebrafish development. A homozygous missense variant [c.947A > G; p.(Asp316Gly)] was identified in exon 8 of the VWA8 gene, which perfectly segregated with the disease phenotype. Using zebrafish morpholino, we observed delayed development at an early stage, lack of movement, light sensitivity, severe skeletal deformity such as scoliosis, and facial dysmorphism. This is the first homozygous variant identified in the VWA8 gene underlying global developmental delay, microcephaly, scoliosis, limbs, and cardiovascular malformations in humans. We provide genetic and molecular evidence using zebrafish morpholino for a homozygous variant in the VWA8 gene, associated with such a complex developmental syndrome in humans.

Journal: Frontiers in Cell and Developmental Biology

Publication date: October 2021

Short link: <https://rb.gy/z77ms9>



256. The story of critical care in Asia: a narrative review

Authors: Jason Phua*, Chae- Man Lim*, Mohammad Omar Faruq *, Yaseen M. Arabi¹, and others *.

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Abstract Background: Asia has more critically ill people than any other part of our planet. The aim of this article is to review the development of critical care as a specialty, critical care societies and education and research, the epidemiology of critical illness as well as epidemics and pandemics, accessibility and cost and quality of critical care, culture and end- of- life care, and future directions for critical care in Asia. **Main body:** Although the first Asian intensive care units (ICUs) surfaced in the 1960s and the 1970s and speciali- sation started in the 1990s, multiple challenges still exist, including the lack of intensivists, critical care nurses, and respiratory therapists in many countries. This is aggravated by the brain drain of skilled ICU staff to high- income coun- tries. Critical care societies have been integral to the development of the discipline and have increasingly contributed to critical care education, although critical care research is only just starting to take off through collaboration across groups. Sepsis, increasingly aggravated by multidrug resistance, contributes to a significant burden of critical illness, while epidemics and pandemics continue to haunt the continent intermittently. In particular, the coronavirus disease 2019 (COVID- 19) has highlighted the central role of critical care in pandemic response. Accessibility to critical care is affected by lack of ICU beds and high costs, and quality of critical care is affected by limited capability for investi- gations and treatment in low- and middle- income countries. Meanwhile, there are clear cultural differences across countries, with considerable variations in end- of- life care. Demand for critical care will rise across the continent due to ageing populations and rising comorbidity burdens. Even as countries respond by increasing critical care capacity, the critical care community must continue to focus on training for ICU healthcare workers, processes anchored on evidence- based medicine, technology guided by feasibility and impact, research applicable to Asian and local set- tings, and rallying of governments for support for the specialty. **Conclusions:** Critical care in Asia has progressed through the years, but multiple challenges remain. These challenges should be addressed through a collaborative approach across disciplines, ICUs, hospitals, societies, governments, and countries

Journal: Journal of Intensive Care

Publication date: December 2021

Short link: <https://rb.gy/vqyloa>



257. Expert consensus statements for the management of COVID-19-related acute respiratory failure using a Delphi method

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Abstract Background: Coronavirus disease 2019 (COVID-19) pandemic has caused unprecedented pressure on healthcare system globally. Lack of high-quality evidence on the respiratory management of COVID-19-related acute respiratory failure (C-ARF) has resulted in wide variation in clinical practice. Methods: Using a Delphi process, an international panel of 39 experts developed clinical practice statements on the respiratory management of C-ARF in areas where evidence is absent or limited. Agreement was defined as achieved when > 70% experts voted for a given option on the Likert scale statement or > 80% voted for a particular option in multiple-choice questions. Stability was assessed between the two concluding rounds for each statement, using the non-parametric Chi-square (χ^2) test ($p < 0.05$ was considered as unstable). Results: Agreement was achieved for 27 (73%) management strategies which were then used to develop expert clinical practice statements. Experts agreed that COVID-19-related acute respiratory distress syndrome (ARDS) is clinically similar to other forms of ARDS. The Delphi process yielded strong suggestions for use of systemic corticosteroids for critical COVID-19; awake self-proning to improve oxygenation and high flow nasal oxygen to potentially reduce tracheal intubation; non-invasive ventilation for patients with mixed hypoxemic-hypercapnic respiratory failure; tracheal intubation for poor mentation, hemodynamic instability or severe hypoxemia; closed suction systems; lung protective ventilation; prone ventilation (for 16-24 h per day) to improve oxygenation; neuromuscular blocking agents for patient-ventilator dyssynchrony; avoiding delay in extubation for the risk of reintubation; and similar timing of tracheostomy as in non-COVID-19 patients. There was no agreement on positive end expiratory pressure titration or the choice of personal protective equipment. Conclusion: Using a Delphi method, an agreement among experts was reached for 27 statements from which 20 expert clinical practice statements were derived on the respiratory management of C-ARF, addressing important decisions for patient management in areas where evidence is either absent or limited.

Journal: Critical Care

Publication date: December 2021

Short link: <https://rb.gy/oazqoh>



258. Characterization of the novel HLA-B*57:02:01:03 allele by sequencing-based typing

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Abstract Two-nucleotide changes in the 3' UTR of HLA-B*57:02:01:01 result in the novel HLA-B*57:02:01:03 allele.

Journal: HLA

Publication date: December 2021.

Short link: <https://rb.gy/knr4lu>



259. Ichthyosis Prematurity Syndrome: A Rare Form but Easily Recognizable Ichthyosis

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Abstract

Ichthyosis prematurity syndrome is a rare autosomal recessive genodermatosis that is associated with mutations in the SLC27A4 gene. Its onset occurs in early childhood and presents with the clinical triad of premature birth, thick caseous desquamating epidermis, and neonatal asphyxia. Here, we describe a prematurely born baby patient (33 weeks of gestation) with a homozygous variant at the initiation codon site (c.1 A> G, p.Met1Val) in the SLC27A4 gene to raise awareness of this rare syndrome despite its distinctive features as we believe it is still underdiagnosed.

Journal: Case Reports in Dermatology

Publication date: 21 September 2021

Short link: <https://rb.gy/qcjuvy>



260. The phenotypic spectrum of dihydrolipoamide dehydrogenase deficiency in Saudi Arabia

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Abstract: Background: Dihydrolipoamide dehydrogenase deficiency (DLDD) is a rare metabolic disorder inherited in an autosomal recessive manner. This heterogeneous disease has a variable clinical presentation, onset, and biochemical markers. **Materials and methods:** We retrospectively reviewed the clinical and molecular diagnosis of eight cases with DLDD from four referral centers in Saudi Arabia. **Results:** Remarkably, we found hepatic involvement ranging from acute hepatic failure to chronic hepatitis in five patients. In addition, neurological disorders in the form of seizures, developmental delay, ataxia, hypotonia and psychomotor symptoms were found in five patients, two of them with a combination of hepatic and neurological symptoms. In addition, only one patient had recurrent episodes of hypoglycemia. While most patients had the hepatic form of homozygous variant c.685G > T in the DLD gene, one patient was found to have a novel variant c.623C > T that had neurological and hepatic symptoms. **Conclusions:** We describe the largest reported DLDD cohort in the Saudi population. Clinical, biochemical, radiological, and molecular characterization was reviewed and no clear genotype-phenotype correlation was found in this cohort.

