



## College of Medicine Virtual Medical Research Day 2021 King Saud bin Abdulaziz University for Health Sciences

 **Date:**  
**25/ 1 /2021**
 **Time:**  
**8:00 am-17:00 pm**
 **Fees:**  
**Free**
**6 CME**  
 Continuing medical  
 education hours

**Registration  
Ends on  
20/1/2021**

### Objective

A platform for our medical students' research activities prior and during the crisis of COVID-19

### Speakers

 **16** Oral presentations by  
**Medical Students,**  
 College of Medicine-Riyadh

 **204** poster presentations were  
 accepted representing more than  
**600 Medical students**  
 College of Medicine- Riyadh.

### Keynote speakers

- Dr Ahmed Al Rumayyan / Dr Moeber Mahzari**  
 Welcome and talk ( COVID-19 and Medical Education)
- Prof Hanan Kadri**  
 (Formative feedback)
- Dr Meshal Alaqeel**  
 (Coping with COVID-19 Pandemic; Medical Students Perspective)
- Dr Majid Alshamrani**  
 (Covid-19 update; How to protect yourself)
- Dr Omar Al Obud**  
 (Positioning your mindset towards healthy e-learning)

**Scan for  
Registration**



### Audience

-Medical Students  
 -Health care  
 Professionals

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# Welcome To College of Medicine Students' Research Day 2021!

**Prof. Youssef A. Al Eissa.** MD, FAAP, FRCPC, Vice President, Educational Affairs, KSAU-HS

On behalf of King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), I want to welcome you to the College of Medicine's Annual Research Day, which is designed to showcase the variety and quality of research taking place at the College of Medicine. This event provides our medical students a platform from which to share their research with their fellow students, and the KSAU-HS community at large. It



also provides an opportunity to recognize those who have achieved excellence in research.

At KSAU-HS, we aspire to achieve global leadership in scientific research, which is an audacious, yet obtainable goal, given the pace of technology, advancement of human knowledge, and the considerable resources that our nation has devoted in support of scientific discovery. The progress of human knowledge has been astonishing when one considers that before the turn of the twentieth century, human knowledge is estimated to have doubled approximately every century, while today knowledge is doubling on average every 13 months, and this could ultimately increase to doubling in days, or even hours. At this pace, it's conceivable that all diseases could be cured within the average human lifespan, and perhaps there has never been a more exciting time to be on the forefront of health research.

While knowledge may be quantifiable, one of the world's great thinkers, Albert Einstein, believed that imagination is a real factor in scientific research, and is quoted as saying that, "Imagination is more important than knowledge, for knowledge is limited, whereas imagination embraces the entire world, stimulating progress, and giving birth to evolution." At KSAU-HS we appreciate the importance of creating an environment where great thinkers can achieve great things. By way of events such as this, we hope to inspire our students to become great thinkers, as well as seekers of knowledge, who will shape the future of medicine, influence technology and improve the quality of life for all of humankind.

I want to take this opportunity to congratulate all of the students who have been recognized for their work, and thank the panel of experts who have participated as judges. I also wish to express our appreciation to the organizers for their efforts to ensure the quality and success of this event.

We appreciate your participation in Research Day 2021 and hope that it will excite your passion for research and unleash your imagination.

# Dean's Welcome Message

**Dr. Ahmed Al Rumayyan**, MBBS, Ph.D. ME, FAAP, FRCPC. Dean, College of Medicine, KSAU-HS, Associate Professor, Pediatrics, KSAU-HS, Consultant, Pediatric Neurology/Epileptology, KASCH-R



I am honored to welcome you to the College of Medicine's inaugural Research Day 2021. This day is set aside to highlight the exciting scientific work being done at the College of Medicine, and provide a forum for the medical students to present their research projects, and celebrate their scientific achievements.

The quality and scope of the scientific work undertaken by our students demonstrates the strength of our medical program, and reflects the importance of research, which is integral to the program learning outcomes and competencies. In recognizing the dynamic nature of the medical profession, the College of Medicine adopted a problem-based learning curriculum that integrates research throughout the four-year program. This teaching format creates a student-centered learning culture where students not only enjoying studying, but learn to think critically in an environment where innovation, creativity, teamwork and lifelong learning are fostered.

Our prophet, peace and blessings be upon him, said that "Whoever travels a path in search of knowledge, Allah will make easy for him a path to Paradise", and as the world endures one of the worst pandemics in the past 100 years, never has this wisdom been more relevant. While scientists around the globe have been mobilized to develop a safe and effective vaccine for COVID-19, we are reminded that a civil society could not be possible without those who dedicate their lives to the pursuit of knowledge, and tirelessly seek the causes, cures and management of diseases. At the College of Medicine, we aim to produce the next generation of doctors with inquiring minds and an appreciation of how research contributes to the knowledge and practice of medicine.

As Dean of the College of Medicine, it is reassuring to consistently receive feedback from employers praising the innovative spirit of our graduates, and their knowledge of the steps and procedures for conducting scientific research. With this in mind, I want to acknowledge our outstanding faculty, who serve as mentors and research supervisors for our students, and without whom our research program at the College of Medicine would not be possible.

I also would like to recognize the students' efforts in submitting their research projects for the Research Day 2021, and my congratulations to those who will be awarded for their outstanding presentations.

Finally, I want to take this opportunity to thank everyone who attended and supported this event, including the university leadership, scientific and organizing committees, faculty mentors, medical staff, and organizing staff. I hope that you are inspired by this event to seek knowledge, and make a difference in the world through your own scholarly endeavors.

# Organizing and Scientific Committees Welcome Message

**Dr. Hussain Saad Al Dera**, MCSc, MSc, PhD, M.Med.Edu, Associate Professor & Consultant of Clinical Physiology. Assistant Dean, College of Medicine, KSAU-HS.



On behalf of the Organizing and Scientific Committees of the Research Day 2021 of the College of Medicine, at King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), I am delighted to welcome all keynote speakers, each student as well all respected audience to this scientific event.

This Research Day comes at a critical and challenging time for education. Our students are proving that they are up to the challenge and are coping well in this difficult time, the research day comes as a proof. This distinguished scientific event was tailored exclusively for our college of medicine students and all other colleges of medicine. On this research day, each medical student will be given the opportunity to present his/her research work.

Our students are part of the Organizing Committee and will be moderating the plenary sessions. This is a full day of scientific presentations, where more than 600 medical students from the Riyadh campus will present their research work in the form of oral and poster presentations. There are 5 keynote speakers who will enrich our knowledge about our current crisis, COVID-19, and how it is affecting our education.

On behalf of the Organizing and Scientific Committees of the College of Medicine Research Day 2021, I would like to sincerely thank his excellency Dr. Bandar AlKnawy, the President of King Saud bin Abdulaziz University for Health Sciences, Prof. Yousef Al Essa, the Vice President, Educational Affairs, and Dr. Ahmed Al Rumyyan, Dean of the College of Medicine, and our students for their continued support to make this research day a reality.

# Students Research Day 2021

## 25.01.2021

Dr. Khalid Al Rabeeah, Dr. Nouf S. Al Harbi, Loujain Al Yousef, Yousef Alawaad, Noura Alsubaie

**9:00-9:30 Dr Ahmed Rumayyan/ Dr. Moeber Mahzari– welcome AND talk (COVID-19 and Medical Education)**

Dr. Sultan Alqahtani, Dr. Nouf Al Baz, Nejoood Hamad Alsheikh, Mutlaq Shafi Almutlaq

**9:30-10:00 Prof Hanan Kadri (Providing an effective feedback)**

Students' Oral presentations

**Moderators: Dr. Ali Al Othaim, Dr. Majid Al Eissa, Dr. Yazeed Alghonaim, Dr. Mohammed Al Jasser, Dr. Faisal Al Thekair**

**10:00-10:15 Leen Hijazi:** Injection Site Pain, Onset and Duration of Action of Botulinum Toxin Reconstituted in Normal Saline with and without Sodium Bicarbonate; A Prospective, Single Center, Randomized, Double-Blind Interventional

**10:15-10:30 Taif Alqahtani:** Predictors of Seatbelt Use Among Saudi Adults

**10:30-10:45 Abdulrahman Alomar:** Is the Allocation System for Liver Transplantation in the Kingdom Skewed Towards Serving Patients with Hepatocellular Carcinoma?

**10:45-11:00 Yassar Aljahdali:** Prognostic utility of various multidimensional grading scales among patients with bronchiectasis

Students' Oral presentations

**Moderators: Dr. Abdullah Al Khayal, Dr. Nada Saleh, Dr. Abdulrahman AlRaddadi, Dr. Mohammad Tawhari**

**11:00-11:15 Lama Aldosari:** Risk of Pilonidal Sinus Disease Recurrence: A Tertiary Care Center Experience

**11:15-11:30 Faisal Aljuraishi:** Ultrashort Peptide Hydrogels as a 3D Scaffold for Colorectal Cancer Cells

**11:30-11:45 Salman Qasim:** Variability of the Posterior Tibial Slope in Saudis: A Radiographic Study

**11:45-12:00 Sultan Aljarba:** Clinical and Molecular Characterization of Pediatric Cataract at KAMC

Dr. Yaser Almalik, Dr. Sara Al Dekhyl; Alreem Zakarya Alsaleem, Talal Abdulaziz Aljehaiman

**13:00-13:30 Dr Meshal Alaqeel (Coping with COVID-19 Pandemic; Medical Students Perspective)**

Students' Oral presentations

**Moderators: Dr. Hosam Zowawi, Dr. Tariq Aljared, Dr. Sara Aldekhyl, Dr. Mosaad Al Hussein**

**13:30-13:45 Ahmed Alragea:** Rates of bleeding, thrombosis, and survival in patients who underwent hematopoietic cell transplantation at King Abdulaziz Medical City, Riyadh, Saudi Arabia

**13:45-14:00 Abrar AlDohaim:** Sequestered Lumbar Disc Herniation Mimicking Spinal Neoplasm; Case Report and Literature Review

**14:00-14:15 Saeed Alshahrani:** Clinical Pattern, Complications, and Outcomes of Childhood Cataract, a 20 Year Experience of a Tertiary Center

**14:15-14:30 Mona Alshehri:** Linear IgA Bullous Dermatitis Associated with Brucella Infection In A 39-year-old Male



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Students' Oral presentations

**Moderators: Dr. Hussain Al Dera Dr. Reem Al Kahtani Dr. Mohammed Taha Dr. Mohammed Shaheen**

14:30-14:45 **Ibrahim Ababtain:** Predictors of Otitis Media with Effusion Recurrence Following Myringotomy.

14:45-15:00 **Ahmad Alswaidan:** Anatomical Sites and Clinical Characteristics of Venous Thromboembolism in a Tertiary Hospital

15:00-15:15 **Abdulrahman Alfawzan:** Dermatology Workforce over a Decade: Demographics, Distributions, and Future Predictions

15:15-15:30 **Mohammad Ali Alghafees:** Sacral Neuromodulation in a Pregnant Woman with Fowler's Syndrome Authors

Dr. Wafaa Al. Suwairi, Alanoud Hussain Almuhan, Sawsan Abdulrahman Alharthi

**15:30-16:00 Dr Majid Alshamrani (Covid-19 update; How to protect yourself)**

Dr. Sami Al. Nasser, Dr. Abdulaziz H. Al Hassan, Meshal Aljarallah, Salman Sufian Qasim, Khalid Abdullah Alyousef

**16:00-16:30 Dr Omar Al Obud (Positioning your mindset towards healthy e-learning)**

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## Special Thanks to:

### Oral Presentations Moderators

Dr. Khalid Al Rabeeah, Dr. Nouf S. Al Harbi, Loujain Al Yousef, Yousef Alawaad, Noura Alsubaie, Dr. Sultan Alqahtani, Dr. Nouf Al Baz, Nejoood Hamad Alsheikh, Mutlaq Shafi Almutlaq, Dr. Wafaa Al. Suwairi, Alanoud Hussain Almuhan, Sawsan Abdulrahman Alharthi, Dr. Sami Al. Nasser, Dr. Abdulaziz H. Al Hassan, Meshal Aljarallah, Salman Sufian Qasim, Khalid Abdullah Alyousef, Dr. Yaser Almalik, Dr. Sara Al Dekhyl, Alreem Zakarya Alsaleem, Talal Abdulaziz Aljehaiman, Dr Ali Al Othaim, Dr. Majid Al Eissa, Dr. Yazeed Alghonaim, Dr. Mohammed Al Jasser, Dr. Faisel Al Thekair, Dr. Abdullah Al Khayal, Dr. Nada Saleh, Dr. Abdulrahman AlRaddadi, Dr. Mohammad Tawhari, Dr. Hosam Zowawi, Dr. Tariq Aljared, Dr. Sara Aldekhyl, Dr. Mosaad Al Hussein, Dr. Hussain Al Dera Dr. Reem Al Kahtani Dr. Mohammed Taha Dr. Mohammed Shaheen.

### Poster Presentations Moderators

Dr. Sajida Agha, Dr. Sultan Al-Habdan, Dr. Amre Nasr, Dr. Khalid Alsheikh, Dr. Mohammed Al Muqbil, Dr. Saud Al Dubayan, Dr. Munirah Batarfi, Dr. Mona Bawazeer, Dr. Mohamud Salaad Mohamud, Dr. Dana Al Essa, Dr. Altayeb Ahmed, Dr. Salah Al Dekhayel, Dr. Nahar Al Selaim, Dr. Waseem Al. Talalwah, Dr. Abeer Al Sarheed, Dr. Emad Masuadi, Dr. Awad Al Muklass Dr. Asma Al Anezi, Dr. Abeer Sarheed, Mr. Khalil Sunba, Dr. Mohammad Almohideb, Dr. Aamir Omair, Dr. Rayan Al Khodair, Dr. Nazish Masud, Ms. Haifa Abdulaziz Alhawas, Mr. Mahmoud Ahmad AlKhateeb, Mr. Mowafaq Khedir, Mr. Elhady Kheir

### Scientific Committee

Prof. Ali Hajeer, Dr. Moeber M. Mahzari, Dr. Hussain Al Dera, Dr. Sara Aldekhyl, Dr. Sultan Al Qahtani, Dr. Emad Masuadi, Dr. Amre Nasr, Dr. Mohammed AlJasser, Dr. Awad Al Muklass, Dr. Asma Al Anezi, Dr. Mohamed Shaheen, Dr. Abeer Sarheed, Dr. Abdullah Al Khayal, Dr. Dana Al Essa, Ms. Haifa AlHawas, Dr. Nazish Masud, Dr. Aamir Omair

### Organizing Committee

Dr. Hussain Al Dera, Dr. Taghreed Al Nahedh, Dr. Nada Saleh, Dr. Sajida Agha, Dr. Munira Batarfi, Ms. Ghada Rashied, Mr. Yahya Al Haqwi, Mr. Ahmed Al Otaibi, Mr. Mohammed Khalid M Al Ageel, Mr. Mohammed Abdullah A Aldriweesh, Ms. Lina Ali M Alhumaid, Ms. Ghadeer Lafi Aljahdali

### Technical Support Team Members

Ms. Yasmeen Al Onazi, Mr. Ahmed Abdul Meguid, Ms. Hanan Al Marzouki, Ms. Bushra Al Othaimeen



# Oral Presentations

# 1. Sacral Neuromodulation in a Pregnant Woman with Fowler's Syndrome.

Mohammad A. Alghafees<sup>1</sup>, Yahya Algazwani, MD<sup>2</sup>, Rakan Aldurab, MBBS<sup>3</sup>

<sup>1</sup>College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

<sup>2,3</sup>Department of Urology, King Abdulaziz Medical City, Riyadh, Saudi Arabia.

**Introduction:** Sacral neuromodulation (SNM) presents a significant dilemma during pregnancy. The manufactures advise turning the SNM device off as soon as pregnancy is detected, and clinicians typically deactivate the device during pregnancy. This is a case report of a 37-year-old pregnant female suffering from Fowler's Syndrome (FS). The patient was on SNM and underwent two uneventful pregnancies despite the device being kept on throughout both pregnancies.

**Case summary:** A 37-year-old patient in the first trimester of her pregnancy presented to clinic with urinary retention. Her workup was normal. The device was turned off, and her treatment was treated conservatively, her condition did not improve. Further investigation showed electrode displacement. She was taken to the operation theatre for implant readjustment under general anesthesia. The old device was removed, and a new space was created for the implant. Patient was discharged with a three-week follow up in which no problems were accessed. The patient responded well to SNM and was closely monitored for any adverse fetomaternal outcomes; none were detected, and a healthy baby was delivered. Two years later, in 2019, the patient in the second trimester of pregnancy presented again with urinary retention, leg pain, and surgical site pain. Tenderness and swelling were found at the surgical site. The SNM device was switched off, and it was decided to conduct implant readjustment. There was a pocket of pus that was removed, and the site was irrigated with gentamycin. The device was then repositioned. The wound was closed, and the device was turned on again. The patient was discharged from the hospital after completion of the procedure and was followed up until delivery. The pregnancy was uneventful, and no adverse fetomaternal outcomes were reported.