Journal: Molecular Genetics and Metabolism Reports

Publication date: October 2021

Short link: <https://rb.gy/ft2sk7>



261. Long-term effectiveness of carglumic acid in patients with propionic acidemia (PA) and methylmalonic acidemia (MMA): a randomized clinical trial

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Abstract Background: Propionic acidemia (PA) and methylmalonic acidemia (MMA) are rare, autosomal recessive inborn errors of metabolism that require life-long medical treatment. The trial aimed to evaluate the effectiveness of the administration of carglumic acid with the standard treatment compared to the standard treatment alone in the management of these organic acidemias. Methods: The study was a prospective, multicenter, randomized, parallel-group, open-label, controlled clinical trial. Patients aged ≤ 15 years with confirmed PA and MMA were included in the study. Patients were followed up for two years. The primary outcome was the number of emergency room (ER) admissions because of hyperammonemia. Secondary outcomes included plasma ammonia levels over time, time to the first episode of hyperammonemia, biomarkers, and differences in the duration of hospital stay. Results: Thirty-eight patients were included in the study. On the primary efficacy endpoint, a mean of 6.31 ER admissions was observed for the carglumic acid arm, compared with 12.76 for standard treatment, with a significant difference between the groups ($p = 0.0095$). Of the secondary outcomes, the only significant differences were in glycine and free carnitine levels. Conclusion: Using carglumic acid in addition to standard treatment over the long term significantly reduces the number of ER admissions because of hyperammonemia in patients with PA and MMA.

Journal: Orphanet journal of rare diseases

Publication date: October 2021

Short link: <https://rb.gy/ilz8dc>



262. Safety and Efficacy of Rifampin or Isoniazid Among People With Mycobacterium tuberculosis Infection and Living With Human Immunodeficiency Virus or Other Health Conditions: Post Hoc Analysis of 2 Randomized Trials

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Abstract: Background: The safety and efficacy of rifampin among people living with human immunodeficiency virus (PLHIV) or other health conditions is uncertain. We assessed completion, safety, and efficacy of 4 months of rifampin vs 9 months of isoniazid among PLHIV or other health conditions. **Methods:** We conducted post hoc analysis of 2 randomized trials that included 6859 adult participants with Mycobacterium tuberculosis infection. Participants were randomized 1:1 to 10 mg/kg/d rifampin or 5 mg/kg/d isoniazid. We report completion, drug-related adverse events (AE), and active tuberculosis incidence among people living with HIV; with renal failure or receiving immunosuppressants; using drugs or with hepatitis; with diabetes mellitus; consuming >1 alcoholic drink per week or current/former smokers; and with no health condition. **Results:** Overall, 270 (3.9%) people were living with HIV (135 receiving antiretroviral therapy), 2012 (29.3%) had another health condition, and 4577 (66.8%) had no condition. Rifampin was more often or similarly completed to isoniazid in all populations. AEs were less common with rifampin than isoniazid among PLHIV (risk difference, -2.1%; 95% confidence interval [CI], -5.9 to 1.6). This was consistent for others except people with renal failure or on immunosuppressants (2.1%; 95% CI, -7.2 to 11.3). Tuberculosis incidence was similar among people receiving rifampin or isoniazid. Among participants receiving rifampin living with HIV, incidence was comparable to those with no health condition (rate difference, 4.1 per 1000 person-years; 95% CI, -6.4 to 14.7). **Conclusions:** Rifampin appears to be safe and as effective as isoniazid across many populations with health conditions, including HIV.

Journal: Clinical Infectious Diseases

Publication date: 1 November 2021

Short link: <https://rb.gy/cyr3uo>



263. A novel automated approach to rapid and precise in vivo measurement of hair morphometrics using a smartphone

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Abstract: Background: Although many hair disorders can be readily diagnosed based on their clinical appearance, their progression and response to treatment are often difficult to monitor, particularly in quantitative terms. We introduce an innovative technique utilizing a smartphone and computerized image analysis to expeditiously and automatically measure and compute hair density and diameter in patients in real time. Methods: A smartphone equipped with a dermatoscope lens wirelessly transmits trichoscopy images to a computer for image processing. A black-and-white binary mask image representing hair and skin is produced, and the hairs are thinned into single-pixel-thick fiber skeletons. Further analysis based on these fibers allows morphometric characteristics such as hair shaft number and diameters to be computed rapidly. The hair-bearing scalps of fifty participants were imaged to assess the precision of our automated smartphone-based device in comparison with a specialized trichometry device for hair shaft density and diameter measurement. The precision and operation time of our technique relative to manual trichometry, which is commonly used by hair disorder specialists, is determined. Results: An equivalence test, based on two 1-sided t tests, demonstrates statistical equivalence in hair density and diameter values between this automated technique and manual trichometry within a 20% margin. On average, this technique actively required 24 seconds of the clinician's time whereas manual trichometry necessitated 9.2 minutes. Conclusion: Automated smartphone-based trichometry is a rapid, precise, and clinically feasible technique which can significantly facilitate the assessment and monitoring of hair loss. Its use could be easily integrated into clinical practice to improve standard trichoscopy.

Journal: Skin Research and Technology

Publication date: November 2021

Short link: <https://rb.gy/9unrmi>



264. Biallelic ZNFX1 variants are associated with a spectrum of immuno-hematological abnormalities

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Abstract Biallelic changes in the ZNFX1 gene have been recently reported to cause severe familial immunodeficiency. Through a search of our bio/databank with information from genetic testing of >55 000 individuals, we identified nine additional patients from seven families with six novel homozygous ZNFX1 variants. Consistent with the previously described phenotype, our patients suffered from monocytosis, thrombocytopenia, hepatosplenomegaly, recurrent infections, and lymphadenopathy. The two most severely affected probands also had renal involvement and clinical presentations compatible with hemophagocytic lymphohistiocytosis. The disease was less lethal among our patients than previously reported. We identified two missense changes, two variants predicted to result in complete protein loss through nonsense-mediated decay, and two frameshift changes that likely introduce a truncation. Our findings (i) independently confirm the role of ZNFX1 in primary genetic immunodeficiency, (ii) expand the genetic and clinical spectrum of ZNFX1-related disease, and (iii) illustrate the utility of large, well-curated, and continually updated genotype-phenotype databases in resolving molecular diagnoses of patients with initially negative genetic testing findings.

Journal: Clinical Genetics

Publication date: 27 October 2021

Short link: <https://rb.gy/mnc0xc>



265. Clinical course of myeloproliferative leukaemia virus oncogene (MPL) mutation-associated familial thrombocytosis: a review of 64 paediatric and adult patients

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Abstract

Familial thrombocytosis (FT) is a rare hereditary haematological disorder characterised by increased platelet count, usually caused by germ-line mutations in thrombopoietin (THPO), myeloproliferative leukaemia virus oncogene (MPL) or Janus kinase 2 (JAK2) genes, and can be associated with increased risk of thrombosis. We aimed to determine the yield of diagnostic tests, assess treatment received and describe the clinical course of MPL-associated FT. We retrospectively reviewed all paediatric and adult haematology patients diagnosed with MPL-related FT, who were seen in our clinics from March 2013 to February 2021. Of 64 eligible patients, 26 (41%) were aged <14 years, while the remaining 38 (59%) patients were adults. The median (interquartile range) age at diagnosis was 20 (33.5) years. In all, 26 tribes were represented in this cohort of 64 patients, out of which 31 (48%) patients belonged to two tribes. A total of 60 patients (94%) had thrombocytosis on blood count. Additional genetic tests, including myelodysplastic syndrome (MDS) gene panel, Philadelphia gene breakpoint cluster region-Abelson (BCR-ABL) and JAK2, were carried out for 52 patients and only one patient was positive for JAK2 mutation. In all, 21 (33%) patients were prescribed aspirin and seven (11%) were prescribed hydroxyurea. Overall, 63 (98%) patients did not develop any thrombotic or haemorrhagic event. There was no significant association of MPL-mutated FT with thrombosis or haemorrhage.

Journal: British Journal of Haematology

Publication date: September 2021

Short link: <https://rb.gy/cecync>



266. A Novel Homozygous Missense Mutation in the Zinc Finger DNA Binding Domain of GLI1 Causes Recessive Post-Axial Polydactyly

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Abstract: Background: Polydactyly is a prevalent digit abnormality characterized by having extra digits/toes. Mutations in eleven known genes have been associated to cause nonsyndromic polydactyly: *GLI3*, *GLI1*, *ZRS* regulating *LMBR1*, *IQCE*, *ZNF141*, *PITX1*, *MIPOL1*, *FAM92A*, *STKLD1*, *KIAA0825*, and *DACHI*. **Method:** A single affected family member (IV-4) was subjected to whole-exome sequencing (WES) to identify the causal gene. Bi-directional Sanger sequencing was performed to segregate the identified variant within the family. *In silico* analysis was performed to investigate the effect of the variant on DNA binding properties. **Results:** whole-exome sequencing identified a bi-allelic missense variant (c.1010C > T; p. Ser337Leu) in exon nine of *GLI1* gene located on chromosome 12q13.3. With the use of Sanger sequencing, the identified variant segregated perfectly with the disease phenotype. Furthermore, in silico analysis of this DNA binding protein revealed that the variant weakened the DNA binding interaction, resulting in indecorous *GLI1* function. **Conclusion:** Herein, we report a novel variant in *GLI1* gene, causing autosomal recessive post-axial polydactyly type A (PAPA) type 8. This confirms the critical role of *GLI1* in digit development and might help in genotype–phenotype correlation in the future.

Journal: Frontiers in genetics

Publication date: October 2021

Short link: <https://rb.gy/8gr24m>



267. FIG4-Associated Yunis-Varon Syndrome: Identification of a Novel Missense Variant

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Abstract

Yunis-Varon syndrome (YVS; OMIM 216340) is a rare heterogeneous autosomal recessive disorder with easy recognition of characteristic severe neurological and skeletal abnormalities involving skeletal muscles and cartilages. This cleidocranial dysplasia is characterized by bone and tooth disorders; it also affects the cardiovascular system and tissues from ectoderm with very poor outcomes. Rarely, mutations of the *FIG4* gene, encoding a 50-phosphoinositide phosphatase have been identified as the cause for YVS. We report a neonate born to a consanguineous couple with typical clinical manifestations of YVS. Using whole-exome sequencing, we identified a novel homozygous missense variant (c.968A>G; p.Gln323Arg) in the *FIG4* gene. Thus, our study expands the molecular and genetic spectrum of *FIG4*-associated mutations. To our knowledge, this is the first reported case of YVS from the Saudi population.

Journal: Molecular Syndromology

Publication date: October 2021

Short link: <https://rb.gy/9hwkvg>



268. Sepsis in end-stage renal disease patients: are they at an increased risk of mortality?

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Abstract: Objectives: This study aims to examine the outcome of end-stage renal disease (ESRD) patients admitted with sepsis to the intensive care unit (ICU). Design: Single centre, retrospective cohort study: Setting: The study was conducted in the Intensive Care Department of King Abdulaziz Medical City, Riyadh, Saudi Arabia. Participants: Data were extracted from a prospectively collected ICU database from 2002 to 2017. Patients were considered to have sepsis based on the sepsis-3 definition and were stratified into 2 groups based on the presence or absence of ESRD. Primary and secondary outcomes: The primary outcome of the study was in-hospital mortality. Secondary outcomes included ICU mortality, ICU and hospital lengths of stay, and mechanical ventilation duration. Results: A total of 8803 patients were admitted to the ICU with sepsis during the study period. 730 (8.3%) patients had ESRD. 49.04% of ESRD patients with sepsis died within their hospital stay vs. 31.78% of non-ESRD patients. ESRD septic patients had 1.44 greater odds of dying within their hospital stay as compared to septic non-ESRD patients (OR 1.44, 95% CI 1.03–1.53). Finally, the predictors of hospital mortality in septic ESRD patients were found to be mechanical ventilation (OR 3.36; 95% CI 2.27–5.00), a history of chronic liver disease (OR 2.26; 95% CI 1.26–4.07), and use of vasopressors (OR 1.74; 95% CI 1.19–2.54). Among patients with ESRD, hospital mortality was higher in subgroups of patients with chronic cardiac (OR 1.86 (1.36–2.53) vs. 1.19 (0.96–1.47)) and chronic respiratory illnesses (OR 2.20 (1.52–3.20) vs. 1.21 (0.99–1.48)). Conclusion: ESRD patients admitted to the intensive care unit with sepsis are at greater odds of mortality compared to patients with non-ESRD. This risk is particularly increased if these patients have a concomitant history of chronic cardiac and respiratory illnesses.

Journal: Annals of Medicine

Publication date: October 2021

Short link: <https://rb.gy/tyv6u6>



269. Screening Practices, Knowledge and Adherence Among Health Care Professionals at a Tertiary Care Hospital

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Abstract:

Introduction: Screening, a routine procedure done on individuals with or without disease, results in the early detection of disease. The aim of this study was to assess healthcare professionals' (HCPs) level of knowledge related to and the adherence to screening. **Methods:** A survey was conducted in HCPs, using a self-administered questionnaire. Knowledge was defined based on the correct or incorrect responses to the questions. Adherence to screening was considered if a test was done at least once in the past one year. **Results:** Of the 379 participants, 61% were nurses, 34% physicians, and 5% pharmacists. The majority 68.78% were female. The average age of pharmacists was 29.17 ± 7.09 , physicians 35.57 ± 10.08 , and nurses 35.46 ± 8.63 years. The knowledge related to breast cancer screening ranged between 50% and 57% and of a Pap smear, 41-54%. 94% nurses and 90% pharmacists had recorded an incorrect response to the required age of colon cancer screening. The overall screening adherence to diabetes was 46%, hypertension 68%, liver profile 43%, lipid profile 50%, breast cancer 10.38%, Pap smear 26%, prostate cancer 33%, and colon cancer 2.37%. HCPs aged ≥ 45 years had good adherence to diabetes screening. Pharmacists (88%) had the highest level of adherence to hypertension screening. Female HCPs poorly adhered to breast 38% and cervical cancer 26% screening. Only a third 33% of males, aged > 50 years, were screened for prostate cancer. Among HCPs aged ≥ 50 years ($n=32$), only three were screened for colon cancer. **Conclusion:** Despite the increased incidence of diabetes, breast and colon cancer in Saudi Arabia, HCPs displayed poor knowledge related to screening. The adherence to diabetes screening was good. However, HCPs in a high-risk group displayed poor adherence to screening, specifically for breast, cervical and colon cancer. The medical and cancer screening guidelines should be made available to all HCPs regardless of their specialty.

Journal: International Journal of General Medicine

Publication date: October 2021

Short link: <https://rb.gy/zewmcw>



270. Knowledge, attitude, and practice regarding child maltreatment among health care providers working in primary care centers in Riyadh, Saudi Arabia

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Abstract

Objective: The aim of the study was to assess the level of knowledge, attitudes, and current practice of primary healthcare physicians and nurses employed at the National Guard affiliated Primary Care Centers related to child abuse and neglect. **Method:** A cross-sectional study was conducted at four National Guard affiliated Primary Care Centers, Riyadh, Kingdom of Saudi Arabia, from May to September 2019. A total of 308 physicians and nurses participated in the study, using a convenience sampling technique. After obtaining informed consent, data was collected with a self-administered questionnaire. **Results:** The overall attitude score was excellent in 64.2% of the sample. The majority (90.3%) had an excellent knowledge score. The study indicated that the married group and participants with more than 10 years of experience were more aware of child maltreatment reporting procedures compared to the non-married group and less experienced participants. Almost two-thirds of the sample (67.2%) agreed that child abuse and neglect are underreported in Saudi Arabia. Lack of knowledge was the most frequent reason for underreporting. **Conclusion:** Our study highlighted that most of the primary care physicians and nurses at King Abdulaziz Medical City had excellent knowledge and positive attitudes related to child maltreatment. However, a major knowledge deficit exists in terms of the reporting procedures of suspected child maltreatment cases.