**Conclusion:** As per our knowledge based on research of medical literature, our case is unlike any that was published before it. We hope that our research is a ray of hope for those suffering from FS who wish to become pregnant as well for the clinicians managing such patients.

## 2. Injection Site Pain, Onset and Duration of Action of Botulinum Toxin Reconstituted in Normal Saline with and without Sodium Bicarbonate; A Prospective, Single Center, Randomized, Double-Blind Interventional Study.

Alghonaim Y<sup>1</sup>, Hijazi L<sup>2</sup>, Alraee S<sup>2</sup>, Alqubaisy Y<sup>3</sup>

<sup>1</sup>King Saud Bin Abdulaziz University for Health Sciences, Division of Otolaryngology - Head and Neck Surgery, Department of Surgery, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Saudi Arabia.

<sup>2</sup>King Saud bin Abdulaziz University for Health Sciences, King Abdullah International Medical Research Center, Ministry of National Guard–Health Affairs (NGHA), Riyadh, Saudi Arabia.

<sup>3</sup>Head of Dermatology and Dermatologic Surgery Department, Prince Sultan Military Medical City (PSMMC), Riyadh, Saudi Arabia.

**Purpose:** This study was designed to investigate the effects of botulinum toxin type A injections diluted with the mixture of sodium bicarbonate (SB) and normal saline (NS) on pain reduction, onset of action and duration of action.

**Methods:** This is a prospective, randomized, double-blind clinical study, which included 30 female patients (age>25). The patients were randomized to receive botulinum toxin (BT) injections diluted with NS and SB on one side of the face and saline control injections on the other side. Pain severity was assessed using visual analogue scale. The onset and duration of action were recorded according to the patients' subjective opinions after 1 week and 3 months, respectively. The study was approved with an IRB (Institutional Review Board) number of RC19/371.

**Results:** Lower pain intensity ratings were observed when BT was diluted with 0.05 mL and 0.10 mL of SB as compared to saline. Regarding the onset of action, the BT injections diluted with saline and 0.1 mL SB side showed faster response in many patients than other dilutions ( $p < .001$ ). Both the 0.05mL and 0.1mL SB concentrations showed longer duration effects on patients than other concentrations.

**Conclusion:** The use of SB and saline in a mixture for the dilution of BT can decrease patients' discomfort and provide a faster action with longer duration effects.

### 3. Predictors of Seatbelt Use Among Saudi Adults

**Introduction: Road traffic crashes (RTCs) are a leading cause of death and disabilities and impose a significant burden on the healthcare system and economy of Saudi Arabia**

Suliman Alghnam<sup>1,3</sup>, Mesnad Alyabsi<sup>1</sup>, Alhanouf Aburas<sup>2</sup>, Taif Alqahtani<sup>3</sup>, Miasem Bajowaiber<sup>4</sup>, Ali Alghamdi<sup>4</sup>, Ada Alqunaibet<sup>5</sup>

<sup>1</sup>Population Health Section, King Abdullah International Medical Research Centre (KAIMRC), Riyadh, Saudi Arabia.

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<sup>3</sup>King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS), Riyadh, Saudi Arabia.

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Around 20% of all hospital beds are occupied by victims of RTCs, which represent approximately 80% of trauma deaths occurring in these facilities. Using a seatbelt is an effective method to reduce traffic deaths and minimize the extent of associated injuries. However, little is currently known about the prevalence and predictors of seatbelt use in Saudi Arabia. More studies are needed to determine the trends of seatbelt use and study the relationship between individual factors and compliance with seatbelt use laws. The aim of the present study is to examine the prevalence and predictors of seatbelt use using the National Saudi Biobank dataset. **Materials and Methods:** This cross-sectional study was conducted using an in-person survey from the Saudi National Biobank (SNB). The participants were adults affiliated with the Ministry of National Guard Health Affairs in Riyadh who were examined between 2017 and 2019. Chi-squared and Wald tests were used to assess the association between the respondents' characteristics and their seatbelt use. In addition, logistic regression models were constructed to assess the univariate and multivariate associations between seatbelt use and potential predictors. All statistical tests were two-sided, and the findings were considered significant at  $P < 0.05$ . **Results:** A total of 5,790 adults participated in the survey. The majority of the participants (52.44%) were between 18 and 25 years old, half were males, and 58.80% were single. About 42.83% of the participants reported consistent seatbelt use as drivers or passengers. In the multivariable analysis, females were 86% less likely to wear seatbelts than males (OR = 0.136, 95%CI = 0.107–0.173). Individuals who rated their mental health as “weak” were 26% less likely to wear seatbelts than those who reported “excellent” mental health status. **Conclusion:** Seatbelt use remains low in the country and substantially lower than in developed countries. Young adults, females, and individuals reporting suboptimal mental health were less likely to fasten their seatbelts. These findings are valuable for public health programs to target specific groups and raise awareness about the need to increase seatbelt compliance and reduce traffic injuries.



## 4. Is the Allocation System for Liver Transplantation in the Kingdom Skewed Towards Serving Patients with Hepatocellular Carcinoma?

Abdulrahman Alomar<sup>1</sup>, Malek Alrasheed<sup>1</sup>, Faisal Aldokhel<sup>1</sup>, Abdulazeez Alsaleh<sup>1</sup>, Hamdan Alghamdi<sup>1,2,3</sup>, Khalid Abdullah<sup>1,2,3</sup>, Mohammed Shaheen<sup>1,2,3</sup>

1. COM, KSAUHS 2. KAIMRC 3. Hepatobiliary Sciences and Liver Transplantation, KAMC

**Background:** The Model for End-stage Liver Disease (MELD) score is internationally adopted to prioritize patients awaiting liver transplantation. Since hepatocellular carcinoma (HCC) does not reflect on the MELD score, patients with HCC are given MELD exception score to facilitate fair access to organs. In the United states, this practice has shown to result in overcorrection, hence measures were recently implemented to ensure fair distribution of organs. In Saudi Arabia, it is unclear if the listing system suffers the same flaw in organ distribution.

**Methods:** We retrospectively reviewed the data of all 159 adult patients who were listed for liver transplantation from 01-2016 to 06-2020 at King Abdulaziz Medical City, Riyadh. Retrieved data focused on listing diagnosis, MELD score at listing and transplantation, the waiting time, and the proportion of patient who fell-off the list due to death or medical developments leading to a de-listing. Comparative analysis was performed to contrast patients with HCC with the rest of the cohort.

**Results:** The mean age was  $56.4 \pm 10.25$  years. Females constituted 41% (n= 65/159). Patients on the list ended up with transplant, death, de-listing, or continued waiting in 65% (n= 104/159), 8% (n= 13/159), 15% (n= 23/159), and 12% (n= 19/159), respectively. Of the patients listed with HCC, 73% (n= 40/55) received a liver transplant compared to 62% (n= 64/104) of non-HCC patients. Patients with HCC constituted 35% (n= 55/159) of the waiting list, yet they received 46% of deceased organ offers (p=0.01), despite a lower biologic MELD at the time of transplantation,  $9 \pm 6$  versus  $18 \pm 10$  (p<0.01). The rate of fall-off from the waiting list was significantly different in favor for patients with HCC, 14.5% (n=8/55) versus 26.9% (n=28/104), (p=0.038).

**Conclusion:** This study suggests that the current liver allocation system in Saudi Arabia over prioritizes HCC patients to receive liver transplantation hindering fair organ distribution. Adopting corrective measures to the listing process is crucial in parallel with the ongoing efforts to establish national listing.

## 5. Prognostic utility of various multidimensional grading scales among patients with bronchiectasis.

Yassar AL-Jahdali, Sami Alanazi, Thamer Alghamdi, Abdulmajeed Ratah, Abdullah Harbi, Ayaz Khan. COM, KSAU-HS.

**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 ( $\geq 2$ /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  $60 \pm 17$  years and 66% female) were include. 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 Ex-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 ( $\geq 2$ /year). Again, Exa-FACED scoring (AUC=0.85, 95% CI: 0.81–0.89) improved upon FACED scores in predicting frequent acute exacerbations ( $\geq 2$ /year).

**Conclusion:** 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.

## 6. Risk of Pilonidal Sinus Disease Recurrence: A Tertiary Care Center Experience.

Albabbtain, I<sup>1,2</sup>, Alkhalidi, A<sup>3</sup>, Aldosari, L<sup>3</sup>, Alsaadon, L<sup>3</sup>.

1: Department of Surgery, King Abdulaziz Medical City (KAMC). Riyadh, Saudi Arabia.

2: King Abdullah International Medical Research Center (KAIMRC). Riyadh, Saudi Arabia.

3: College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KASU-HS). Riyadh, Saudi Arabia.

**Background:** Pilonidal sinus disease (PSD) is a chronic inflammatory disease which can lead to tract formation, pus collection and tenderness of the sacrococcygeal area. Surgery is the treatment of choice, but it is associated with high recurrence rate. The aim of this study was to estimate the rate of PSD recurrence in our center and to identify any risk factor contributed to disease recurrence.

**Methods:** A retrospective study was conducted at King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia. All the patients who were operated for primary or recurrent pilonidal sinus between January 1st, 2016 to June 30, 2019 were included, to allow for at least 1-year of follow-up at the time of data collection. The final study population size was 369.

**Results:** Of the 369 included patients, 329 (89.2%) were male and 40 (10.8%) were females. The mean age was  $23.14 \pm 7.50$  years. Recurrence was identified in 84 (22.8%) cases, and the mean timing of recurrence was  $1.81 \pm 1.61$  years after the primary surgery. On multivariate regression analysis, increased age and post-operative seroma fluid discharge were independent risk factors for recurrence. In contrast, preoperative antibiotic prophylaxis and postoperative hair removal showed to be effective in reducing recurrence. Type of surgery closure had no effect on recurrence, yet primary closure was associated with early onset of recurrence compared to secondary closure.

**Conclusion:** PSD recurrence rate was 22.8%. Increased age and post-operative seroma fluid discharge were significantly independent risk factors for PSD recurrence. In contrast, preoperative antibiotic prophylaxis and hair removal after surgery showed to decrease recurrence.

## 7. Ultrashort Peptide Hydrogels as a 3D Scaffold for Colorectal Cancer Cells.

Charlotte A. E. Hauser<sup>1</sup>, Faisal Nasser Aljuraishi<sup>2</sup>

<sup>1</sup> Laboratory of Nanomedicine, KAUST, <sup>2</sup> College of Medicine, KSAU-HS

Colorectal cancer has one of the highest incidences in cancer patients and often leads to metastasis and death of the patient, if not detected and treated an early stage. In order to detect colorectal cancer, good in vitro models are mandatory. These screening models are very useful for the search of more effective drugs. However, when a drug is developed it needs to be tested first in an in vitro environment. Fundamentally, the closer the in vitro environment to the native colorectal cancer (CRC) cell environment, the better the disease conditions are simulated, and hence the more successful the drug testing will be. Here, we developed self-assembling ultrashort nanofibrous peptide hydrogel scaffolds as a 3D culture model and studied the growth of the colorectal cancer using a colorectal cancer cell line (SW1222). We optimized the peptide hydrogels' physical and biological conditions to support the growth of SW1222 organoids. We propose that the nanofibrous peptide hydrogel, which strongly resembles the nanofibrous structure of collagen, the dominant part of the extracellular matrix, will be a highly improved alternative to the currently used Matrigel. Matrigel is a 3D culture material, derived from mouse sarcomas. Contrary to Matrigel, peptide scaffolds offer stable and reproducible experimental conditions, due to its defined composition. These peptide hydrogels can not only be used for growing colorectal cancer cells but can potentially be used to grow other cell types which could stimulate drug discovery or even tissue engineering.

## 8. Variability of the Posterior Tibial Slope in Saudis: A Radiographic Study.

ALJuhani W<sup>1</sup>, Qasim S<sup>2</sup>, A Mohammed<sup>3</sup>

1. Surgery, King Abdulaziz Medical City, Riyadh, SAU\ 2. Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, SAU 3. Radiology, King Abdulaziz Medical City, Riyadh, SAU

**Background.** The posterior tibial slope (PTS) plays a significant role in knee joint stability and biomechanics. Its increase is associated with an increased risk of developing various medical conditions such as anterior cruciate ligament (ACL) tear and anterior tibial translation (ATT). In addition, it has been proven that a steeper PTS angle leads to progressive loosening of the tibiofibular joint gap secondary to decreased collateral ligament tension during knee flexion. The present study aimed to establish the normal range of the posterior tibial slope angle in a Saudi adult population and to identify whether there was an association between the angle and gender or age.

**Materials and methods.** A total of 524 normal knee radiographs of 410 patients aged 18-85 years were included in the study. The PTS was measured using the anterior tibial cortex method. Data were matched with gender and age for statistical analysis.

**Results.** The mean physiological PTS angle was  $13.6 \pm 3.4^\circ$  (range: 3.8-23.9°). Age and gender did not influence the PTS value ( $P > 0.05$ ). The two-way analysis of variance (ANOVA) test showed no interaction effect between age and gender on the PTS ( $P > 0.05$ ).

**Conclusions.** This study provided a reference range for the normal PTS among Saudis, which can assist in decision-making during different knee procedures. The PTS value did not significantly differ between male and female subjects, and there was no significant association between the PTS angle and age.



## 9. Clinical and Molecular Characterization of Pediatric Cataract at KAMC.

Saeed Alshahrani, Sultan Aljarba, Saud Alwatban, Raed Alomair, Mohammed Albalwi.

College of Medicine, King Saud Bin Abdulaziz University for Health Sciences

**Introduction:** Cataract is the lenticular opacity that could prevent light from reaching the retina. Cataract is the most common treatable cause of childhood blindness. Childhood cataract could result from underlying genetic mutation which can be isolated ocular feature or associated with certain syndromes. To our knowledge, few is known in the genotypical and phenotypical correlation of pediatric cataract and their associated syndromes. Our study aims to assess the genetic profiles of pediatric cataract cases in King Abdulaziz Medical City (KAMC) and to assess ocular manifestations in syndromic cataract versus non-syndromic cataract.

**Methods:** The study design is descriptive and cross-sectional. The study was conducted in KAMC in the ophthalmology department. All pediatric cataract patients with genetically confirmed cataract mutations in the period from 2000-2020 were included in the study. Relevant demographic data, genetic data and ocular manifestations were collected and stratified into two groups namely: syndromic and non-syndromic cataract. Suspected cases underwent cataract gene panel (AGK, CRYBA4, CRYBB1, COL18A1, EPHA2, FYOC1, GNPAT, GRIA3, MAF, MT-CYB, PEX7, RAB3GAP1, and RAB3GAP2). Molecular profile was detected using CENTOGENE and GeneDx. Chi-square test was used to examine the association between categorical variables. SPSS version 22 was used for analysis.

**Results:** There was 13 mutated genes among congenital and juvenile cataract patients. The most frequently mutated gene was in CRYBB1 (42.9%). Four genes including COL18A1, GNPAT, RAB3GAP1, PEX7 were presented twice in our study (7%). Cataract was syndromic in 13 (46%) cases and non-syndromic in 15 (54%) cases. Statistically significant association was found between syndromic cataract and time of presentation (p-value= 0.016), optic nerve atrophy (p-value= 0.020), and nystagmus (p-value= 0.020)

**Conclusion:** This is by far the first analysis to address ocular and systemic features of syndromic versus non-syndromic cataract in such a comparative manner. Due to the higher rate of consanguinity marriage and autosomal recessive inheritance among Saudi families compared to the international populations, we recommend a national cataract preventive program.

## 10. Rates of bleeding, thrombosis, and survival in patients who underwent hematopoietic cell transplantation at King Abdulaziz Medical City, Riyadh, Saudi Arabia.

Sultan Alqahtani<sup>1</sup>, Ahmed Alragea<sup>1</sup>, Basil Alqahtani<sup>1</sup>, Nawaf Alhoshan<sup>1</sup>, Ibrahim aljasser<sup>1</sup>, Abdulaziz Alobaied<sup>1</sup>, Mohammed Alassiri<sup>1</sup>, Emad Masuadi<sup>1</sup>, Mohsen Alzahrani<sup>2</sup>

1. College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia. 2. Division of Stem Cell Transplantation and Cellular Therapy, Department of Oncology, King Abdulaziz Medical City, Riyadh, KSA, Saudi Arabia

**Background:** Bleeding tendency and thrombosis are two major hematological complications observed in patients after hematopoietic cell transplantation (HCT). Although these complications are well reported in western communities, they are not well established in Saudi Arabia.