Journal: Journal of family medicine and primary care

Publication date: October 2021

Short link: <https://rb.gy/4u0t9v>



271. Risk of COVID-19 in healthcare workers working in intensive care setting

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Abstract

Background: The higher risk of COVID-19 in health care workers (HCWs) is well-known. However, the risk within HCWs is not fully understood. The objective was to compare the COVID-19 risk in intensive care unit (ICU) vs non-ICU locations. **Methods:** A prospective surveillance study was conducted among HCWs at a large tertiary care facility in Riyadh between March 1st to November 30th, 2020. HCWs included both clinical (provide direct patient care) and nonclinical positions (do not provide direct patient care). **Results:** A total 1,594 HCWs with COVID-19 were included; 103 (6.5%) working in ICU and 1,491 (93.5%) working in non-ICU locations. Compared with non-ICU locations, ICU had more nurses (54.4% vs 22.1%, $P < .001$) and less support staff (2.9% vs 53.1%, $P < .001$). COVID-19 infection was similar in ICU and non-ICU locations (9.0% vs 9.8%, $P = .374$). However, it was significantly higher in ICU nurses (12.3% vs 6.5%, $P < .001$). Support staff had higher risk than other HCWs, irrespective of ICU working status (15.1% vs 7.2%, $P < 0.001$). The crude relative risk of COVID-19 in ICU vs non-ICU locations was 0.92, 95% confidence interval (was 0.76-1.11 ($P = .374$)). However, relative risk adjusted for professional category was significantly increased to 1.23, 95% confidence interval 1.01-1.50 ($P = .036$). **Conclusions:** ICU had a significantly higher risk of COVID-19 infection only after adjusting for the distribution and risk of different professional categories. The latter is probably determined by both exposure level and protection practices. The finding underscores the importance of strict implementation of preventive measures among all HCWs, including those performing nonclinical services.

Journal: Antimicrobial Resistance and Infection Control

Publication date: Jan 2022

Short link: <https://rb.gy/pvpfja>



272. DeepSVP: integration of genotype and phenotype for structural variant prioritization using deep learning

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Abstract: Motivation: Structural genomic variants account for much of human variability and are involved in several diseases. Structural variants are complex and may affect coding regions of multiple genes, or affect the functions of genomic regions in different ways from single nucleotide variants. Interpreting the phenotypic consequences of structural variants relies on information about gene functions, haploinsufficiency or triplosensitivity and other genomic features. Phenotype-based methods to identifying variants that are involved in genetic diseases combine molecular features with prior knowledge about the phenotypic consequences of altering gene functions. While phenotype-based methods have been applied successfully to single nucleotide variants as well as short insertions and deletions, the complexity of structural variants makes it more challenging to link them to phenotypes. Furthermore, structural variants can affect a large number of coding regions, and phenotype information may not be available for all of them. Results: We developed DeepSVP, a computational method to prioritize structural variants involved in genetic diseases by combining genomic and gene functions information. We incorporate phenotypes linked to genes, functions of gene products, gene expression in individual cell types and anatomical sites of expression, and systematically relate them to their phenotypic consequences through ontologies and machine learning. DeepSVP significantly improves the success rate of finding causative variants in several benchmarks and can identify novel pathogenic structural variants in consanguineous families.

Journal: Bioinformatics

Publication date: Jan 2022

Short link: <https://rb.gy/zfr0yp>



273. Acne exacerbation after tofacitinib treatment for alopecia areata

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Abstract

The major discovery of the novel therapeutic Janus kinase (JAK) inhibitors has been implicated in several dermatological diseases. Recently, studies have shown the efficacy and encouraging results of oral JAK inhibitors as a treatment for alopecia areata (AA). Due to the novelty of this treatment, potential side effects are not fully explored. In this paper, we present a case of a 28-year-old male with a 10-year history of alopecia totalis (AT) treated successfully with tofacitinib with encouraging effects on hair regrowth; however, a significant worsening of the patient's facial acne was observed four months after AT treatment initiation. JAK inhibitors have promising results in the management of different dermatological conditions including moderate/severe forms of AA with few reported adverse events. Acne exacerbation is a unique observed adverse effect of this therapy. More thorough larger sized studies are needed to further characterize the association between acne exacerbation and the use of JAK inhibitors.

Journal: Dermatology Reports

Publication date: Jan 2022

Short link: <https://rb.gy/vhf63f>



274. Q-switched 532 nm Nd:YAG laser therapy for physiological lip hyperpigmentation: novel classification, efficacy, and safety

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Abstract

Background: Physiological lip hyperpigmentation (PLH) is a common cosmetic concern in the Middle East and Asia. It is characterized by homogeneous symmetric diffuse hyperpigmentation affecting both lips. There is no satisfactory treatment for this condition. The aim of this study is to evaluate the efficacy and safety of Q-switched (QS) 532 nm Nd:YAG laser for PLH. **Methods:** A total of 30 patients with clinical diagnosis of PLH were retrospectively reviewed and included in the study. Patients underwent at least one laser treatment using QS 532 nm with a minimum follow up of six months. Laser parameters were as follows: spot size 2-3 mm, pulse duration 20 ns, fluence 2-4 J/cm². One to three sessions were performed depending on clinical response. Two methods were used for assessment: patient satisfaction and independent physician assessment. PLH was classified as grade 1 (upper lip fully affected plus only border of lower lip), grade 2 (upper lip fully affected plus most of lower lip), and grade 3 (majority of both lips hyperpigmented). **Results:** Excellent (>75% improvement) response was achieved in 30% of patients. Good (51-75% improvement) response was seen in 37% and 43% of patients according to patient satisfaction and independent physician assessment, respectively. Majority of patients required only one treatment session. Reactivation of herpes labialis occurred in two patients, and mottled hypopigmentation in three patients. None of the patients developed persistent hyperpigmentation or scarring. **Conclusions:** PLH can be effectively treated with QS 532 nm Nd:YAG laser and is well tolerated by patients.

Journal: Journal of Dermatological Treatment

Publication date: May 2022

Short link: <https://rb.gy/4awirf>

275. Correlation between ABO Blood Group Phenotype and the Risk of COVID-19 Infection and Severity of Disease in a Saudi Arabian Cohort

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Abstract: Disease severity among patients infected with SARS-CoV-2 varies remarkably. Preliminary studies reported that the ABO blood group system confers differential viral susceptibility and disease severity caused by SARS-CoV-2. Thus, differences in ABO blood group phenotypes may partly explain the observed heterogeneity in COVID-19 severity patterns, and could help identify individuals at increased risk. Herein, we explored the association between ABO blood group phenotypes and COVID-19 susceptibility and severity in a Saudi Arabian cohort. **Methods:** In this retrospective cohort study, we performed ABO typing on a total of 373 Saudi patients infected with SARS-CoV-2 and conducted association analysis between ABO blood group phenotype and COVID-19 infection severity. We then performed gender-stratified analysis by dividing the participating patients into two groups by gender, and classified them according to age. **Results:** The frequencies of blood group phenotypes A, B, AB and O were 27.3, 23.6, 5.4 and 43.7%, respectively. We found that blood group phenotype O was associated with a lower risk of testing positive for COVID-19 infection (OR 0.76 95% CI 0.62-0.95, $p = 0.0113$), while blood group phenotype B was associated with higher odds of testing positive (OR 1.51 95% CI 1.17-1.93, $p = 0.0009$). However, blood group phenotype B was associated with increased risk in the mild and moderate group but not the severe COVID-19 infection group. Blood group phenotype O was protective in all severity groups. **Conclusion:** Our findings provide evidence that blood group phenotype B is a risk for COVID-19 disease while blood group phenotype O is protective from COVID-19 infection. However, further studies are necessary to validate these associations in a larger sample size and among individuals of different ethnic groups.

Journal: Journal of Epidemiology and Global Health

Publication date: Jan 2022

Short link: <https://rb.gy/4u44hb>



276. Novel homozygous pathogenic mitochondrial DNAJC19 variant in a patient with dilated cardiomyopathy and global developmental delay

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Abstract

Background: Dilated cardiomyopathy with ataxia syndrome (DCMA) or 3-methylglutaconic aciduria type V is a rare global autosomal recessive mitochondrial syndrome that is clinically and genetically heterogeneous. It is characterized by early-onset dilated cardiomyopathy and increased urinary excretion of 3-methylglutaconic acid. As a result, some patients die due to cardiac failure, while others manifest with growth retardation, microcytic anemia, mild ataxia, and mild muscle weakness. DCMA is caused by variants in the DnaJ heat shock protein family (Hsp40) member C19 gene (DNAJC19), which plays an important role in mitochondrial protein import machinery in the inner mitochondrial membrane. **Methods:** We describe a single affected family member who presented with cardiomyopathy, global developmental delay, chest infection, seizures, elevated excretion of 3-methylglutaconic acid, and 3-methylglutaric acid in the urine. **Results:** Whole-exome sequencing followed by Sanger sequencing revealed a homozygous frameshift variant in the reading frame starting at codon 54 in exon 4 in the DNAJC19 gene (c.159del [Phe54Leufs*5]), which results in a stop codon four positions downstream. Quantitative gene expression analysis revealed that DNAJC19 mRNA expression in this patient was substantially reduced compared to the control. **Conclusions:** We present a novel variant in the DNAJC19 gene that causes rare autosomal recessive mitochondrial 3-methylglutaconic aciduria type V. By comparing the current case with previously reported ones, we conclude that the disease is extremely heterogeneous for reasons that are still unknown.

Journal: Molecular Genetics & Genomic Medicine

Publication date: August 2022

Short link: <https://rb.gy/jsrvka>



277. Postoperative intensive care management and residual endocrinopathy of pediatric supratentorial brain tumors: a retrospective cohort study

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Abstract: Objectives: Endocrinopathy can occur as a postoperative sequel in children treated for supratentorial tumors (STTs). We assessed prediction of a residual hypothalamic/pituitary insufficiency (HPI) in these patients and factors associated with prolonged length of hospital stay (LOS). **Methods:** This is a retrospective cohort study of children who had surgery for STTs in two tertiary centers in Saudi Arabia (2009-2019). We assessed PICU postoperative management and risk of HPI. Data were analyzed using SPSS V24.0 and a logistic regression model for a prediction of a prolonged LOS. **Results:** Data included 55 children (1-18 years, mean 9.5 ± 4.9 years) who required STT surgeries, 32 (54%) females. Craniopharyngioma (27.3%) was the commonest STTs and 20% of patients had initial symptoms of HPI. PICU management included the use of different types of intravenous fluids (IVFs) and medications such as steroids and desmopressin (DDAVP). An early postoperative DI was reported in 21.8% ($n=12/55$). Residual HPI included 24 (43.6%) presumed cortisol deficient and 18 (32.7%) central DI patients. Risk factors for postoperative HPI were female gender, age <6 years, headache and preoperative pituitary symptoms. LOS (Median= 25.5 ± 12.2 days) was significantly prolonged in patients who required two or more doses of DDAVP [$B=13$; 95% CI= (1.7-24.3) days] and reduced in patients who had suspected preoperative HPI [$B=-19.6$; 95% CI= (-31.1, -8.2) days]. **Conclusions:** Prediction of postoperative HPI in pediatric STTs enhances an early initiation of treatment in PICU and reduces LOS. A meticulous use of IVF and medications supervised by a multidisciplinary team is essential for a favorable outcome.

Journal: Journal of Pediatric Endocrinology and Metabolism

Publication date: May 2022

Short link: <https://rb.gy/keqbhn>



278. Does magnetic resonance imaging impact pre-operative plans in adolescent idiopathic scoliosis patients? A retrospective study

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Abstract

Adolescent idiopathic scoliosis (AIS) has been rigorously discussed in academia for the better part of a century, primarily due to its nuanced and complex management. To date, there are no universal criteria for its management. The use of pre-operative magnetic resonance imaging (MRI) in all patients with AIS is still debatable. We aimed to determine the necessity of using pre-operative routine MRI assessment in all patients treated for AIS. **METHODS:** A retrospective and descriptive medical chart review study was done. We examined AIS patients diagnosed between 10 and 18 years of age who underwent surgical treatment between 2016 and 2020. A full medical history and a complete spine clinical examination were performed on all patients. **RESULTS:** Of 267 consecutive patients with verified AIS who underwent surgical correction, 176 were included in the analysis. All patients had normal pre-operative physical and neurological examinations. There were 138 (78%) female and 38 (22%) male patients. MRI findings of neural axis abnormalities were observed in eight of 176 patients (4.54%). **CONCLUSION:** In our study, the incidence of abnormalities in the neural axis was low and no additional neurosurgical procedures were performed. This could be due to our strict inclusion criteria. However, we cannot establish a recommendation regarding the routine use of pre-operative MRI. A meta-analysis of the currently available data may provide a better assessment in terms of cost-effectiveness and pave the way for the implementation of guidelines for screening protocols.

Journal: Journal of Musculoskeletal Surgery and Research

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279. The impact of car seat giveaways on compliance among newborns in Saudi Arabia

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Abstract

Objectives: Road traffic injuries are a leading cause of morbidity and mortality among children in Saudi Arabia. Previous literature suggests that poor compliance to traffic safety measures is exacerbating the burden of childhood injuries. Although car seats have been found to reduce injuries among children, their compliance remains poor nationally. The aim of this study was to evaluate whether providing free car seats for newborns is associated with the compliance of car seat use 3 months after hospital discharge. **Methods:** This study was conducted in three regions of the country following a national public health campaign aimed to improve traffic safety. In November 2020, five hundred car seats were given to mothers at the time of discharge. Three months later, parents were contacted to evaluate the prevalence of compliance. In addition to estimating the prevalence of car seat use at 3 months, the analysis assessed predictors of use using a multiple logistic regression model. **Results:** Of the 486 initial participants, 375 (77%) responded. According to the parents, 76% of children still use the car seat 3 months after hospital discharge. The age of the parents and the number of family members were significant predictors of car seat use. Smaller families (≤ 4 members) were 2.2 (95% confidence interval: 1.36–3.82) times more likely to comply with the car seat law 3 months after discharge than larger families. Most of the respondents (70.5%) strongly agree that child restraint systems are an essential device while driving with children. **Conclusions:** We found that providing free car seats for newborn children is associated with uptake of improved traffic safety, but compliance remains lower than in developed countries. Further studies are needed to facilitate improving child seat safety among large families. As the country strives to invest in reducing traffic injuries, similar initiatives may facilitate adopting safety measures among parents, which may reduce preventable injuries and improve population health.