**Objectives:** This retrospective study investigated the rates of bleeding, thrombosis, and survival in Saudi and non-Saudi patients who underwent HCT at King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia from 2010–2017.

**Methods:** A total of 372 Saudi and non-Saudi patients of both sexes with leukemia, anemia disorders, lymphoma, and other types of pathological disorders who underwent autologous or allogeneic HCT were included in this study. Patient data including age, sex, nationality, type of cancer, transplant type, coagulation profile, date of operation and discharge, treatment, and other outpatient notes were collected and analyzed using the chi-square test.

**Results:** The majority of our patients undergoing allogeneic transplantation had leukemia and other types of anemia disorders including aplastic anemia, sickle cell anemia, and  $\beta$ -thalassemia (79%). However, the majority of patients undergoing autologous transplantation (73.4%) had lymphoma and other types of pathological disorders, including liver cell carcinoma, neuroblastoma, neuroblastoma, myelodysplastic syndromes, and primitive neuroectodermal tumors. Among patients with leukemia, anemia disorders, lymphoma, and other pathological disorders, 2.2%, 1.4%, 1.4%, and 2.8% suffered from thrombosis (overall, 1.9%) and 9.5%, 8.6%, 5.6%, and 11.2% suffered from bleeding, respectively (overall 8.9%). Moreover, the 7-year survival rate among those patients was 82.5%.

**Conclusion:** Bleeding occurred at a higher rate after HCT, and the overall 7-year survival rate was relatively high.

## 11. Sequestered Lumbar Disc Herniation Mimicking Spinal Neoplasm; Case Report and Literature Review.

Konbaz F., AlRogy W., AlDohaim A., AlBishi N.

COM-KSAU-HS, National Guards Health Affairs, King Abdulaziz Medical City, Riyadh, Saudi Arabia.

**Background:** Sequestered lumbar disc fragments remains to be a rare phenomenon. These sequestered disc fragments do not have indistinctive features and often share clinical and radiological presentation as spinal neoplasms making their diagnosis and treatment a clinical challenge.

**Case Presentation:** Here, we report a rare case of epidural migration of sequestered lumbar disc fragment at the level of L2-L3 in a 70-year-old male who presented to the ER complaining of 6 years history of lower extremities weakness, low back pain worsening acutely over the past 6 days with a new onset 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 was taken to surgery and underwent L2-L3 decompression and fixation, mass excision, multiple open biopsies. Soft tissue biopsy of the mass revealed fibrocartilaginous tissue consistent with intervertebral disc, while the bone biopsy was diagnostic of acute leukemia. The patient was observed post-operatively with unremarkable acute post-operative complications. He did well with physiotherapy and there was remarkable improvement of his right lower extremity power reaching 4/5. **Conclusion:** Our case presented a rare phenomenon in which epidural migration of sequestered disc fragment 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. Sequestered disc fragment should be included in the differential diagnosis of patients presenting with low back pain, radiculopathy, or cauda equina syndrome.

## 12. Clinical Pattern, Complications, and Outcomes of Childhood Cataract, a 20 Year Experience of a Tertiary Center.

Saeed Alshahrani, Sultan Aljarba, Saud Alwatban, Raed Alomair, Mohammed Albalwi.

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**Introduction:** Cataract is the most common preventable cause of visual impairment, but unfortunately it often goes undetected in children. Our study aims to assess the clinical presentation, treatment modalities, complications and outcomes of pediatric cataract cases in King Abdulaziz Medical City (KAMC) and to assess outcomes in genetic cataract compared to the idiopathic cataract.

**Methods:** This study is a cross-sectional study that conducted for all pediatric patients referred for cataract genetic study at King Abdulaziz Medical City, NGHHA, Riyadh between 2000-2020. Suspected cases underwent cataract gene panel sequence analysis. We included patients aged 1-9 years who were diagnosed with cataract and confirmed genetically (n=28) and compared them with idiopathic cataract (n=32) after ruling out secondary causes of lenticular opacity. Chi-square and ANOVA test were used to examine the associated categorical and numerical variables, respectively.

**Results:** A total of 60 index cases were referred for cataract investigation. Around 28 (46.7%) cases had genetic variants confirmed to cause genetic cataract, while 32 (53.3%) idiopathic cataract cases carried mutation variants. Cataract was congenital in majority of genetically confirmed cases (75%) compared to idiopathic cataract cases (43.8%). About eighteen (56.3%) of idiopathic cases had bilateral cataract. Certain characteristics showed statistically significant association with genetic cataract. Those include onset of cataract (p-value= 0.014), bilateral involvement (p-value= 0.001), Microphthalmia (p-value= 0.006), Microcornea (p-value= 0.003), vitreoretinchoroidopathy (p-value=0.028), overall number of complications (p-value= 0.019) and eye surgeries (p-value=0.001).

**Conclusion:** Genetically confirmed cataract has higher burden of ocular complications and surgical events compared to the idiopathic cataract. This study would fill a huge multidisciplinary gap and help physicians to identify clinical predictors of gene-phenotype related cataract. Further local studies are needed to explore focus predictors of anatomical and functional outcomes of cataract.

## 13. Linear IgA Bullous Dermatositis Associated with Brucella Infection in A 39-year-old Male.

Mona Alshehri<sup>1</sup> and Abeer Alsarheed<sup>2</sup>

<sup>1</sup>Medical Intern, COM, KSAU-HS, <sup>2</sup>Consultant of Dermatology, NGHHA

**Introduction.** Linear IgA Bullous Dermatositis (LABD) is a rare skin manifestation that presents as tense bulla with Linear IgA deposits in the basement membrane. We present a case of LABD associated with Brucella infection.

**Case Summary.** This is a 39-year-old male with no significant past medical history who presented at the emergency room of KAMC, Riyadh with low grade fever and fatigue for two weeks. This was associated with mildly pruritic eruption on his trunk, axilla, and upper extremities. His review of systems was significant for a runny nose, sore throat, nausea, joint and MSK pain. Drug history was significant for Cefuroxime and acetaminophen given hours before onset of rash. He was admitted for further investigations. On examination, there was a generalized involvement of the trunk, neck, axilla, upper extremities with tense bulla, with ulcers affecting the lips. No involvement of the eyes, penile or anal area. His MSK exam was significant for tenderness and swelling affecting the MCP, ankle and MTP joints. His labs were significant for mild hypochromic anemia, elevated ALT and AST. Other Liver and renal functions were non-significant. Elevated ESR, CRP, LDH and serum IgA. Infectious panel was performed for HBV, HCV, HSV, Parvo19, CMV, EBV, TB QuantiFERON, genital culture and it was all negative. Chest X-ray was negative. Rheumatoid factor was slightly elevated but CCP, ANA, Ds DNA, complement C3 and C4, absolute neutrophils number and absolute lymphocyte number were all within normal limit. Infectious Diseases and Rheumatology were consulted for their input. Direct immunofluorescence (DIF) from skin punch biopsy showed linear IgA deposits along the cutaneous basement membrane. Blood gram stain showed gram negative coccobacilli, and culture grew Brucella species. Given the clinical appearance and supported by DIF, the diagnosis was made as LABD with brucellosis as the underlying trigger. Other infectious causes, connective tissue diseases, hematological malignancies and drug reactions were ruled out. ID started him on Doxycycline and Rifampicin, and blistering seized and started healing. The patient was seen in the following month, he is doing well with no new blisters. Conclusion Treating the underlying systemic disease can stop LABD disease process in the skin.



## 14. Anatomical Sites and Clinical Characteristics of Venous Thromboembolism in a Tertiary Hospital.

Saeed Alshahrani, Mohammed Alabduljabar, Abdulrahman Alfawzan, Altaf Khan, Ahmad Alswaidan\*, Mohsen Alzahrani

**Background:** Thrombosis is simply the inappropriate activation of clotting factors that occurs in veins. Venous thromboembolism (VTE) is a common medical problem in hospitalized patients that might progress into serious lethal complications. Provoked VTE is associated with well-known risk factors, while unprovoked VTE remains idiopathic. **OBJECTIVES:** The aim of this study is to describe the anatomical sites, clinical characteristics, and factors associated with recurrence of the thrombotic event within 5 years.

**Methods:** This retrospective cross-sectional study was conducted in King Abdulaziz Medical City (KAMC), which included 351 hospitalized patients consecutively. We included all Saudi adults diagnosed with initial VTE in 2006–2017 at KAMC. Patients with incomplete medical charts were excluded. The data collected from electronic charts were analyzed using SAS-9.4.

**Results:** Among the 351 participants, 52% were female and two-thirds (62.4%) exceeded the normal body mass index. Provoked VTE (53.5%) was slightly more prevalent than unprovoked VTE (46.4%), but unprovoked VTE was more frequent in populations with recurrent VTE at 19.1%. The most common VTE sites were the left lower limb (38.5%) followed by right lower limb (20.5%) then bilateral lower limbs (12.2%). Only pulmonary embolisms ( $<0.01$ ) and unprovoked VTE (0.01) were associated with a higher risk of recurrence. However, unprovoked VTE ( $P = 0.0305$ ) was the only one associated with a higher risk of recurrence after multivariate analysis.

**Conclusion:** Venous thrombosis presents mostly with multiple clinical comorbidities in hospitalized patients. Unprovoked VTE was the only risk factor associated with recurrence after multivariate analysis.

## 15. Dermatology Workforce over a Decade: Demographics, Distributions, and Future Predictions.

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**Background:** The dermatology workforce is an important topic, with many countries facing an undersupply of dermatologists and some expecting a surplus. Therefore, we conducted this study to identify the current dermatology workforce demographics in Saudi Arabia and the changes in such over the last 10 years, and to predict the future trends of such a workforce.

**Method:** This study was conducted in Saudi Arabia, and it included all the practicing dermatologists in the country over the last decade. All the data were obtained from the Saudi Commission for Health Specialties (SCFHS) and the Ministry of Health Statistical Yearbook 2018. We used Microsoft Excel 2016 for data entry and calculations.

**Results:** As of September 2020, there were 2,678 practicing dermatologists in Saudi Arabia, with a ratio of 7.82 dermatologists per 100,000 people. Of the 2,678 dermatologists, only 24.8% are Saudis. The Saudi dermatologists' ratio has been almost constant over 10 years, from 1.3 to 1.9 per 100,000 people. The Saudi female dermatologists currently comprise 42% of all the Saudi dermatologists. The number of residents who have graduated from the residency program is not consistent each year and ranges from 4 to 25. The number of dermatologists varies considerably by region, with 9.2 in Riyadh and 3.4 in Najran.

**Conclusion:** The results of our study revealed that a quarter of the dermatologists in Saudi Arabia are Saudis. Also, the number of non-Saudi dermatologists increased in the last 10 years, while the number of Saudi dermatologists remained constant. There is also a geographic maldistribution of dermatologists, with the urban areas having a higher number of dermatologists than the rural areas. We encourage the conduct of local studies about the factors influencing the workforce, such as the dermatologist appointment waiting time and the dermatologists' working hours, as well as about geographic maldistribution of dermatologists in the country.

## 16. Predictors of Otitis Media with Effusion Recurrence Following Myringotomy.

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1. Division of Otolaryngology-Head and Neck Surgery, Department of Surgery, King Abdulaziz Medical City, Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia 2. College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia Abstract

**Introduction:** Otitis media with effusion (OME) is the most common cause of acquired pediatric hearing loss. The treatment of persistent OME include myringotomy with or without tube insertion, with reported recurrence rate of 20-25%. This study aims to investigate the predictors of OME recurrence following myringotomy.

**Methods:** A retrospective study that included 345 ears which underwent myringotomy for persistent OME in 179 pediatric patients during 2016-2018. Patients were followed for 24-48 months post myringotomy procedure to detect the recurrence rate. The study sample was divided into two groups based on recurrence status and were compared using chi-square test and independent T-test. Significant variables ( $p$ -value  $\leq 0.05$ ) were included in the logistic regression model to determine the predictors of OME recurrence following myringotomy.

**Results:** OME recurrence was detected in 85 ears (24.64%). The OME recurrence rate is higher in patients who underwent myringotomy alone compared to myringotomy with tube insertion (44.1% vs. 22.8%). The insertion of ventilation tube decreases the recurrence rate of OME by 59.9% (OR 0.401; 95% CI 0.162-0.933). Other socio-demographics and clinical characteristics such as age, siblings, day care attendance, passive smoking, previous acute otitis media, atopy, and adenoidectomy did not significantly influence OME recurrence ( $p$ -value  $> 0.05$ ).

**Conclusion:** The recurrence rate of OME following myringotomy is high. Myringotomy with tube insertion significantly decreases the recurrence rate and the need for further surgeries in comparison to myringotomy alone. Adenoidectomy and patient's age have no impact on the recurrence rate of OME.

**Keywords:** Otitis media, recurrence, predictors, OME, ventilation tube, myringotomy.



# Poster Presentations

# 1. Stroke mimics: Clinical characteristics and outcome.

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## Abstract

**Objectives:** To study the prevalence and nature of stroke mimics (SM) among Saudi patients who came to the emergency department with a sudden neurological deficit and suspected stroke.

**Methods:** The electronic health records from February 2016 to July 2018 of patients who were admitted to the Stroke Unit at King Abdulaziz Medical City, Ministry of National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia (KAMC-RD) with a suspected stroke were all reviewed. A comparison between SM and stroke was established. Our study identified the predictors of SM by using logistic regression analysis.

**Results:** Out of 1,063 patients, 131 (12.3%) had SM. The most common causes were a peripheral vestibular disorder (27.4%) followed by psychogenic causes (24.4%). Stroke mimics were more common among younger individuals and women. Arterial hypertension, diabetes, and smoking were less likely to be found in SMs. At discharge, individuals with SM were more likely to be independent, had milder deficits, and shorter hospital stays. Predictors of SM were young age, female gender, mild deficit at presentation, and good functional status before the stroke.

**Conclusion:** The incidence of stroke mimics is common among suspected stroke patients. Practicing physicians should consider potential diagnostic errors, particularly in the hyperacute phase of the stroke."

## 2. Clinical Characteristics and Outcomes of Pediatric Patients With Immune Thrombocytopenic Purpura in King Abdulaziz Medical City and King Abdullah Specialist Children's Hospital: A 10-Year Study.

Khalid W. Alwadi, Ali Alomari, Abdulmohsen K. Alrugaib, Abdulrahman Alrubayea, Musab Alzoman, Fahad Alkahtani

### Abstract

**Background:** Immune thrombocytopenic purpura (ITP) can be defined as “an immune-mediated acquired disease characterized by a transient or persistent decrease in the platelet count”. Medical treatment is usually not needed but, in some cases, intravenous immunoglobulin G (IVIG), corticosteroids, and anti-D immunoglobulins are used. Splenectomy can be an option for chronic cases with no response to pharmacological treatments. The aim of this study was to describe the clinical characteristics and outcomes of pediatric patients with ITP in King Abdulaziz Medical City (KAMC) and King Abdullah Specialist Children's Hospital (KASCH) in a 10-year period.

**Methods:** The study was conducted at KAMC and KASCH. The number of recorded cases was 95, which included all ITP patients aged 1 to 14 from both genders who presented to KAMC previously and KASCH currently from January 1, 2007, to December 31, 2017. The data analysis and entry were performed using the Statistical Package for the Social Sciences (SPSS) version 25 (IBM Corp., Armonk, NY).

**Results:** Among 95 pediatric patients with ITP, 51 (53.7%) were males and 44 (46.3%) were females, with a median age of  $4.00 \pm 3.977$ . Among them, 84 (92.7%) had purpura, 38 (46.3%) had epistaxis, 43 (39%) had petechia, 17 (24.3%) had fever, and 20 (19.5%) had gum bleeding. Out of 95 patients, 91 (95.8%) were given treatment. Out of those 91 patients who were given treatment, IVIG was used in 84 (92.3%), steroids were used in 44 (48.4%), 14 patients received platelet transfusion (15.4%), rituximab was used in 7 (7.7%), and splenectomy was done in 5 (5.5%); 32 (33.7%) cases were considered chronic (more than one year), and 63 (66.3%) were considered acute. Among chronic patients, only one death was recorded, while in acute, no deaths were recorded.

**Conclusion:** In conclusion, ITP is an autoimmune disease that decreases platelet count. The results showed a significant difference in treatment compared to the literature but similar results in other aspects.