Journal: Public health

Publication date: Dec 2021

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280. Epidemiological Characteristics and Outcome of Open Globe Injuries in Tabuk City, Kingdom of Saudi Arabia: Retrospective Cohort Study

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Introduction: The objective of this study was to assess the epidemiological characteristics, clinical features and visual outcomes of open globe eye injury (OGI) in Tabuk, Saudi Arabia.

Methods: A retrospective chart review of OGI patients who had undergone operative repair of their injuries in Tabuk, Saudi Arabia. The collected data included patients' demographics, duration between trauma and presentation and the mechanism of trauma, wound location, extent of injury, presence of intraocular foreign body, and initial and final visual acuity data.

Results: Sixty-three eyes of 63 patients who were admitted for traumatic globe rupture were included; 84.1% were males and 39.7% were of pediatric age. Delay in seeking medical care for > 24 h was recorded in 4.8% of patients. The most common (42.9%) mechanism was blunt trauma followed by sharp trauma (38.1%) and projectile trauma (9.5%); 55.6% had the injury in zone 1. Intraocular foreign body was reported in 9.5% of patients. Intraocular foreign bodies were significantly more common in adults ($p = 0.018$) compared to children. Poor visual acuity was noted in 77.8% of patients upon presentation and 60.3% on last visit.

Conclusion: The incidence of OGI was more common in males. The most common cause of OGI was blunt injury, and half of the injuries were in zone 1. Visual outcomes are guarded for most patients with OGIs.

Journal: Ophthalmology and Therapy

Publication date: October 2021

Short link: <https://rb.gy/knoutq>



281. Common disease-associated gene variants in a Saudi Arabian population

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Abstract

BACKGROUND: Screening programs for the most prevalent conditions occurring in a country is an evidence-based prevention strategy. The burden of autosomal recessive disease variations in Saudi Arabia is high because of the highly consanguineous population. The optimal solution for estimating the carrier frequency of the most prevalent diseases is carrier screening. **OBJECTIVES:** Identify the most influential recessive alleles associated with disease in the Saudi population. **DESIGN:** We used clinical whole-exome sequencing data from an in-house familial database to evaluate the most prevalent genetic variations associated with disease in a Saudi population. **SETTINGS:** King Abdullah International Medical Research Center (KAIMRC) and King Abdulaziz Medical City.

METHODS: Whole exome sequencing data obtained from clinical studies of family members, a cohort of 1314 affected and unaffected individuals, were filtered using the in-house pipeline to extract the most prevalent variant in the dataset. **MAIN OUTCOME**

MEASURES: Most prevalent genetic variations associated with disease in the Saudi population. **SAMPLE SIZE:** 1314 affected and unaffected individuals. **RESULTS:** We identified 37 autosomal recessive variants and two heterozygous X-linked variants in 35 genes associated with the most prevalent disorders, which included hematologic (32%), endocrine (21%), metabolic (11%) and immunological (10%) diseases.

CONCLUSION: This study provides an update of the most frequently occurring alleles, which support future carrier screening programs. **LIMITATIONS:** Single center that might represent the different regions but may be biased. In addition, most of the families included in the database are part of the proband's genetic identification for specific phenotypes.

Journal: Annals of Saudi Medicine

Publication date: February 2021

Short link: <https://rb.gy/uh1z2k>

282. The Role of the Disrupted Podosome Adaptor Protein (SH3PXD2B) in Frank–Ter Haar Syndrome

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Abstract

Frank–Ter Haar syndrome (FTHS), sometimes referred to as Ter Haar syndrome, is a rare hereditary disorder that manifests in skeletal, cardiac, and ocular anomalies, including hypertelorism, glaucoma, prominent eyes, and facial abnormalities. In this study, we performed whole-exome sequencing (WES) to identify the genetic component responsible for the phenotype of the index patient, a male infant born to a consanguineous family from Saudi Arabia. The analysis revealed a homozygous missense variant, c.280C>G, in the SH3PXD2B gene, which cosegregates with the familial phenotype with a plausible autosomal-recessive mode of inheritance, indicating a potential disease-causing association. The SH3PXD2B gene encodes a TKS4 podosome adaptor protein that regulates the epidermal growth factor signaling pathway. This study validates the critical function of the TKS4 podosome protein by suggesting a common mechanism underlying the pathogenesis of FTHS.

Journal: Genes

Publication date: February 2022

Short link: <https://rb.gy/ekexjg>



283. Factors associated with mortality and morbidity among pediatrics with burn injuries in Riyadh, Saudi Arabia

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Abstract

Objectives: To describe characteristics, mechanism, and factors associated with morbidity and mortality of pediatrics with burn injuries. **Methods:** This cross-sectional retrospective study examined all pediatrics with burn injuries carried out at King Abdulaziz Medical City, Riyadh, Saudi Arabia, from 2015-2020. Collected data included demographics, mechanism of burn, total body surface area (TBSA) burned, body region burned, incidence of infection, renal failure, scars, and respiratory events. **Results:** The study included 370 patients. Approximately 47.0% were aged ≤ 2 years, and 61.0% were males. The most common burn mechanism was scald burn (54%), 59.2% had a TBSA of 0-10%, and 60.3% had regional burns on the upper limbs. During follow-up, 5 patients died (incidence rate [IR]=1.60/100 patient/years [PYs]). Morbidity events included blood/sepsis infection (IR=2.87/100 PYs), urine infection (IR=8.30/100 PYs), wound infection (IR=21.72/100 PYs), renal failure (IR=0.96/100 PYs), and respiratory infections (IR=1.60/100 PYs). In a multivariate Cox regression analysis, factors independently associated with combined hazard of morbidity and mortality were female gender (hazard ratio [HR]=1.64, 95% confidence interval [CI]: [1.01-2.67], $p=0.047$), TBSA (HR=3.20, 95% CI: [1.828-5.585], $p<0.0001$), and length of hospital stay (HR=3.14, 95% CI: [1.91-5.17], $p=0.000$). **Conclusion:** This study identifies certain characteristics suggestive of poor outcomes of pediatric burn injuries that are relevant to clinical management and prevention programs. Larger multicenter studies are required to fully characterize pediatric patients with burn injuries and to identify factors that adversely affect their prognosis.

Journal: Saudi medical journal

Publication date: May 2022

Short link: <https://rb.gy/qaj8x8>



284. Quality of Distance Learning during COVID-19 Pandemic in a Health Sciences University in Saudi Arabia

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Abstract: Background: Distance learning adopted during COVID-19 pandemic as alternative of onsite learning for most students around the world. Students feedback to this alternative varied around the world, but this mean of education has pros and cons as most of things. Distance learning offer flexibility and convenience for both learners and tutors, in the other hand has limitation on assessment authenticity. **Aim:** The study aim was to investigate the quality of distance learning in a health sciences university during COVID-19 pandemic. **Materials and Methods:** Retrospective cross-sectional survey conducted by utilizing the results of four items about distance learning in predeveloped course survey. The relation of distance learning quality to gender, academic program, and campus were studied. **Results:** 92.32% of students filled the survey (n=8370). The results' analysis showed 56.4% of students agreed with distance learning quality, but 37.25% could not decide or do not want to decide if they agree or disagree to distance learning quality. 6.35% of students disagree with the distance learning quality. Students' feedback affected by their gender, academic program, and campus. The postgraduate students and male students showed positive attitude toward distance learning and its quality more than other students. **Conclusion:** Distance learning quality perceived well by health sciences students and can be a strategic mean of learning in the future with enhancement to assessment authenticity.