### 3. Effect of Fasting the Whole Month of Ramadan on Renal Function Among Muslim Patients with Kidney Transplant: A Meta-Analysis.

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#### Abstract

**Purpose:** To undertake a meta-analysis of the impact of Ramadan fasting on the renal function of renal transplant recipients.

**Background:** Muslim renal transplant patients often ask whether fasting during Ramadan would be harmful to their kidneys. Number of studies have investigated about this question. However, those were mostly single-center studies involving small numbers of patients. Furthermore, they occurred at different times of the year with different durations between sunrise and sunset and at different daytime temperatures. Therefore, we performed a meta-analysis on relevant studies to answer this question by examined 8 studies.

**Materials and Methods:** We searched 4 databases (PubMed, Embase, the Cochrane Library, and Medline) using comprehensive search terms with predefined eligibility criteria.

**Results:** Eight studies (549 patients) were identified as eligible; these studies measured renal function before and after Ramadan with patients acting as their own controls in 5 studies. Our pooled analyses showed no significant changes after fasting with regard to estimated glomerular filtration rate ( $70.1 \pm 9.1$  vs  $68.5 \pm 7.5$  mL/min, respectively;  $P = .6$ ) or in serum creatinine levels ( $105.3 \pm 8.8$  and  $106.1 \pm 6.0$   $\mu$ mol/L, respectively;  $P = .47$ ). In 4 self-controlled studies (148 patients) that had analyzed changes in systolic and diastolic blood pressure before versus after fasting, no significant differences were shown. However, in 3 studies that assessed changes in glomerular filtration rate in fasting ( $n = 358$ ) versus nonfasting patients ( $n = 355$ ), there was a significant difference in change in glomerular filtration rate following Ramadan fasting ( $-0.13 \pm 1.2$  mL/min in those who fasted versus  $4.2 \pm 4.6$  mL/min in those who did not fast;  $P = .039$ ); however, these results were associated with significant publication bias (systematic heterogeneity).

**Conclusions:** Fasting during Ramadan did not result in significant changes in kidney function or blood pressure in posttransplant patients with good baseline kidney function when patients acted as their own controls.

## 4. Burkitt's lymphoma: Case presentation.

### Introduction:

Burkitt's lymphoma (BL) is an aggressive non-Hodgkin's B-cell lymphoma. It is divided into: endemic, sporadic, and immunodeficiency related. These types behave differently, yet they are phenotypically and histologically indistinguishable. We are reporting a case of sporadic BL with asymptomatic superior vena cava obstruction in a 16-year-old boy with nasopharyngeal, mediastinal, and adrenal masses.

**Case presentation:** A 16-year-old boy with two months history of left upper neck swelling that is increasing with time and not associated with fever, weight loss or night sweating. The patient tested positive for COVID-19 and symptoms started on second day of admission. On examination, he had single lateral cervical swelling (4x4cm), and bilateral posterior auricular swelling (2x1,2x3). Chest exam was normal aside from dilated veins; cardiac and abdominal exams were unremarkable. Brain CT showed a left nasopharyngeal mass lesion. Chest CT showed superior vena cava and azygos were compressed by a large right mediastinal mass extending to the superior and posterior mediastinum measuring around 8 x 6.3 x15 cm. His abdominal CT showed a right adrenal mass. Nasopharyngeal biopsy confirmed the diagnosis. The CSF analysis was negative. He was managed using systematic chemotherapy with undetectable complications.

**Discussion:** Sporadic BL mainly presents with abdominal masses that originate from the lymphoid tissue in the terminal ileum or respiratory mass. BL rarely presents with mediastinal masses that obstruct the superior vena cava. The incidence of SVCO in NHL varies according to the subtype. Of these, diffuse large-cell and lymphoblastic lymphomas are the mostly commonly involved. Patients with SVCO usually present with cough, dyspnea, facial or neck swelling, distended neck veins, or bleeding upper extremity swelling. Unexpectedly, this case was asymptomatic despite CT findings. It is critical to recognize the SVCO and its etiology early to avoid complications such as SVC thrombosis. We could not find any correlation between COVID-19 infection and lymphoma; however, one study showed increased SARS-CoV-2 susceptibility in patients with hematological malignancies such as leukemia, lymphoma, or myeloma.

**Conclusion:** BL is an extremely fast-growing tumor, and this signifies the importance of early identification of the unfamiliar presentation. Chemotherapy with or without radiation is the mainstay of treatment for most patients presenting with SVCO."

## 5. Knowledge and Attitude Towards Organ Donation Among Medical Staff and outpatients at KAMC, Riyadh, Saudi Arabia.

Dr. Altraif Ibrahim, Dr. Altuwaijri Nourah, Dr. Alomari Raghad, Dr. Aldhbiban Lamia, Dr. Alhoshan Fai, Dr. Alqahtani Fajr, Dr. Moukaddem Afaf

King Saud bin Abdulaziz University for Health Sciences - King Abdulaziz Medical City - NGH

### Abstract

**Introduction:** Organ transplantation is still the treatment of choice for end stage organ failure. Despite the establishment of the Saudi Centre for Organ Transplantation (SCOT), the organ supply still does not meet the increasing demand. The study aims to assess the knowledge of Saudis about organ donation in both the public and the medical staff, and to assess the trend in the change from 1996 until now.

**Methods:** A cross-sectional study conducted among Saudis above the age of 18. A self-administered, 25 items, questionnaire was completed by participants including both outpatients and medical staff at KAMC using a convenient sampling technique. Data was analyzed using SPSSv21.

**Results:** A total of 376 individuals answered the questionnaire; 238(63.1%) heard about SCOT, of whom 124(70.5%) were males. Health-care professionals had better attitude and knowledge on organ donation ( $P < 0.05$ ). From 1996 to 2017, a decrease from (51.22%) to (30.4%) in males who allowed their families to donate their organs, and an increase from (56.10%) to (65%) in the knowledge that Islam supports organ donation.

**Discussion:** Unsatisfactory levels of awareness impacted negatively on the knowledge and attitude of the population that is showed by the minor improvements over the years, and the slight proportion of participants who owned a donor card.

**Conclusion:** Although (97.6%) knew about the concept of organ donation only (66.5%) were familiar with the positive Islamic opinion. Based on the results of the comparison with the study back from 1996, we conclude that more efforts from both the governmental and religious authorities are needed to increase awareness.

## 6. Quality of life in Pediatrics with intractable epilepsy in a large Pediatric university hospital in Riyadh, Saudi Arabia

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3 Medical Education, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

### Abstract

**Background:** Epilepsy is said to be intractable when two or more trials of anticonvulsants fail to control the seizures. Literature suggests that intractable epilepsy carries a higher morbidity than controlled epilepsy in children and their caregivers. The aim of this study is to assess the quality of life (QOL) in children with intractable epilepsy (IE) in KASCH, a tertiary care hospital in Riyadh, Saudi Arabia.

**Methods:** This is a cross sectional study utilizing a self-administered questionnaire filled by caregivers of epileptic patients visiting the outpatient neurology clinics. Methods and Materials: The quality of life in childhood epilepsy (QOLCE 55) scale examined four domains of life: cognitive, emotional, social, and physical. The sample consisted of 59 parents whose children aged 4-14 of either sex. The collected data were analyzed by Statistical Package for the Social Sciences (SPSS) version 22.

**Results:** The mean age of children was 8.9 (SD = 2.9). The mean QOL was 52.8 (SD = 12.9), which reflected a poor QOL. Age was not related to the QOL. Gender was significantly associated with the total and social scores, ( $P = 0.04$ ) ( $P = 0.001$ ), respectively. Out of all comorbidities, global developmental delay (GDD) and encephalopathy were significantly associated with the QOL ( $P < 0.05$ ).

**Conclusions:** Intractable epilepsy impacted all functioning domains of life rendering a poor QOL. Males have reported better QOL and social functioning compared to females. Children with GDD and encephalopathy showed lower wellbeing.

## 7. The Prevalence of Varicose Veins among Nurses at Different Departments in a Single Tertiary Care Center, in Riyadh

Dr. Badr Albadr<sup>1</sup>, Dr. Afaf Moukaddem<sup>2</sup>, Asma Sallam<sup>2</sup>, Kout Alanazi<sup>2</sup>, Haya Aldabas<sup>2</sup>, Sara Almohammed<sup>2</sup>, Shahad Algmizi<sup>2</sup>

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2 Medical Education, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

### Abstract

**Background:** Varicose veins (VV) is one of the chronic venous diseases which affects the lower extremities. It is the dilation of subcutaneous veins three to four millimeters in diameter. VV can be attributed to several risk factors such as age, obesity, multiple parities, heavy lifting and long-standing hours. Direct and indirect complications can occur due to VV. Several studies were conducted to estimate the prevalence of VV.

**Methods:** A self-administered questionnaire was used to estimate the prevalence of VV among nurses from different departments in the National Guard Health Affairs (NGHA). The questionnaire included questions on weight, height, work history, lifestyle, and multiple diseases. Chi square test and Fisher's exact test were used for testing the association between the various predictors and VV diagnosis.

**Results:** A total of 366 nurses participated in the study; there were 40 (39 females and 1 male) cases of VV accounting for (11.0 %). Variables that have a statistically significant association with VV were social status and lifting heavy objects ( $P=0.02$ ), family history of VV ( $P$  value  $\leq 0.001$ ), and number of childbirths ( $P=0.04$ ). The observation of each department was not statistically significant with VV ( $p = 0.35$ ).

**Conclusion:** Among nurses, positive family history, age, marital status, long-standing hours, and heavy objects lifting were significant risk factors for the development of VV. However, the prevalence of VV in the four departments was low.

## 8. Manual dexterity of healthy men and women in Saudi Arabia

Alnumani, Mohammed; Alshalawi, Sama; Alharbi, Feras; Almutairi, Manar; Alammam, Jawad; Alboushi, Rawan; Albaqmi, Khalaf; Alenazi, Fatimah; Alharbi, Thamir; Dr. Almuklass, Awad

GPT = Grooved pegboard test

### Abstract

**Introduction:** Manual dexterity is an essential part of daily living, but it is not that clear the effect different period in the day have on fine-motor skills due to cortisol levels, nor the clarity of difference when comparing males to females.

**Methods:** an exclusion criterion was conducted which is strictly for right-handed healthy male and female adults which ages range from eighteen to thirty-four. The Criteria for exclusion was Edinburgh Handedness Form as well as our own screening form that excludes individuals that may affect their manual dexterity and performance. To analyze the data, a multitude of statistical tests was used, the normality was assessed using Shapiro-Wilk Test since the sample size was less than fifty per group, with a P-value above 0.05 which indicates normal distribution. The participants were divided among four groups. Then to analyze the data T-test was used to assess the difference between males and females, as well as the variance among morning and evening. A P-value less than 0.05 was considered significant.

**Results:** A total of 80 participants were involved in the study, the groups, females (n=40, 50%) and males (n=40, 50%) were divided into 2 groups each, one group of each gender will perform the Grooved pegboard test on the morning (8 AM) while the other 2 groups will perform it in both the morning (8 AM) and the evening (4 PM). The females' GPT average mean time was 60.86. The males' GPT average mean time was 65.36. There were differences in performance between morning and evening which was not considered statistically significant when compared by timing; in the morning it was (T=3.176, P=0.003) and in the evening it was (T=1.728, P= 0.092).

### Conclusion:

From the results we had found that participants' performance when it comes to manual dexterity had been significant according to gender, but no significance was in the comparison between morning and evening performances.



## 9. The Impact of Acute Care Surgery on management of Acute Appendicitis and Cholecystitis: A Single Center Study.

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### Abstract

**Background/Objective:** The acute care surgery (ACS) is a novel model for the provision of emergency general surgery care. Investigating the impact of the ACS team on the management of acute emergencies can help establish proper management measures and help in improve patient care in an emergency setting. The study aims to compare the outcomes of patient care before and after the implementation of acute care system.

**Methods:** The study reviewed two retrospective cohorts; the pre-ACS system (n=202) from January 2012 to December 2013 and the ACS system (n=188) from January 2014 to December 2015. All Adult patients diagnosed with acute appendicitis and cholecystitis requiring emergency surgery were included.

**Results:** A comparison of the overall performance indicators for the pre-ACS and ACS models was performed. Time from the emergency department arrival to general surgery referral did not show an improvement (4.36 h in the pre-ACS model vs 4.53 h in the ACS model). There was some improvement in the time interval between General Surgery (GS) referral to GS diagnosis and GS diagnosis to the operation start. ACS model patients had a shorter hospital LOS than pre-ACS model patients [3.69 (3.18) days vs 3.57 (3.60) days, p=0.25].

**Conclusion:** Introduction of the ACS model at a level 1 trauma showed minimal improvement in performance indicators or patient outcomes.

## 10. Management and Outcome of Epistaxis in the ER Department of King Abdulaziz Medical City (KAMC), National Guard Health Affairs (NGHA), Riyadh, Saudi Arabia

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1 COM-R, KSAU-HS

### Abstract

Epistaxis has been a burden for emergency departments (ED) across several countries around the world for a long time. Many treatment options exist for the management of anterior epistaxis. However, little is known about treatment outcomes. The objective was to identify the currently utilized methods of management and outcomes for patients with anterior epistaxis presenting to the ED of a Saudi tertiary care center.

A cross-sectional chart review of ED visits from May 2018-Jan 2020 for patients with a diagnosis of anterior epistaxis was performed. Patient demographic data, comorbidities, and treatment methods were documented. The effectiveness of different treatment modalities was determined.

400 anterior epistaxis cases were included in this study. 33% of the patients were on some type of medication, of them anti-coagulants and anti-platelets had statistically significant impact on overall treatment failure ( $p$ -value < 0.05). 51% had comorbidities, where 25.5% had hypertension, 19.5% of the patients were diabetic, 8% were suffering from coronary artery illness, and 3.8% had atrial fibrillation. The initial treatment failure rate was 4.3% and in total 10.5% returned to the ED for another episode of epistaxis after discharge from the ED. Making the overall treatment failure rate 11.8%. Of the individuals that returned, 54% required further intervention, on further intervention 55% patients received anterior nasal packing and 45% patients received silver nitrate cautery. When anterior nasal packing was compared to silver nitrate cautery, those in nasal packing group were less likely to fail (OR 0.265, 95% CI 0.132–0.532  $p$  < 0.001). When nasal packing was compared to only observation, the risk of epistaxis recurrence in those in the nasal packing group was lower (RR 0.312, 95% CI 0.176–0.554,  $p$  < 0.001).

The differences in recurrence rate among the different treatment modalities observed may be due to true differences in effectiveness or differences in treatment selection by the ED physicians based on presentation of epistaxis. Anterior nasal packing, however, offers the added benefit of lower need for follow up. Further study is needed to elucidate the most efficacious treatment modality."

## 11. Public Awareness of Early Symptoms of Acute myocardial infarction.

Karam Basham<sup>1</sup>, Ahmed Aldubaikhi<sup>1</sup>, Ihab Sulaiman<sup>2</sup>, Abdullah Alhaider<sup>1</sup>, Ahmed Alrasheed<sup>1</sup>, Fahad Bahanan<sup>1</sup>, Emad Masuadi<sup>1</sup>

<sup>1</sup> College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

<sup>2</sup> King AbdulAziz Cardiac Center, King AbdulAziz Medical City, Ministry of National Guard, Riyadh, Saudi Arabia.

### 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 general public is familiar with the early symptoms of MI.

**Aim:** The objectives are to gauge the local public's awareness of the early symptoms of MI, and their knowledge of the best course of action to take from the onset of symptoms.

**Method:** A cross-sectional study conducted using google forms. Participants were randomly selected through multiple social media platforms. The study included Saudi citizens that were 18 years of age or older, with no current or prior experience in the healthcare field. The questionnaire assessed the participants' awareness of 14 risk factors for CAD. The main variables investigated were participants' knowledge of the symptoms, causes, appropriate course of action to take, 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 participant recognized that hypertension, cigarette smoking and high cholesterol are risk factors of MI. In terms of knowledge, Al Madinah province obtained the highest score when compared with other regions. In addition, the age group (35-44) exhibited more knowledge compared to the younger and older groups.

**Conclusion:** This study showed that the overall knowledge and awareness of CAD was suboptimal indicating that awareness initiatives and patient education of CAD needs more work in Saudi Arabia, especially in high-risk groups, lower education groups, and rural areas. More studies are needed to identify the efficiency and population access of different approaches for CAD awareness.

## 12. A cross-sectional study to assess the association between positive well-being, intelligence and academic assessment among medical students in KSAU-HS, Riyadh.