Journal: Journal of Medicine and Health Studies

Publication date: Jun 2022

Short link: <https://rb.gy/w5shhu>



285. Association of KIR gene polymorphisms with COVID-19 disease

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Abstract: Background: Natural killer (NK) cells play an essential role against viruses. NK cells express killer cell immunoglobulin-like receptors (KIRs) which regulate their activity and function. The polymorphisms in KIR haplotypes confer differential viral susceptibility and disease severity caused by infections. We investigated the association between KIR genes and COVID-19 disease severity. **Methods:** 424 COVID-19 positive patients were divided according to their disease severity into mild, moderate and severe. KIR genes were genotyped using next generation sequencing (NGS). Association between KIR genes and COVID-19 disease severity was conducted and significant correlations were reported. **Results:** In the COVID-19 patients, KIR Bx genotype was more common than AA genotype. The Bx genotype was found more frequently in patients with mild disease, while in severe disease the AA genotype was more common than the Bx genotype. The KIR2DS4 gene carried the highest risk for severe COVID-19 infection (OR 8.48, $p=0.0084$) followed by KIR3DL1 (OR 7.61, $p=0.0192$). **Conclusions:** Our findings suggest that KIR2DS4 and KIR3DL1 genes carry risk for severe COVID-19 disease.

Journal: Clinical Immunology

Publication date: Jan 2022

Short link: <https://rb.gy/c3thhj>



286. Machine-assisted nutritional and metabolic support

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Abstract: Nutritional and metabolic support in the intensive care unit (ICU) involves a complex decision-making process addressing a multitude of time-varying biological and clinical parameters. Machine-assisted computer-guided nutritional and metabolic support could help caregivers (a) tailor prescription to individual patients (accounting for nutritional state, weight, gender, type and severity of acute disease and organ failure, course of acute illness and current metabolic state, (b) manage medical nutrition to achieve adequate provision of nutrients, (c) give alerts for failure of nutrition delivery or inadequacy and for variations in patients metabolism and d) detect intolerance to nutritional support.

Journal: Intensive Care Medicine

Publication date: October 2022

Short link: <https://rb.gy/1ui4k1>



287. The Saudi Critical Care Society practice guidelines on the management of COVID-19 in the ICU: Therapy section

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Abstract Background: The rapid increase in coronavirus disease 2019 (COVID-19) cases during the subsequent waves in Saudi Arabia and other countries prompted the Saudi Critical Care Society (SCCS) to put together a panel of experts to issue evidence-based recommendations for the management of COVID-19 in the intensive care unit (ICU). Methods: The SCCS COVID-19 panel included 51 experts with expertise in critical care, respiratory, infectious disease, epidemiology, emergency medicine, clinical pharmacy, nursing, respiratory therapy, methodology, and health policy. All members completed an electronic conflict of interest disclosure form. The panel addressed 9 questions that are related to the therapy of COVID-19 in the ICU. We identified relevant systematic reviews and clinical trials, then used the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach as well as the evidence-to-decision framework (EtD) to assess the quality of evidence and generate recommendations. Results: The SCCS COVID-19 panel issued 12 recommendations on pharmacotherapeutic interventions (immunomodulators, antiviral agents, and anticoagulants) for severe and critical COVID-19, of which 3 were strong recommendations and 9 were weak recommendations. Conclusion: The SCCS COVID-19 panel used the GRADE approach to formulate recommendations on therapy for COVID-19 in the ICU. The EtD framework allows adaptation of these recommendations in different contexts. The SCCS guideline committee will update recommendations as new evidence becomes available.

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288. Iron oxide mesoporous microparticle drug carrier

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NATIONAL GUARD HEALTH AFFAIRS

Abstract

A magnetic microparticle drug carrier comprising mesoporous iron oxide is described. The drug carrier has an average diameter in a range of 0.5-1.2 μm , a BET surface area ranging from 50-300 m^2/g , and a pore volume ranging from 0.15-0.65 cm^3/g . The drug carrier is made using a hard mesoporous silica template which is completely removed from the deposited iron oxide. The drug carrier may be loaded with high amounts of hydrophilic anticancer chemotherapeutic drugs and/or hydrophobic hormonal anticancer drugs, and released in a pH-controlled manner inside cancerous cells. Compared to free drugs, the drug microparticle carrier displays enhanced drug accumulation inside tumor tissues, deeply penetrates into a tumor region and kills the tumor cells inside. The designed carriers described here entrap and release different kinds of anticancer drugs in a controlled manner for synergistic combinatorial chemo/hormonal cancer therapy.

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289. Pulmonary vasculitis in Hughes-Stovin syndrome (HSS): a reference atlas and computed tomography pulmonary angiography guide—a report by the HSS International Study Group

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Abstract Introduction: Hughes-Stovin syndrome (HSS) is a systemic vasculitis characterized by widespread venous/arterial thrombosis and pulmonary artery aneurysms (PAAs), which is associated with serious morbidity and mortality. All fatalities reported in HSS resulted from unpredictable fatal suffocating hemoptysis. Therefore, it is necessary to recognize pulmonary complications at an early stage of the disease. Objectives: The aims of this study are to develop a reference atlas of images depicting the characteristic features of HSS by computed tomography pulmonary angiography (CTPA). To make a guide for physicians by developing a classification of PAAs according to the severity and risk of complications associated with each distinct lesion type. Methods: The Members of the HSS International Study Group (HSSISG) collected 42 cases, with high-quality CTPA images in one radiology station and made reconstructions from the source images. These detailed CTPA studies were reviewed for final image selection and approved by HSSISG board members. We classified these findings according to the clinical course of the patients. Results: This atlas describes the CTPA images that best define the wide spectrum of pulmonary vasculitis observed in HSS. Pulmonary aneurysms were classified into six radiographic patterns: from true stable PAA with adherent in-situ thrombosis to unstable leaking PAA, BAA and/or PAP with loss of aneurysmal wall definition (most prone to rupture), also CTPA images demonstrating right ventricular strain and intracardiac thrombosis. Conclusion: The HSSISG reference atlas is a guide for physicians regarding the CTPA radiological findings, essential for early diagnosis and management of HSS-related pulmonary vasculitis. Key Points • The Hughes-Stovin syndrome (HSS) is a systemic vasculitis characterized by extensive vascular thrombosis and pulmonary artery aneurysms (PAAs) that can lead to significant morbidity and mortality. • All fatalities reported in HSS were related to unpredictable massive hemoptysis; therefore, it is critical to recognize pulmonary complications at an early stage of the disease. • The HSS International Study Group reference atlas classifies pulmonary vasculitis in HSS at 6 different stages of the disease process and defines the different radiological patterns of pulmonary vasculitis notably pulmonary artery aneurysms, as detected by computed tomography pulmonary angiography (CTPA). • The main aim of the classification is to make a guide for physicians about this rare syndrome. Such a scheme has never been reached before since the first description of the syndrome by Hughes and Stovin since 1959. This classification will form the basis for future recommendations regarding diagnosis and treatment of this syndrome.

Journal: Clinical Rheumatology

Publication date: December 2021

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290. Criteria and definitions for the radiological and clinical diagnosis of bronchiectasis in adults for use in clinical trials: international consensus recommendations

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Abstract: Bronchiectasis refers to both a clinical disease and a radiological appearance that has multiple causes and can be associated with a range of conditions. Disease heterogeneity and the absence of standardised definitions have hampered clinical trials of treatments for bronchiectasis and are important challenges in clinical practice. In view of the need for new therapies for non-cystic fibrosis bronchiectasis to reduce the disease burden, we established an international taskforce of experts to develop recommendations and definitions for clinically significant bronchiectasis in adults to facilitate the standardisation of terminology for clinical trials. Systematic reviews were used to inform discussions, and Delphi processes were used to achieve expert consensus. We prioritised criteria for the radiological diagnosis of bronchiectasis and suggest recommendations on the use and central reading of chest CT scans to confirm the presence of bronchiectasis for clinical trials. Furthermore, we developed a set of consensus statements concerning the definitions of clinical bronchiectasis and its specific signs and symptoms, as well as definitions for chronic bacterial infection and sustained culture conversion. The diagnosis of clinically significant bronchiectasis requires both clinical and radiological criteria, and these expert recommendations and proposals should help to optimise patient recruitment into clinical trials and allow reliable comparisons of treatment effects among different interventions for bronchiectasis. Our consensus proposals should also provide a framework for future research to further refine definitions and establish definitive guidance on the diagnosis of bronchiectasis.

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291. The prevalence of serious bacterial infections in infants 90 days and younger with viral respiratory tract infections

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of Saudi Arabia. **Abstract:** Objectives: To determine the prevalence and risk factors of serious

bacterial infections (SBIs) in infants 90 days and younger with a confirmed respiratory tract

infection (RTI). Methods: A retrospective cross-sectional study was carried out of infants 90

days and younger who were admitted to King Abdullah Specialized Children's Hospital,

Riyadh, Saudi Arabia, from January 2019 to December 2020, with polymerase chain reaction

(PCR)-proven RTI. Cultures from the urine, blood, and cerebrospinal fluid were reviewed with

the patients' demographic information and clinical presentation. Results: Of 322 patients with

a viral RTI, 21 (6.5%) had a concurrent urinary tract infection (UTI), and no patients had

bacteremia or bacterial meningitis. The risk of a concurrent SBI was 4 times higher in neonates

(odds ratio [OR]=4.66, 95% confidence interval [CI]: [1.32-16.47]). Previously healthy infants

were at lower risk to have a SBI in comparison to those with chronic diseases or renal

abnormalities (OR=0.23, 95% CI: [0.09-0.61]). In addition, male gender (OR=3.49, 95% CI:

[1.07-11.38]) and abnormal urinalysis (OR=4.12, 95% CI: [1.48-11.42]) were predictors of

SBIs. There was no statistically significant association between the number or type of detected

viruses and SBIs. Conclusion: No cases of invasive bacterial infections were found in infants

with PCR-proven viral RTIs. There is a risk of having a concurrent UTI in this cohort of

patients. Neonates had a higher risk of UTIs as compared to older infants.

Journal: Saudi Medical Journal

Publication date: September 2022

Short link: <https://rb.gy/yzjcrp>



292. Effect of Helmet Noninvasive Ventilation vs Usual Respiratory Support on Mortality Among Patients With Acute Hypoxemic Respiratory Failure Due to COVID-19

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Abstract: Results Among 322 patients who were randomized, 320 were included in the primary analysis, all of whom completed the trial. Median age was 58 years, and 187 were men (58.4%). Within 28 days, 43 of 159 patients (27.0%) died in the helmet noninvasive ventilation group compared with 42 of 161 (26.1%) in the usual respiratory support group (risk difference, 1.0% [95% CI, -8.7% to 10.6%]; relative risk, 1.04 [95% CI, 0.72-1.49]; P = .85). Within 28 days, 75 of 159 patients (47.2%) required endotracheal intubation in the helmet noninvasive ventilation group compared with 81 of 161 (50.3%) in the usual respiratory support group (risk difference, -3.1% [95% CI, -14.1% to 7.8%]; relative risk, 0.94 [95% CI, 0.75-1.17]). There were no significant differences between the 2 groups in any of the prespecified secondary end points. Barotrauma occurred in 30 of 159 patients (18.9%) in the helmet noninvasive ventilation group and 25 of 161 (15.5%) in the usual respiratory support group. Skin pressure injury occurred in 5 of 159 patients (3.1%) in the helmet noninvasive ventilation group and 10 of 161 (6.2%) in the usual respiratory support group. There were 2 serious adverse events in the helmet noninvasive ventilation group and 1 in the usual respiratory support group. Conclusions and Relevance Results of this study suggest that helmet noninvasive ventilation did not significantly reduce 28-day mortality compared with usual respiratory support among patients with acute hypoxemic respiratory failure due to COVID-19 pneumonia. However, interpretation of the findings is limited by imprecision in the effect estimate, which does not exclude potentially clinically important benefit or harm.

Journal: American Medical Association

Publication date: September 2022

Short link: <https://rb.gy/wrrj51>



293. Attitudes Toward Obesity, Willingness to Lose Weight, and Treatment Preferences Among Overweight and Obese Saudi Adults

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Abstract: Background: Obesity has become a major health concern worldwide and is associated with several diseases and complications. Losing weight is an effective strategy to improve body mass index and prevent the complications of obesity. However, weight loss is dependent on the attitude of individuals toward obesity as well as their willingness to lose weight. Aim: To explore attitudes toward obesity, willingness to lose weight, and treatment preferences among overweight and obese Saudi adults. Methods: An analytical cross-sectional study was conducted among overweight and obese Saudis. We targeted adults aged 18 years and older, who visited family medicine clinics at King Abdulaziz Medical City for the National Guard in Riyadh, Saudi Arabia. The study was conducted from December 2020 to June 2021 using a self-administered questionnaire. Results: Of the 403 participants, 82.5% were dissatisfied with their current body weight. Controlling chronic disease was a major motive for improving body weight (53.2%), and exercise and diet were the most preferred strategies to lose body weight. Age was a determinant in the attitude and willingness of participants to lose weight ($p = 0.0001$). Conclusion: Participants in the current study reported high dissatisfaction rates about current weight and willingness to improve body weight. This should encourage healthcare providers to initiate weight status discussions and management with their overweight and obese clients.

Journal: Cureus

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294. Comorbidities in Clinical and Polysomnographic Features of Obstructive Sleep Apnea: A Single Tertiary Care Center Experience

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Abstract: Background Research on obstructive sleep apnea (OSA) is inadequate in Saudi Arabia, particularly among patients with comorbidities. This study investigates comorbidities in patients with different severity of apnea based on the Apnea-Hypopnea Index (AHI). Methods The retrospective charts review that included a cohort of 4391 patients who underwent polysomnography (PSG) between 2003 and 2019. The AHI is classified into four ordinal groups: normal, mild, moderate, and severe. Ordinal logistic regression was used to model proportional odds of a higher AHI category. Results Gender was distributed equally in the study sample. The average age was 49.6 ± 14.8 years and the average AHI was 16.1 ± 22 per hour. Hypertension (43.2%) and diabetes mellitus (37.3%) were the most common comorbidities: Mild OSA 28.9%, Moderate OSA 15.6%, and severe 16.4%. The severity of apnea increased with age and BMI classes. The prevalence of hypertension increased with the severity of apnea: 42.9% in mild, 47.4% in moderate, and 54.6% in severe AHI. The prevalence of coronary artery disease (CAD), congestive heart failure (CHF), and diabetes mellitus (DM) increased with the severity of apnea. Comorbidities was more among OSA patients with excessive sleepiness. After adjustment for age and gender, greater proportional odds of severe AHI were observed in males (aOR=1.8), 30–59 years (aOR=2.064), 60 years or above (aOR=2.873), obese class II (aOR=2.016), obese class III (aOR=2.527), and in patients with hypertension (aOR=1.272). Conclusion Hypertension and obesity were highly prevalent in the study cohort and were associated with greater proportional odds of severe AHI.

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