Agha S.A<sup>1,2</sup>, Omair A.O<sup>1,2</sup>, Azzayed, A.A<sup>1</sup>, Alfuraih, T.A<sup>1</sup>, Alanazi, F.A<sup>1</sup>, Alomair, M.A<sup>1</sup>

<sup>1</sup> College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

<sup>2</sup> King Abdullah International Medical Research, Riyadh, Saudi Arabia.

**Background:** Academic performance has been correlated with Intelligence quotient and positive well-being but such correlations are scarce in Saudi Arabia especially in medical educational backgrounds. This cross-sectional study aims to assess the relationship between academic performance, general intelligence and medical students' positive well-being.

**Methods:** This is a cross-sectional study which involved male and female medical students from pre-clinical and clinical years at King Saud Bin Abdulaziz University for Health Sciences in Riyadh, Saudi Arabia. The World Health Organization-Five Wellbeing Index (WHO-5), Draw-A-Person Intellectual Ability Test (DAP: IQ) and The Academic Success Inventory for College Students (ASICS) were administered to assess the relationship between academic performance, general intelligence and medical students' positive well-being. Linear regression was used to compare the mean scores of well-being, intelligence and academic assessment. The test was declared significant if the P-value was less than 0.05.

**Results:** Of all KSAU-HS medical students, 175 participated in this study from all batches. Out of 175 students, 165 (94%) of participants are males while 10 (6%) are females. High GPA (>4.5) was significantly associated with the components of ASICS such as internal motivation ( $p < .000$ ), perceived efficacy of the instructor ( $p < .003$ ), concentration ( $p < 0.002$ ), lack of anxiety ( $p < .026$ ), and personal adjustment ( $p < .014$ ). Wellbeing yielded the greater effect on all factors of academic success and GPA.

**Conclusion:** The study reported that anxiety, general academic skills, internal motivation, concentration, career decidedness, lack of anxiety and personal adjustment have a relationship that either positively or negatively affects well-being and academic performance. We suggest developing strategies and evidence-based interventional programs to improve students' positive well-being in order to promote a better academic performance of students in Saudi Arabia."

## 13. A retroperitoneal mass presenting as acute scrotum: a rare presentation and review of the literature.

Ali Alyami<sup>1</sup>, Abdullah Alkhayal<sup>1, 2, 3</sup>

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2 Division of Urology, Department of Surgery, Department of Urology, King Abdulaziz Medical City, Riyadh, Saudi Arabia

3 King Abdullah International Medical Research Centre, Riyadh, Saudi Arabia

**Introduction:** The acute scrotum is defined as a new-onset pain of the intrascrotal contents. The differential diagnosis of acute scrotum includes a variety of aetiologies.

**Case Summary:** We report a case of an 18-years old presented with acute scrotal pain with scrotal ultrasound suggestive of testicular torsion underwent bilateral orchiopexy for suspected testicular torsion. The patient came later with persistent testicular pain. A computerized tomography (CT) scan of the abdomen and pelvis was done and showed a retroperitoneal mass.

**Conclusion:** We suggest that patients with atypical presentation of the acute scrotum should undergo for CT scan of the abdomen and pelvis to rule out retroperitoneal pathologies and referred pain.

## 14. Title Not available

A.Alkharaan<sup>1</sup>, A.Alfawzan<sup>1</sup>, N.Alotaibi<sup>2</sup>, M.Almuntashri<sup>3</sup>

1 College of Medicine, King Saud bin Abdulaziz University for Health Sciences

2 King Abdulaziz Medical City National Guard Health Affairs, department of neurology

3 King Abdulaziz Medical City National Guard Health Affairs, department of neuroradiology

### Abstract

**Background:** Central nervous system tuberculosis (TB) has a dismal prognosis with higher rates of mortality and neurological deficits. Few reported cases showed that the TB meningitis was associated with cerebral sinus venous thrombosis (CSVT). In this case report, the clinical course, diagnostic challenges, and management of CSVT associated with TB meningitis is presented.

**Case Presentation:** A 28-year-old female presented with headache, vomiting, altered sensorium, and Glasgow Comma Scale of 11. Non-enhanced CT of the head and CT venography with contrast showed a filling defect within the proximal part of the left internal jugular vein just prior to left sigmoid sinus indicating thrombosis. Brain MRI confirmed the thrombosis of the left jugular vein. Cerebrospinal fluid (CSF) analysis showed only a moderate elevation of WBCs with negative culture for organisms. No improvement after starting empirical antibiotics and acyclovir was observed. Due to the exclusion of other infections, the absence of other established risk factors of CSVT, CSF, and imaging findings that was consistent with tuberculous meningitis (TBM), and a positive history of TB sick contact; anti-TB therapy was initiated, which showed significant improvement that confirmed the diagnosis of TBM.

**Conclusion:** A case of CSVT secondary to TBM was presented. Since clinical examination alone might not be sufficient to solve such a diagnostic dilemma, a multidisciplinary approach including radiologists, neurologists, and infectious specialists is warranted to promote proper awareness, detection, and management of CVST associated TB.



## 15. Title Not available

### Abstract

**Introduction:** Immediately post kidney donation, the remaining kidney will undergo hyper filtration and work at higher level to compensate the loss of the other kidney. it is estimated that 70% of the baseline renal function prior to donation is recovered. Factors that determine post-donation renal compensation are not well understood.

**Methods:** Retrospective study of 190 consecutive kidney donors who completed follow up for one year were included in the study to predict the factors affecting remaining kidney function post contralateral nephrectomy.

**Results:** We enrolled 190 living kidney donors who had completed at least one year follow up after nephrectomy.

149 (78.4%) are males and 41 (21.6%) are females. The mean age is  $31.33 \pm 7.9$  years with Mean BMI of  $25.6 \pm 3.9$  kg/m<sup>2</sup>. 27(14.2%). The mean eGFR and serum creatinine before kidney donation were  $114.31 \pm 15.94$  ml/min/1.73 m<sup>2</sup> and  $71.60 \pm 10.62$  mmol/min, respectively. At one year follow-up, the mean eGFR  $77.97 \pm 14.44$  ml/min/1.73 m<sup>2</sup> and serum creatinine was  $100.84 \pm 20.15$  mmol/min post nephrectomy. Female gender (OR: 20.6, 95% CI: 3.9 - 107.7,  $p < 0.001$ ) and having higher baseline eGFR (OR: 8.8, 95% CI: 1.6 - 45.8,  $p = 0.01$ ) are significant predictors of having better eGFR 1 year post nephrectomy

**Conclusions:** Female gender and pre-donation low serum Creatinine and high eGFR were the main factors that significantly predict better kidney function at one-year post contralateral nephrectomy However, further studies with longer follow-up are needed to assess the factors predict renal compensation and the suitability of the renal compensation rate as prognostic value for long-term renal outcome.

**Keywords:** predictors, unilateral nephrectomy, renal functions."

## 16. Title Not available

### Abstract

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**Keywords:** predictors, unilateral nephrectomy, renal functions"

## 17. Alemtuzumab-induced simultaneous onset of autoimmune haemolytic anaemia, alveolar haemorrhage, nephropathy, and stroke: A case report.

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### Abstract:

**Introduction:** Alemtuzumab is a humanized anti-CD 52 monoclonal antibody approved as a disease-modifying therapy for active relapsing-remitting Multiple Sclerosis (MS). Alemtuzumab has been associated with several adverse effects, including infusion-associated reactions, infections, acquired autoimmune diseases, and malignancies.

**Case Summary:** We report a case of Alemtuzumab-induced simultaneous onset of autoimmune haemolytic anaemia, alveolar haemorrhage, nephropathy and stroke in a 52-year-old man that occurred 8 months after initiation of alemtuzumab. The laboratory testing was consistent with autoimmune haemolytic anaemia. Computed tomography of the chest and bronchoscopy revealed an alveolar haemorrhage. Stroke workup revealed acute infarcts in bilateral occipital territories.

**Conclusion:** This is the first case report of a simultaneous onset of autoimmune haemolytic anaemia, alveolar haemorrhage, nephropathy, and ischaemic stroke after the first alemtuzumab course in relapsing-remitting MS patient. This case highlights the potential for the co-occurrence of unexpected and potentially life-threatening complications of alemtuzumab therapy necessitating rigorous monitoring once prescribed."

## 18. Large Vessel Occlusion Stroke in Saudi Arabia: Prevalence, Predictors, and Outcome.

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8. College of Medicine, King Saud Bin Abdul Aziz University for Health Sciences, Jeddah, Saudi Arabia

### Abstract

**Objective:** Anterior circulation Large Vessel Occlusion (LVO) stroke comes with significant morbidity and mortality. With the advent of endovascular interventions, its management has revolutionized. For health authorities to build systems and allocate resources, its burden, predictors, and outcome must be determined.

**Methods:** In a single tertiary care center, we retrospectively collected data from 1495 ischemic stroke patients to determine anterior circulation LVO prevalence, predictors, and outcome. Patients must have radiologically proven ischemic stroke within 24 hours before arrival at the emergency department. Anterior circulation LVO related stroke was defined as evidence of new anterior circulation infarct detected on neuroimaging and vascular imaging confirming anterior circulation Large Vessel Occlusion. Data on demographics, vascular risk factors, treatment with reperfusion therapy, modified Rankin scale (mRS) at admission and discharge, National Institute of Health Stroke Scale (NIHSS) at admission and discharge, length of stay (LOS), and in-hospital comorbidities and death were collected. Regression analysis was done to determine the predictors and outcomes of LVO ischemic strokes. Results: We found anterior circulation LVO in 27.8 % (95 % CI 25.5–30.0). Atrial fibrillation and admission National Institute of Health Stroke Scale (NIHSS) were the strongest predictors of LVO [OR 2.33, P = 0.0011 and OR 1.17, P < 0.0001] respectively. Occurrence of LVO was associated with worse disability score (mRS  $\geq 3$ ) [47.22 vs. 19.81% (P = 0.0073)], longer hospitalization in days [Median 9.0 vs. 3.0, IQR (14.0 vs. 5.0) P = 0.0432], and was more likely to results in patients admission to intensive care unit [Mean 17.59 vs. 3.70 % (P = 0.0002)].

**Conclusion:** Stroke with large vessel occlusion in Saudi Arabia is not uncommon. Its burden and outcome deserve national attention, as effective treatment is now readily available.

## 19. An exploratory qualitative study of quality improvement and patient safety (QIPS) education in Internal Medicine Residency Training Program: Gaps, Barriers and Opportunities.

A Al Qarni, S Al Nasser, A Alzahem  
Medical Education, College of Medicine, KSAU-HS

### Abstract

**Introduction:** High-quality care and patient safety has become a worldwide priority over the past two decades. Saudi Commission for Health Specialties (SCFHS) and other international graduate medical education bodies have made a quality improvement and patient safety (QIPS) a requirement for graduate medical education.

**Objectives:** The aim of this study was to understand the educational aspects of QIPS in the Internal Medicine Residency Training Program at King Abdulaziz Hospital in Al Ahsa, Eastern Province of the Kingdom of Saudi Arabia.

**Method:** A cross-sectional qualitative survey utilizing semi-structured interviews was conducted between September 6 and October 20, 2020. A purposeful sampling technique was implemented, and the number of participants was determined by reaching theoretical saturation. The content analysis method along with a deductive approach was used to identify themes.

**Results:** 22 Internal Medicine residents from different training levels were interviewed to reach theoretical saturation. All of the residents were aware of the meaning of QIPS and they realized its importance and value. However, there was a lack of recognizing QIPS education as a component of the structured training program. Furthermore, there was a passive participant in different safety-oriented activities such as medication safety course and infection prevention course, but participation in activities which provided active learning like quality improvement project was not recognized. On one hand, several barriers including time constrain and competing duties were identified, but on the other hand, opportunities such as incident report review, and mortality review were also identified.

**Conclusion:** This study highlighted the Internal Medicine residents' awareness of QIPS meaning, importance, and value. gaps were identified in education. Further studies and actions are needed to successfully implement QIPS in residency training.

## 20. Appraising the degree of physical activities among male students at a Saudi medical school.

Alhaqbani A<sup>1</sup>, AIMaini R<sup>1</sup>, Alshalhoub M<sup>1</sup>, Mcrabi A<sup>1</sup>, Marenga A<sup>1</sup>, Omair A<sup>2</sup>

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2 MPH, Lecturer, Department of Medical Education (Research Unit), College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

### Abstract

**Background:** Medical students around the globe suffer a great deal of stress and anxiety that can hinder their normal living and academic life. The idea that a simple routine exercise and activity can aid medical students in improving and managing a healthy mental status throughout the stressful years of medical college is worth investigating. The research study aimed to show the prevalence of physically active students among males in the College of Medicine at King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) in Riyadh, Saudi Arabia.

**Methods:** A cross-sectional study was conducted by distributing the International Physical Activity Questionnaire among students from the first to fourth year through convenient sampling. Physical activity was measured through the Metabolic Equivalent Task (MET) score. Demographic variables included academic year and age.

**Results:** The study included 317 students, 219 were pre-clinical (1st and 2nd year), and 98 were clinical (3rd and 4th year). The level of physical activity was categorized into three levels according to the MET score. There were 140 (44%) students classified as highly active (MET>3000), 98 (34%) students were moderately active (MET 600-3000), while 69 (22%) were low/inactive (MET<600). The second-year students had a higher proportion of inactive students compared to the other years ( $p = 0.004$ ). There was also a significant difference in the amount of time spent sitting during the week, with the second-year students having a higher median sitting time compared to the third year and fourth-year students ( $p = 0.001$ ).

**Conclusion:** The majority of students were moderately or highly active, but one-fifth of the students were inactive. The reason for second year students being the least active needs to be clarified. Based on these findings, we recommend that the university implement programs to motivate the students to participate in more physical activities."



## 21. Assessment of calcium intake and perception of calcium-rich food among healthcare students at King Saud bin Abdulaziz University for Health Science (KSAU-HS).

Alshahrani F<sup>1,2,3,4</sup> & Alghamdi A<sup>3</sup> & Alateeq A<sup>3</sup> & Bukhari M<sup>3</sup> & Alsadun A<sup>3</sup> & Almaghrabi I<sup>3</sup> & Almalki M<sup>3,5</sup>

1Family Medicine Department, King Abdulaziz Medical City, National Guard, Riyadh, Saudi Arabia

2 Comprehensive Specialized Clinic, National Guard, Riyadh, Saudi Arabia

3 College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

4 King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

5 Obesity, Endocrine and Metabolism center, King Fahad Medical City, Riyadh, Saudi Arabia

### Abstract

**Background:** Calcium is an essential mineral compound and one of the most abundant minerals in the human body. A long-term low calcium intake predisposes the bones to fractures, osteopenia, and osteoporosis. This study was conducted to assess calcium intake and knowledge of calcium-related information among healthcare students in King Saud bin Abdulaziz University for Health Sciences (KSAU-Hs).

**Methods:** This cross-sectional survey was conducted using a self-administered questionnaire that has been distributed as a soft copy of 289 participants aged 19 years or older and studied at KSAU-Hs. The questionnaire had three sections assessing demographical data, calcium knowledge, and calcium intake. The knowledge outcome variables were good and poor, and participants were categorized as good knowledge if they answer 11 or more of the 18 questions, while the intake outcome variables were sufficient and insufficient intake based on the Recommended Dietary Allowance (RDA) of 1000 mg.

**Results:** Among all variables, 91.7% of the participants were found to be having an insufficient intake, and 74% were classified to be poor knowledge. As for knowledge, the highest score under the "Good" category were females 32.7% compared to males 22.2%,  $P = 0.05$ . The average intake of calcium was 497 mg/day. In terms of sufficient calcium intake, males scored 11.9% compared to females who scored 1.9% with a  $P$  value of 0.00.

**Conclusion:** The results of this study have shown that there are significantly insufficient calcium intake and poor knowledge about calcium among healthcare students. The results indicate the urge to improve calcium intake and calcium knowledge among the healthcare students.

## 22. Knowledge, Attitude, and Risky Behaviors for Sexually Transmitted Diseases among Medical Students in Riyadh, Saudi Arabia.

Abuabat. A, MBBS, Alfarhan. A, MBBS, Alahmari. R, MBBS, Alanazi. W, MBBS, AlJaafary. A, MBBS, Agha. S, Phd, Omair. A, Phd, Masud. N, Phd

### Abstract

**Introduction:** Sexually Transmitted Diseases (STDs) are among the most common diseases worldwide putting great pressure on the healthcare systems with health, financial and social implications. However, they are a class of diseases that is very preventable due to them having limited routes of transmission. The control of STD spread is most effectively done through prevention by education and practice of safe sex. This prevention begins with assessing the knowledge of educators about these diseases and the future educators. This study was conducted to assess the knowledge and attitudes of future educators i.e. medical student towards sexually transmitted diseases (STDs).

**Methodology:** A cross-sectional study was conducted on male medical students of three major universities, KSU, KSAU-HS and Alfaisal, in Riyadh, Saudi Arabia.

**Results:** The total number of participants in the study were 387 students. 22.22% of the students were from Alfaisal University, 36.7% were from King Saud University and 41.08% were from King Saud bin Abdulaziz University for Health Sciences. There were no significant differences between the universities when it came to attitudes toward STDs. However, when it came to knowledge there was a significant difference with a p-value of  $<0.05$ . The knowledge mean for Alfaisal was  $(28.76 \pm 4.5)$ ,  $(26.38 \pm 4.34)$  for KSU and  $(26.77 \pm 4.22)$  for KSAU-HS.

**Conclusion:** In general, the study clearly indicates gaps in the knowledge of Medical students in the 3 universities the study was conducted in, with Alfaisal scoring highest in knowledge among them. Further research should investigate the reason behind this gap and the best method to address it. Moreover, more emphasis on STD knowledge and prevention should be implemented into the university curriculums.

## 23. Title Not available

Alharbi A<sup>1,4</sup>, Bin Dokhi H<sup>1,4</sup>, Alomran F<sup>1,4</sup>, Almuahini Gh<sup>2,4</sup>, Masuadi E<sup>1,4</sup>, Nouf Alomran<sup>3,4</sup>

1 College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

2 College of Sciences and Health Professions, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

3 College of Medicine, Alfarabi Colleges, Riyadh, Saudi Arabia

4 King Abdullah International Medical Research Center, Riyadh, Saudi Arabia.

### Abstract

**Background:** Considerable advances in the elucidation of CRC molecular alterations have been seen in the past few years. However, no definitive conclusions have been drawn regarding the prognostic significance of KRAS, BRAF and NRAS mutations. This study estimated the frequency of KRAS, NRAS, and BRAF mutations and assessed their prognostic value among Saudi patients.

**Methods:** This retrospective cohort study was conducted at the oncology department of King Abdulaziz Medical City in Riyadh, Saudi Arabia. Since genetic testing started in 2016, we retrospectively reviewed all medical records of CRC patients who were admitted between 2016 and 2018 and underwent surgery or were treated with chemotherapy, radiotherapy, or both (n=248). There were no exclusion criteria. The variables assessed included demographic data, pathological tumour features, response to treatment modalities, disease progression, and metastasis. Correlation analysis was done using the chi-square test.

**Results:** Demographic data revealed that 84% of patients were diagnosed with CRC above the age of 50 years. Only 27% of patients presented with distant metastasis. KRAS mutations were the most prevalent (49.6%), followed by NRAS mutations (2%) and BRAF mutations (0.4%). Wild type tumours were found among 44.4% of patients. KRAS mutation showed no significant correlation with the site, type, pathological grade, and stage of the tumour. No significant difference was found between the prognoses of CRC patients with the KRAS mutation and patients with wild type genes. The mean survival time among patients with KRAS mutations was shorter than that among patients with wild type CRCs (15 vs. 20 months).

**Conclusions:** Saudi CRC patients had a high frequency of KRAS mutations and a low frequency of BRAF mutations. The KRAS mutation status did not affect the patients' clinical outcomes.

## 24. Knowledge, Attitude and Practice of Saudi Nationals towards Food Labels in Riyadh.

Prof S. Alshammari, M. Alhazmi, A. Alswaidan, S. Alshahrani, M. Nasif, S. Alrashoud

### Abstract

**Background:** Food labels have been established in response to fight obesity which has been spreading an epidemic across the world. Food labels are defined as panels found on packages of food containing a variety of information about the nutritional value of the food items. Usually, people only read food labels when they have a reason such as having a chronic illness or a diet. Previous studies have shown that awareness of food labels can influence consumers' dietary choices. Since there are a few studies reported in the middle east, this study aims to measure knowledge, attitude and practice of Riyadh residents towards food labels.

**Objectives:** To assess the knowledge, attitude and practice towards food labels among Saudi nationals in Riyadh. To assess the level of understanding of food labels. To determine the perceived importance of nutrition information on food labels.

**Methods:** An observational descriptive cross-sectional study carried out at five regions in Riyadh. 300 consumers were included in study above age 17 years old. 15 different supermarkets chosen randomly in the 5 areas of Riyadh. The study was conducted from July 26, 2016 to July 26, 2018. We used food labels questionnaires developed by D Mackison and WL wrieden that consists of 30 questions.

**Results:** Most participants think that reading food labels is easy 47.99%. About the amount of information in food labels, 39.8% of study participants thinks that it is enough. Regarding the knowledge of participants, only 30% of their answers were correct. Also, the mean of reading food labels was 3.17 which interrupted as. Regarding the frequency of reading specific attributes on food labels, the most common items that participants always read are the name of the product 64.52%. Regarding the frequency and percentage of participants who answered correctly in certain nutrition label tasks, the most well familiar tasks to the participants were about the energy content 49.5%.

**Conclusion:** This study showed that approximately sixty percent of participants who had a reading habit for food labels. Furthermore, the knowledge gap was evident between participants regarding food labels. We recommend further educational programs in food labels to improve the level of awareness among Saudis toward their dietary habit."

## 25. Awareness of Antimicrobial Resistance among Patients and their Attendees in a Tertiary Care Center in Saudi Arabia.

Alhussin, G, Alduhaimi, G, Alabdulkareem, M, Basudan, S, Alhumaid, L, Dr.Alhatmi, H, Dr. Masud, N, Dr.Bosaeed, M

### Abstract

**Introduction:** Currently available antibiotics are facing a major threat by the emergence of bacterial resistance on multiple levels. Antimicrobial Resistance (AMR) is a worldwide issue with little awareness regarding it. AMR was declared by WHO as a high priority issue. However, there is a lack of awareness about antimicrobial resistance noticed in our community. Therefore, this study aims to assessing the community's knowledge antimicrobial resistance.

**Methodology:** A validated 24 item-questionnaire was applied to the attendees of outpatient clinics and pharmacies waiting area to investigate their awareness about antibiotic resistance. The data was analyzed using statistical package of social sciences (SPSS).

**Results:** 397 questionnaires were received and analyzed. The findings showed that 161 (40.55%) of the respondents were classified as having sufficient knowledge of AMR. Moreover, the results revealed that there was a significant association between gender and the level of knowledge where females showed a better knowledge about AMR than males. Also, the age was one of the influencing factors since respondents age between 18-45 (31.49%) proved to have higher knowledge. On the other hand, the area of residency had no influence on the level of knowledge about AMR.

**Conclusion:** our findings show that awareness about AMR and the proper usage of antibiotics among the general population seems to be lacking. About sixty percent of the general population do not have sufficient knowledge about AMR. Educating the general population through health care system and public campaigns might change the perception of community to Antimicrobial usage and as consequence change the awareness toward AMR.

## 26. Title Not available

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International Guidelines recommend ambulatory blood pressure monitoring (ABPM) for the management of hypertension. ABPM phenotypes predict outcomes independent of office blood pressure (BP). The authors explored the prevalence and clinical correlates of ABPM phenotypes and relationship with office BP in Saudi patients ( $n = 428$ , mean age  $53.5 \pm 14.6$ , 55% male) referred to a Specialist Hypertension clinic in Riyadh, Saudi Arabia. ABPM phenotypes included sustained normotension (11%), masked hypertension, MHT (32%), sustained hypertension, SHT (52%), and white coat hypertension (2.6%). MHT was more prevalent using asleep than 24-hours (26.4% vs 12.9%,  $P < .01$ ) or awake BP (26.4% vs 8.5%,  $P < .001$ ) and observed in 85% of pre-hypertensive patients. Isolated nocturnal hypertension was more prevalent in MHT vs SHT (70% vs 30%,  $P < .001$ ). Office BP overestimated control rates compared with ABPM (48% vs 12.9%,  $P < .001$ ). Our study shows that one in three Saudi patients will be managed inappropriately if office BP alone was relied upon for management of hypertension."



## 27. Title Not available

### Abstract

**Background:** Because Saudi Arabia (SA) has struggled with the burden of Road Traffic Injuries (RTIs) for decades, a new automated citations system was implemented in 2018 to improve compliance with seatbelt and mobile phone laws. Therefore, the purpose of this study is to evaluate the impact of the system on the prevalence of seatbelt and mobile phone use among drivers in Riyadh. This is an observational study conducted between 2017 and 2018. A Pre-Post evaluation was employed to determine the impact of a camera detection system on seatbelt and mobile phone use. Two research coordinators collected the observations at several highways and inner intersections around Riyadh ( $n = 3400$ ). We evaluated differences in the prevalence of seatbelt and mobile phone use across the two time periods using a chi-2 test. In addition, we evaluated the association between the new intervention and traffic violation using a logistic regression model.

**Results:** The overall seatbelt compliance increased significantly from 33.9% (95% CI = 31.7–36.2) to 75.8% (95% CI = 73.7–77.8;  $P < 0.01$ ). In addition, mobile phone use declined significantly from 13.8% (95% CI = 12.2–15.5) to 9.8 (95% CI = 8.8–9.1;  $P < 0.01$ ). We found the detection system to be associated with a significant increase in seatbelt use and also a significant decline in mobile phone use while driving. After implementing the intervention, drivers were 6.1 times (OR = 6.1, 95% CI = 5.2–7.0) more likely to wear seatbelts than before the technology went into effect. Similarly, drivers observed after implementing the cameras were 32% (OR = 0.68, 95% CI = 0.55, 0.84) less likely to use mobile phones while driving than those seen prior to the intervention.

**Conclusions:** This study found a significant reduction in traffic violations following the implementation of a camera detection system in Riyadh. This positive impact is evidence for the role preventative structural strategies play to improve traffic safety and reduce RTI in SA. Therefore, these findings may facilitate further support for policymakers that public health interventions play a significant role to improve traffic safety. Seatbelt and mobile phone use while driving should continue to be monitored, and traffic police may evaluate whether increasing the fine is associated with a significant reduction in traffic violations and associated crashes."

## 28. Brucellosis in Saudi Children: Presentation, Complications, and Treatment Outcome.

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2 Pharmacy, King Abdullah International Medical Research Center, Riyadh, SAU

3 Internal Medicine, King Abdulaziz Medical City, Riyadh, SAU

### Abstract

**Background:** Brucellosis, an endemic disease in Saudi Arabia, has an infection rate of 70 per 100,000 people, with a varying morbidity rate in different parts of the country. The aim of this study was to assess the epidemiological and clinical features, laboratory findings, treatment modalities, complications, and outcomes in children with brucellosis.

**Materials and methods:** The medical records of 153 patients attending King Abdullah Specialist Children's Hospital in Riyadh, Saudi Arabia, from January 2015 to January 2019 were reviewed retrospectively. Demographic data, laboratory test results, serum agglutination test titer, and the results of the blood cultures were obtained. The diagnosis of brucellosis was based on compatible signs and symptoms with a positive serology titer of  $\geq 1:160$  or a blood culture positive for *Brucella* species.

**Results:** The majority of the sample (69.6%, n=107) were males, with a mean age of  $7.75 \pm 3.28$  years. Ingestion of unpasteurized camel dairy products was the most frequent transmission risk factor. The most prevalent presenting symptoms were constitutional and musculoskeletal symptoms. Six patients (3.9%) had complicated brucellosis, with neurobrucellosis diagnosed in three cases. Hospitalization for brucellosis was required in 15% of the patients. The majority (99.35%, n=152) of the patients had a serum agglutination test (SAT) titer of  $\geq 1:160$ . A blood culture was positive in 52 (34%) of the 111 patients tested. The most frequently prescribed regimen was rifampicin + co-trimoxazole in 81 (52.9%) patients. Relapse occurred in a small proportion (4.6%, n=7), and the majority (95.4%, n=146) had a complete remission.

**Conclusions:** The main route of transmission was the ingestion of unpasteurized dairy products. Brucellosis had a wide range of clinical presentation, involving multiple organ systems. Neurobrucellosis was the most frequent complication. The SAT was the most useful and reliable test for the diagnosis of brucellosis. Most patients were successfully treated with rifampicin and co-trimoxazole for six weeks.

## 29. Bullet femoral embolism from neck gunshot wound case report.

Wejdan Aljohi<sup>1</sup>, Abdulrahman Aljuraishi<sup>2</sup>, Nahar Alseliem<sup>1</sup>

1 Ministry of National Guard health affairs division of general surgery

2 King Saud bin Abdulaziz university for health and sciences college of medicine

### **Abstract:**

Intravascular bullet embolization after gunshot wounds is an extremely rare phenomenon and could be incredibly challenging in diagnosing and managing especially in a trauma setting. This rare phenomenon could lead to a serious life-threatening consequence, due to the migration of projectiles in the arterial-venous circulation. The first case of bullet embolization was reported in 1834, and according to a study it has been reported 180 cases up to 1990 and the mortality of these cases was high reaching up to 30%. It has been shown by Michelassi et al after reviewing 153 cases Bullet embolization is more common in arteries than veins and in arteries only 80% were symptomatic whereas one-third of venous embolisms were symptomatic. Moreover, it has been known that the most common arteries that were involved in bullet embolism were in the lower limbs. We present in this case report a middle-aged woman presented to the ER with multiple gunshot wounds, Patient was hemodynamically stable alert oriented, she was admitted to the ICU later on patient was suspected to have leg ischemia, Computed tomography angiogram was done and found femoral artery to be occluded. patient was taken to the OR and found Bullet blocking the femoral artery."

## 30. Carbonic Anhydrase Type II Deficiency Syndrome: Ophthalmology Findings In 7 Saudi Arabian Patients.

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### Abstract

**Introduction:** Osteopetrosis is an inherited metabolic disease in which there is a failure of osteoclast development or function due to mutations that interfere with the acidification of the osteoclast resorption pit. At least ten genes have been identified as causative mutations of osteopetrosis, accounting for 70% of all cases. These conditions can be inherited as autosomal recessive, dominant or X-linked traits, with the most severe forms being autosomal recessive. Osteopetrosis, Autosomal recessive, is a rare form of autosomal recessive osteopetrosis caused by homozygous or compound heterozygous mutation in the gene encoding carbonic anhydrase II (CA2 gene). Carbonic anhydrase II (CA II) deficiency is characterized by a triad of osteopetrosis, renal tubular acidosis (RTA), and intracranial calcification (ICC). Other features include developmental delay, short stature, cognitive defects, and a history of multiple fractures by adolescence.

**Case description:** Herein, we describe the neuro-ophthalmological features of 7 individuals (3 males, 4 females; age 1–21 years at final examination) from unrelated consanguineous families with CA II deficiency due to homozygous intron two splice site mutation (the 'Arabic mutation'). These patients were diagnosed and followed up regularly at the Ophthalmology Department in King Faisal Specialist Hospital and Research Center, a tertiary care center in Riyadh, Saudi Arabia

**Conclusion:** Early diagnosis and management are essential to prevent further complications. Yet, further studies are needed to establish specific guidelines for the treatment of those patients and to develop a pharmacological therapy that can stop or delay the progression of this condition.

## 31. Characteristics of Admissions with Diabetic Ketoacidosis in a Specialized Children's Hospital: A Cross-sectional Study.

Amir Babiker<sup>1,2</sup>, Ghadeer Aljahdali<sup>2</sup>, Mohammed Alsaeed<sup>2</sup>, Abdulrahman Almunif<sup>2</sup>,  
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3 Research Unit, College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

### Abstract

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

**Methods:** A retrospective review of DKA admissions for newly diagnosed and known patients of T1DM (KP-T1DM) at King Abdullah Specialized Children's Hospital, Riyadh (March 2015–December 2017). Data was gathered for patients  $\leq 14$  years old who met the DKA criteria. We assessed the frequency, precipitating factors, and other characteristics of DKA admissions in both groups.

**Results:** A total of 116/562 patients with T1DM (mean age  $8.97 \pm 3.08$  years, 26/116 (34%) were newly diagnosed) had 146 DKA episodes. The majority were 10-14 years ( $p \leq 0.001$ ) and 55.5% were females. Total DKA admissions were 26% ( $n=146/562$ ), of which 25% ( $n=42/141$ ) were in newly diagnosed and 24.7% ( $n=104/421$ ) in KP-T1DM. Missing insulin was the main precipitating cause ( $p=0.001$ ) among KP-T1DM. Recurrent episodes ( $n=30$ , 20.5% of all episodes) occurred in 15/116 patients and was more common in children  $>10$  years old ( $P=0.024$ ). Mean length-of-stay was  $2.67 \pm 2.04$  days. LOS increased with DKA severity ( $P=0.008$ ).

**Conclusion:** Missing insulin is the main cause of DKA in KP-T1DM. Besides awareness campaigns to prevent DKA as an initial presentation of T1DM, intervention and prevention strategies should also focus on vulnerable groups of KP-T1DM, such as adolescents and those with recurrent episodes.

## 32. Complex Mullerian Duct Anomalies in King Abdulaziz Medical City: A Report of Two Cases.

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4 Radiology Department, King Abdulaziz Medical City, National Guard of Health Affairs, Riyadh, Saudi Arabia.

### Abstract

**Introduction:** Mullerian duct anomalies (MDA) are a set of uterovaginal malformations due to failure of organogenesis. Prevalence ranges between 0.16% to 10% globally. We present two cases that were diagnosed with rare and complex malformations at King Abdulaziz Medical City.

**Case Summary:** First case, a 13-year-old girl, presented with dysmenorrhea and recurrent urinary tract infection. MRI showed bicornuate bicollis uterus with transverse vaginal septum to the right lateral wall and right renal agenesis. Two surgical procedures were made 1) Laparoscopic right salpingectomy with vaginal septum dissection 2) Hysteroscopic uterine septum removal. Second case, a 15-year-old girl, presented with non-stop vaginal bleeding. MRI showed didelphys uterus with ruptured transverse vaginal septum and right renal agenesis. No surgical intervention was made only medications.

**Conclusions:** We observed that younger age complaining of dysmenorrhea and prolonged periods can indicate uterine anomalies. As a result, magnetic resonance imaging is a useful technology for diagnosis. The outcomes of the malformations and the timing of intervention seriously affects conception and pregnancy.

### 33. Current practices and trends in dealing with caudal septal dislocation among Otorhinolaryngology “ENT” surgeons in Saudi Arabia.

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1 AlQassim University.

2 King Abdulaziz University Hospital

3 King Saud Bin Abdulaziz University for Health Sciences

#### Abstract

**Introduction:** The nasal septum is the internal part on which the foundation of the nose is built. It holds a vital role in maintaining the functional and structural integrity of the nose. Considering its anterior location, the caudal septum is typically subjected to trauma which makes it vulnerable to dislocation or deviation. Which may result in complications such as nasal obstruction or aesthetic deformities. Therefore, this study aims to study the current practices of ENTs in Saudi Arabia in dealing with such cases.

**Methodology:** Cross-sectional survey-based study targeting ENT surgeons in Saudi Arabia.

**Results:** A total of 77 surgeons answered the survey. 70% of whom were male, and 30% were female. Majority had more than 5 years of experience working as ENT physicians. Septal repositioning was the most common technique used by the participants. Asymmetrical nostrils and nasal obstruction were the two most commonly patient complaints noticed by our physicians. 67% feel comfortable when dealing with such cases, 19% said they are uncomfortable, and 13% tend to refer those cases to facial plastic specialists. A significant difference was found between the area of specialization and the desired surgical outcome post correction with a p-value of 0.001. Facial plastic specialists target both functional and aesthetic outcomes, while non-facial plastic surgeons put more emphasis on functional outcomes rather than aesthetics. In addition, a significant difference was found in terms of comfort level and subjective competency between non-facial plastic ENTs and facial-plastic ENTs with a p-value of 0.004 favoring the latter.

**Conclusion:** Results show a significant discrepancy in terms of practices, desired surgical outcomes, comfort level, and subjective competency in dealing with caudal septal dislocation between ENTs specialized in facial plastic and other specialties of ENT. Considering its prevalence and possible dire complications, more emphasis should be put in place during residency training to further narrow the gap between different specialties in ENT.



## 34. Delirium Knowledge, Risk Factors, and Attitude among General Public in Riyadh, Saudi Arabia

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2 KSAU-HS, Riyadh / KAIMRC, Riyadh, SA

3 Ibn Sina National College for Medical Studies, Jeddah, SA

4 MNGHA, Riyadh, SA

### Abstract

**Background:** Delirium is a serious neuropsychiatric disorder with a prevalence of 21.8% in Saudi Arabia. Up to 40% of delirium cases are potentially preventable, and earlier recognition of this condition results in better health outcomes. Adequate awareness of delirium among doctors, nurses, and the general public is necessary to reduce the risk of its adverse outcomes and mortality. According to our literature review, delirium is an understudied topic. This calls for the need to assess the knowledge of delirium, its risk factors and attitude towards it among the general public of Riyadh and to decide, based on the results of this study, whether an intensive awareness program is necessary or not.

**Methods:** This study is an observational cross-sectional study. All residents of Riyadh aged 18 or older were eligible to participate. An electronic questionnaire, composed of 33 closed-response questions, was used to assess the knowledge of delirium, its risk factors, and attitude towards it. Data was entered into a Microsoft excel sheet and was analyzed using descriptive statistical techniques.

**Results:** A total of 387 responses were obtained from participants. The majority (79%) of respondents were aged < 40 years. Around (33.8%) work in the health field, while the majority (66.2%) are non-healthcare professionals. 3 out of 10 questions that assessed basic knowledge were correctly answered by more than (50%), and only 2 out of 12 questions that assessed knowledge of risk factors were correctly answered by more than (50%). Delirium is believed to be a problem that requires active intervention by 75.1% of participants and largely preventable by 63.5%. A total of 33.5% of respondents believe that delirium is related to over-sedation in the intensive care unit.

**Conclusion:** Despite the fact that delirium is a critical neurocognitive disorder with a significant prevalence, the general public in Riyadh have insufficient knowledge of this condition and its risk factors. In view of the results, delirium educational programs for the general public should be considered to improve awareness, knowledge, and understanding of delirium.

## 35. Determining Factors Affecting the Medical Interns' Choice of Specialties among Governmental Universities in Riyadh.

Ahmad Tariq Al Swaidan\*, Lama Abdullah Al Luhidan, Khaled Abdullah Al Barrak, Rehab Abdullah Al Mubrick, Hessah Ibrahim Al Suwaidan, Rawan Abdulaziz Al Shammari, Rima MHD Belal Barakeh, Moath Khalid Al-Ghusoon, Sulaiman Abdullah Al Shammari

### Abstract

The nature of experience during the medical study at university may play an essential role in choosing the specialty.

**Background:** The aim of this study is to determine the effect of national universities in general and on medical interns' career choice, taking into consideration the gender difference. Furthermore, to find out when national universities educate their students about the different specialties.

**Methods:** This was a cross-sectional study that included 234 Saudi medical intern students from four different medical colleges in national universities in Riyadh. These were King Saud University, Princess Norah University (PNU), Imam Mohamed Bin Saud Islamic University, and King Saud bin Abdulaziz for Health and Science (KSAU-HS) with consideration of gender differences and availability. All participants who are selected randomly completed an online questioner with a unique code.

**Results:** Around two-thirds (66%) of the participants ensured that their national universities had a positive influence in choosing the specialties dividing equally between both genders. According to the participants' perceptions, all the items of the medical education system did not affect in choosing the specialty except three of them that have a positive effect which are elective experience (43.59%), clinical year (40.6%), and the personality of instructor (38.46%). Furthermore, one-third (33%) of the participants emphasized that their universities educated them about the specialties in the 3rd year. The most common decisive factor was an elective experience of 19.36%, whereas the most common negative factors were improper block duration and the personality of the instructor by 14.52%.

**Conclusion:** Most national universities had a positive effect on their students' career choice, and they educated pre-graduate students about specialties.

## 36. Diagnostic Yield of Head CT for Headache in pediatric Patients in Emergency Department at King Abdullah Specialized Children's Hospital (KASCH).

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2 Assistant professor, medical education department, college of medicine, KSAUHS.

3 Assistant Professor, consultant pediatric neurologist, KSAUHS, KASCH, Riyadh.

### Abstract

**Background:** Headache is one of the major complaints witnessed in the pediatric emergency department. A high number of patients presented with a headache will have at least one CT scan or MRI as protocol. In consequence, this study is aimed to observe common findings on these scans and try to understand if there is any relationship between these findings and other variables.

**Materials and methods:** a retrospective, cross-sectional study was done on 263 pediatric patients presented to the ER with the complaint of headache, of all the patients who have done a CT scan, only 99 patients did MRI afterward. The information was collected from KASCH computer system BESTCare 2.0 systems, entered using Microsoft Excel, and analyzed using SPSS (V23). All categorical data were presented as frequencies and percentages. All numerical data were presented as mean and +SD.

**Results:** The study showed that the CT scans were abnormal in (50%) of the patients from which (89%) were due to a secondary type of headache. Out of the patients who have done the MRI, (70%) were abnormal similar to the CT findings which were mainly related to secondary causes. The commonest abnormal finding in the CT was sinusitis (20%), masses (12%) followed by hydrocephalus 12%. The commonest abnormal finding in the MRI was masses (28%) and (16%) cysts respectively. Of all patients with headaches, (10%) had a prior diagnosis of headache, (12%) had a family history of headache, and also the study noticed a large number of patients (42%) had a history of chronic disorders.

**Conclusion:** conclusively this study showed that the greater part of the abnormal finding in the scans including masses, cysts, ventricular dilation, and hydrocephalus was usually found in the secondary type of headaches, whereas in the primary type sinusitis was noticed to be the most common finding.

## 37. Do We Feel Safe about the WHO Surgical Safety Checklist? Eight Years Period Cross-Sectional Study.

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2 King Abdullah International Medical Research Center, City, Saudi Arabia.

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4 Research Unit, Department of Medical Education, College of Medicine, King Saud Bin Abdulaziz University for Health Sciences.

### Abstract

**Background:** There are little data comparing the differences in the perceptions of healthcare providers in the time elapsed from introduction to date. These data would be important to understand the generalisability, limitations, and cultural factors that can improve the uptake of patient safety interventions such as the WHO SSC. The aim of this study was to evaluate the change in the healthcare providers' perceptions of the WHO SSC and patient safety in the OR at a tertiary hospital in Riyadh, Saudi Arabia.

**Method:** This cross-sectional study was conducted at King Abdulaziz Medical City. Data was collected from two years (2011 and 2019) for comparison. The co-investigators distributed a self-administered Likert scale questionnaire in the various operating areas.

**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 period were compared ( $P$ -value  $< 0.001$ ). Similarly, healthcare providers' perceptions regarding the importance of the WHO SSC increased from 50% (2011) excellent to 68% excellent (2019) ( $P$ -value  $< 0.001$ ).

**Conclusion:** Currently, more healthcare providers recognize the importance of the WHO SSC, and more have a positive attitude towards teamwork, communication, and feeling free to speak out when required. 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 quality of surgical care in the OR.

## 38. Does History of Type 1 Allergic Diseases Associate with the Risk of Developing Multiple Sclerosis?

Alfawzan A<sup>1</sup>, Alshahrani S<sup>1</sup>, Alswaidan A<sup>1</sup>, Alkharaan A<sup>1</sup>, Aldossary H<sup>1</sup>, Almuklass A<sup>1,2</sup>

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<sup>2</sup> King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

### Abstract

Multiple sclerosis (MS) is an auto-immune disorder affecting the central nervous system and is characterized by demyelination of the neurons with limited remyelination. There has been a rising trend towards associating history of allergy with MS. Along with genetic and environmental factors, both multiple sclerosis and allergy type 1 are developed by hyper reactive immune system involving T helper 1 and T helper 17 cells in multiple sclerosis and T helper 2 cells in allergy type 1. This review examines the association between history of allergic diseases type 1 and the risk of MS, and the influence of study location on the association. A literature search was conducted through Saudi Digital Library search engine which include many databases such as PubMed and Web of Science, and articles addressing the relation between Multiple Sclerosis (MS) and allergy type 1 were retrieved. Most studies in this review show an inverse or no association between type 1 allergy history and MS. Most articles concluded the relation is not statistically significant. One study stated asthma increases MS risk. Geographical location has no influence on MS and allergy association.

## 39. Effect of Combining Inferior Oblique Muscle Weakening Procedures with Bilateral Injection of Botulinum Toxin to both Medial Recti on Esotropia's Surgical Correction.

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2 Pediatric Ophthalmology Department, King Abdullah Specialized Children Hospital, National Guard Health Affairs, Riyadh, Saudi Arabia.

**Background:** Simultaneous combination of botulinum toxin (BTX) injections and inferior oblique muscle (IO) weakening procedures is performed sometimes in the surgical correction of pediatric esotropia. In this study, we aim to evaluate the effects of combining IO weakening procedures with the injection of BTX to both medial recti on the primary position horizontal alignment after surgery to correct esotropia.<sup>1,2</sup>

**Methods:** The medical records of patients who underwent BTX to both medial recti with or without IO weakening procedures between 2015-2020 were retrospectively reviewed. Patients with neurological diseases, previous surgeries, or incomplete data were excluded. The amount of correction per international unit of BTX was calculated by the equation (preop deviation-postop deviation)/dose of BTX in patients with isolated BTX (group BTX) and those undergoing additional IO weakening (group IO). Only calculations from the first injection or the combined approach were used for analysis for patients with multiple injections.

**Results:** Out of 219 (111 male 50.7%) patients, 186 underwent BTX, and 33 had additional IO. Success rates of BTX (45.2%), and IO (48.5%) were not significantly different ( $P=0.724$ ). There was no difference in age, gender, pre-operative deviations, Botulinum dose, visual acuity, or follow-up between the groups ( $P>0.05$ ). The final postop deviation did not differ between the groups,  $14.35\pm14.60$  PD in BTX Vs.  $11.76\pm14.94$  PD in IO ( $P=0.350$ ). The calculated mean effect of Botulinum toxin in each group was  $3.68\pm3.67$  PD/IU in the BTX group Vs.  $4.51\pm3.92$  PD/IU in the IO group; with no significant difference between the groups ( $P=0.237$ ).

**Conclusion:** There was no effect of combining IO weakening with BTX injection on the final horizontal deviation. Surgeons should not modify the dose of Botulinum when the two are combined.

## 40. Effect of Gender on the Outcomes of ST Elevation Myocardial Infarction at a Tertiary Care Hospital in Riyadh, Saudi Arabia.

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Abdullah Al Shimemeri

### Abstract

**Objective:** This study aimed to evaluate the impact of gender on the outcomes among ST elevation myocardial infarction patients at King Abdulaziz Medical City in Riyadh, Saudi Arabia.

**Methods:** This retrospective study analyzed the data of 900 patients (770 males and 130 females) admitted between January 2016 and December 2018 diagnosed with ST elevation myocardial infarction (STEMI). We recorded the baseline characteristics, comorbidities, treatment, complications, and mortality for all patients, and compared these data between female and male patients.

**Results:** The baseline characteristics: BMI and age were higher in females and were statistically significant ( $p = 0.0001$ ). We found a higher incidence of heart failure in females than in males which was statistically significant ( $p = 0.0010$ ). In addition, the mortality rate was higher in female than in male patients, although this difference was not statistically significant ( $p = 0.3850$ ).

**Conclusion:** In conclusion, despite the advances in the technology and the use of novel reperfusion therapies females were associated with poorer outcomes after adjustment of the baseline characteristics and risk factors. In other words, heart failure, mitral regurgitation, and arrhythmias were higher in females with significant p values.



## 41. Effect of Socio-emotional factors on subjective wellbeing of medical students: Experience from King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

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### Abstract

**Introduction:** The high demands and pressures from the physical environment have an impact on the psychological wellbeing of an individual. Very few studies have been published so far with reference to Saudi Arabia.

**Methods:** This study is 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, KSAU-HS, Riyadh. Two self-administered validated questionnaires, The Multidimensional Scale of Perceived Social Support (MSPSS)(1) to assess the social support, and The Depression Anxiety Stress Scale-21 (DASS-21)(2) 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 to analyze data was used. A test with p-value < 0.05 declared significant.

**Result:** Overall depression, anxiety and stress was found among 44%, 61% and 35% students respectively. There was positive association between the social support and emotional wellbeing ( $r=0.868$ ,  $r=-0.208$ ). Overall, females were higher on emotional wellbeing than males ( $p<0.00$ ). Furthermore, study found that graduate entrants students experience less negative emotions compared to school entrants ( $p<0.002$ ), and married students show less negative emotions compare to single students ( $p=0.021$ ). On perceived social support subscales, no significant different between gender ( $p=0.937$ ), stream ( $p=0.50$ ), and Marital status ( $p=0.073$ ) is found.

**Conclusion:** In conclusion, study found association between perceived social supports with the emotional state. Further, females experience more emotional problems and receive less social support than males. Avenues for future research and academic advisors' role were discussed.

## 42. Effect of Waiting Time Estimates on Patients Satisfaction in the Emergency Department in A Tertiary Care Center.

Khaled N. Alrajhi, Nawfal A. Algerian, Rand N. Alazaz, Lama B. Araier, Lujane S. Alqahtani, Shaden O. Almushawwah

### Abstract

**Background:** Shortage of primary care services and growing populations caused an increasing demand for healthcare services and frequent emergency department (ED) visits. This led to prolonged ED waiting times.

**Aim:** The study's purpose was to examine the influence of ED waiting time estimate provision on the satisfaction of patients. It also tested if patients favor the presence of waiting time displays, and effects illness severity and demographics could have on their satisfaction.

**Materials and Methods:** This was a randomized controlled trial at King Abdulaziz Medical City between September 2017 and May 2018. It included 18 to 70 years old Arabic-speaking acute care patients. After being divided into two groups, the intervention group alone was provided a waiting time estimate. Both groups answered two questionnaires evaluating their satisfaction and illness perception before and after seeing doctor.

**Results:** One-hundred patients were included. Waiting time satisfaction scores were insignificantly different between groups (intervention (M 5.92/10  $\pm$ SD 3.13), control (M 5.45/10  $\pm$ SD 3.38), P-value = 0.476). Demographics and illness perception had insignificant impact on satisfaction scores. Waiting time estimate was preferred by most participants (70%).

**Conclusion:** Providing waiting time estimation did not affect satisfaction but was preferred to have in the ED by most.

## 43. Efficacy of Cricotracheal Stenosis Resection (CSTR) among children with congenital vs. acquired sub-glottic stenosis: A case-series.

Alshammari J, Halawani M, Arafat A, Alkhaldi A, Masud N

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Alkhaldi A (presenting): College of medicine, King Saud bin Abdulaziz University for Health Sciences.

Masud N: Research unit, College of medicine, King Saud bin Abdulaziz University for Health Sciences. King Abdullah International Medical Research Center Riyadh.

### Abstract

**Introduction:** Sub-glottic stenosis (SGS) in pediatrics can be either acquired or congenital. Management of SGS in children is challenging because there is no standard algorithm to follow. Therefore, the aim of this study was to assess the efficacy of Cricotracheal Stenosis Resection (CSTR) in children with congenital vs. acquired sub-glottic stenosis.

**Methods:** In this retrospective study, we reviewed the charts of 22 patients (ranging in age from 1 month to 15 years) who had an endoscopic intervention as the primary treatment for sub-glottic stenosis at King Abdulaziz Medical City from January 1, 2011 to October 31, 2019. All children who had a workable diagnosis of either an acquired or congenital SGS, and had an endoscopic intervention as the primary treatment modality without previous open procedure, were included. Successful treatment was defined as: resolution of symptoms, restoration of a normal airway, and decannulation.

**Results:** Out of 22 patients, 14 cases were acquired and 8 were congenital SGS. Most of the patients had grade 3 stenosis before surgery 15 (68%), followed by grade 1 stenosis among 4 (18.2%) and grade 2 stenosis was present in 3 (13.6%) patients. Postoperatively, 17 (77.3%) patients improved to grade 0, whereas grade 3 stenosis was not reported in any patient. The Mc-Nemar's test showed significant improvement between pre- and post-operative stenosis grade. Overall, 14 (64%) patients improved by  $\geq 2$  grades, which is clinically significant. This technique was successful among 18 (82%) patients and failed to succeed in 4 (18%) patients only.

**Conclusion:** The study concludes that irrespective of the significant differences in age, length and character of stenosis among both groups; yet endoscopic CTSR technique was successful. The success rate of our small sample is promising. This technique was successful among 18 (82%) patients.

## 44. Epidemiological Characteristics of Traumatic Musculoskeletal Injuries during the COVID-19 Pandemic at a Single Tertiary Hospital.

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2 COM, KSAU-HS, Riyadh, SA

### 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.

## 45. Evaluation and Characterization of Hospitalized Patients with Non-Alcoholic Fatty Liver Diseases.

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College of Medicine, King Saud Bin Abdulaziz University for Health Sciences.  
King Abdullah International Research Center, Riyadh, Saudi Arabia.

### Abstract

**Background:** Non-alcoholic fatty liver disease (NAFLD), defined as fat accumulation in hepatocytes, may progress to cirrhosis later in life. NAFLD prevalence has increased significantly in direct relation with obesity, life style, liver diseases and metabolic syndrome prevalence. Therefore, it is important to evaluate and increase the public awareness of this undernoticed condition in order to take more preventive measures and actions. The aim of this study was to evaluate and characterize inpatients who admitted to our hospital during the last 8 years.

**Methods:** A clinical, biochemical, histological and image data for 309 patients with NAFLD were collected from the hospital information system (HIS) Bestcare, ezCaretech (Seoul, Korea) between year 2010 and 2018. A total of 227 records were evaluated. There were lower number of liver biopsies and therefore, were not included. Liver enzymes were performed on general clinical chemistry analyzer Architect C16000 (Abbott, USA). The diagnostic sensitivity and specificity were calculated.

**Results:** Among the 227 records confirmed with NAFLD. Moreover, around 51% were males. Patient's mean age was 52.3 with a standard deviation of 19.1. Patients admission were distributed through Inpatient, outpatient and emergency department by 42.7%, 16.3% and 41% respectively. Patients who had performed Ultrasound were 198 (87.2%) with 179 (78.9%) positive and 19 (8.4%) negative for fatty liver infiltration with a 90.40% sensitivity. When obesity, elevated liver enzymes (ELE), diabetes mellitus (DM), hypertension (HTN), heart failure (HF), hypothyroidism (HTY), and dyslipidemia were compared to ultrasound the sensitivity values were found as 54.2%, 51.4%, 50%, 48%, 16.2%, 14%, and 26.3% respectively. In addition, the specificity for ELE and Hyperthyroidisms were 73.7%. The difference of LFT results between gender were statically significant, around 57% of males had high LFT, while among females high LFT was 42.3%.

**Conclusion:** The ultrasound has shown to be a good diagnostic tool in NAFLD patients. LFT found to be elevated more in males.

## 46. Evaluation of general surgery consultations in a tertiary care center; a retrospective study.

### Abstract

**Introduction:** Consultations are critical in medical specialties including general surgery for a multidisciplinary approach; therefore, a review of the referral system is necessary in order to improve it and avoid mis-referrals.

**Method:** This is a retrospective chart review that was conducted in King Abdulaziz Medical City (KAMC), a tertiary care center in Riyadh with a bed capacity of 1501 patients. This study aimed to evaluate the characteristics of general surgery consultations requested by other departments, and the rate of patients who needed a surgical intervention. The sample population included all consultations received by the general surgery department from September 2017 to September 2018 which was a total of 5065. Moreover, by using a confidence interval of 95% and a significance level of 5% the minimum required sample size was 300.

**Results:** Most consultations were from the emergency department 70.5%, while the other 29.5% were from inpatient consultations. The mean Age of the 400 included consultations was  $50 \pm 22$  years. Males comprised 55.2% of patients. Only 20.9% of the emergency department consultations were rejected. A higher rate of rejection was noticed in other specialties such as internal medicine 49.1% and intensive care units 61.1%. The general surgery department decision for the requested consultations varied as 18.5% had no surgical pathology, while others needed emergent operations 14.2%, hospital admissions 12.5%, out-patient follow up 15.8%, or further evaluation 13.8%. The most common reason for consultations was abscess or swelling 15.2%.

**Conclusion:** Majority of consultations did not require surgeries nor acute interventions. Giving the high referral rate of un-urgent cases, implantation of a standardized referral system and criteria is mandated.

## **47. Exploring emergency department visits: factors influencing individuals' decisions, knowledge of triage systems and waiting times, and experiences during visits to a tertiary hospital in Saudi Arabia.**

Alhabdan, N, Alhusain, F, Alharbi, A, Alsadhan, M, Hakami, M, Masudi, E.

### **Abstract**

In recent years, there has been an increased utilization of emergency departments (EDs) in many countries. Additionally, it is reported that there are major delays in delivering care to ED patients. Longer waiting times are associated with poor patient satisfaction, whereas an understanding of the triage process increases satisfaction. This questionnaire-based cross-sectional study aimed to assess ED visitor's awareness of the triage procedure and their preferences regarding delayed communication. A total of 334 questionnaires were returned. The mean age of respondents was 33 years. Regarding primary care physicians, only 16% of respondents said that they have one. About 21% of those tried to communicate with them before coming to the ED. Even though only 11% of respondents knew exactly what triage is, 51% were able to correctly explain why some patients are seen before others. Statistical analysis did not show any factors that are associated with increased knowledge of triage. Most respondents (75%) want to hear updates regarding delays with 69% of them preferring to be updated every 30 min. This study showed that the majority of patients do not know what triage means and that most of them want to know how the ED works. Moreover, a lot of respondents said that they do not have a primary care physician. These results support increasing patient awareness by education and involving them if any delay happens.



## 48. Food Allergy Studies in Saudi Arabia.

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### Abstract

Food allergy, which is a common condition worldwide, is the abnormal response of the immune system to harmless food triggers. This response is most commonly an IgE-mediated reaction. Patients with food allergies may present with mouth itching, hives, Gastrointestinal symptoms, and lips and tongue swelling. Anaphylaxis is the more severe allergic reaction that can impair breathing and circulation and is an emergency that can be fatal if not treated. We lack a study that summarizes and reviews the available literature regarding food allergies in the Saudi population.

To collect, evaluate, and report the available literature studying food allergies in the Saudi population. Reporting the frequently used methodologies, and any deficit in published studies. Two researchers, utilizing google scholar and PubMed search engines, used combinations of terms relevant to food allergies. Terms such as "food allergy", "food hypersensitivity", and "anaphylaxis", were combined with common food allergens like eggs, milk, peanut, sesame, fish, etc. Only studies of the Saudi population were included. The cited references of the identified studies were investigated for relevance. Studies investigating IgE-mediated food allergies were included, while studies about other allergic conditions like Eosinophilic oesophagitis were excluded as these conditions are outside the scope of our study.

16 Studies published between 1999 and 2020 were included in the review. Of the 16 articles, 8 included patients of all age groups, 6 were concerned with paediatric patients only, and 2 included only adult patients. Measuring IgE antibody levels for food allergens was the commonest method (6 studies). Questionnaires and retrospective analyses were utilized 5 and 3 times, respectively.

A scarcity of food allergy studies was observed, but the number of studies published on the topic appears to be increasing. The majority of studies identified were published in the past 5 years. The types of triggers observed in the Saudi population was somewhat different from studies in other populations. allergy to sesame seed was high at 35%, 14.7%, and 39.8% in 3 studies. This can be explained by different food habits and geographical variation. No studies utilizing the gold standard, food challenge test, were found.

## 49. Genetic profile of Epidermolysis Bullosa cases in King Abdulaziz Medical City, Riyadh, Saudi Arabia.

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3 Medical Genomic Research Department, King Abdullah International Medical Research Center, Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia

### Abstract

**Background:** Epidermolysis bullosa (EB) is a rare genetic mechanobullous skin disorder that is characterized by an increased skin fragility leading to blistering following minor trauma. EB may be inherited as an autosomal dominant or an autosomal recessive and can be classified into dystrophic EB (DEB), junctional EB (JEB), and EB simplex (EBS).

**Method:** A total of 28 Saudi patients with EB were included in this observational, retrospective chart-review study. 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 design AmpliSeq panel of suspected genes. All disease-causing variants were checked against HGMD, ClinVar, Genome Aggregation Database (gnomAD) and Exome Aggregation Consortium (ExAC) databases.

**Results:** 12 patients (42.86%) were found to have DEB, 6 patients (21.43%) with JEB, and 10 patients (35.71%) with EBS. The molecular genetic results revealed detections of 24 various genetic variations in the genes associated with EB and of which, 14 were novel mutations. Most frequent variations were detected in COL7A1 in 12 cases (42.85%) followed by LAMB3 in 5 cases (17.86%), and TGM5 in 4 cases (14.28%). Furthermore, majority (89.3%) of EB cases were confirmed to have homozygous mutations, and few were documented with positive consanguinity history. Only 3 cases (10.7%) were found to be autosomal dominant displaying heterozygous mutations.

**Conclusion:** This is the first study to establish the EB genetic profile in Saudi Arabia where DEB is the most frequent type. 14 novel mutations were identified which were not previously reported. Consanguineous marriage is clearly recognized in the Saudi population; therefore, we propose a nationwide EB program that would help to extend the spectrum of the genetic profile of EB in Saudi Arabia

## 50. Hand grip strength as an index of health does not associate with insomnia.

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### Abstract

**Background:** Insomnia is one of the most prevalent diseases in the world where around 30% of adults are affected. It has a significant effect on the normal physiology of the body 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) was previously linked to many diseases that co-exist with insomnia. Thus, this study aimed to investigate the association between HGS and insomnia.

**Materials and Methods:** This was a cross-sectional study that aimed to assess the relationship between HGS and insomnia. Participants were approached in open areas and in shopping malls, university campuses, and in parks. Participants were surveyed using the Insomnia Severity Index (ISI) to evaluate the presence of insomnia. A hydraulic hand dynamometer was used to measure HGS of the participants and was recorded in kilograms force. A Chi-square test was used to test the association between gender and insomnia. ANOVA test was used to determine whether there was a difference between males and females in terms of HGS. A point-biserial correlation test was performed to assess the correlation between HGS and insomnia.

**Results:** A total of 496 valid questionnaires were included in the study. 363 (73.18%) of the participants were males. 18 (13.5%) female participants had insomnia compared to 35 (9.65%) male participants. There was no association between gender and insomnia ( $p=0.250$ ). The difference between the mean HGS for the right and left hands among males and females was not statistically significant ( $p>0.05$ ). 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 ( $p>0.05$ ).

**Conclusion:** Our study found no significant association between HGS and insomnia. Although one previous study reported a significant association between handgrip strength and insomnia among elderly women with diabetes, ours analyzed a wider population range including healthy individuals, and did not find an association between the two variables. We recommend conducting further large-scale studies that focus on specific groups in the population to better understand the relationship between HGS and sleep disturbance.

## 51. How remaining single kidney cope after contralateral nephrectomy of kidney donor? A retrospective data from Saudi Arabia.

### Abstract

**Introduction:** Immediately post kidney donation, the remaining kidney will undergo hyperfiltration and work at higher level to compensate the loss of the other kidney. it is estimated that 70% of the baseline renal function prior to donation is recovered. Factors that determine post-donation renal compensation are not well understood.

**Methods:** Retrospective study of 190 consecutive kidney donors who completed follow up for one year were included in the study to predict the factors affecting remaining kidney function post contralateral nephrectomy.

**Results:** We enrolled 190 living kidney donors who had completed at least one year follow up after nephrectomy. 149 (78.4%) are males and 41 (21.6%) are females. The mean age is  $31.33 \pm 7.9$  years with Mean BMI of  $25.6 \pm 3.9$  kg/m<sup>2</sup>. 27(14.2%). The mean eGFR and serum creatinine before kidney donation were  $114.31 \pm 15.94$  ml/min/1.73 m<sup>2</sup> and  $71.60 \pm 10.62$  mmol/min, respectively. At one year follow-up, the mean eGFR  $77.97 \pm 14.44$  ml/min/1.73 m<sup>2</sup> and serum creatinine was  $100.84 \pm 20.15$  mmol/min post nephrectomy. Female gender (OR: 20.6, 95% CI: 3.9 - 107.7,  $p < 0.001$ ) and having higher baseline eGFR (OR: 8.8, 95% CI: 1.6 - 45.8,  $p = 0.01$ ) are significant predictors of having better eGFR 1 year post nephrectomy

**Conclusions:** Female gender and pre-donation low serum Creatinine and high eGFR were the main factors that significantly predict better kidney function at one-year post contralateral nephrectomy However, further studies with longer follow-up are needed to assess the factors predict renal compensation and the suitability of the renal compensation rate as prognostic value for long-term renal outcome.

## 52. *Vibrio alginolyticus* tympanostomy tube otorrhea in a child newly diagnosed with primary ciliary dyskinesia with no seawater exposure: a case report.

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### Abstract

**Background:** Primary ciliary dyskinesia (PCD) is a rare inherited disorder that is characterized by diseased cilia, affecting the respiratory system mainly. *Vibrio alginolyticus* is as well 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. PCD & *Vibrio alginolyticus* ear infections are rarely reported conditions. The organism's rarity is even increased in non-coastal areas such as Riyadh, where this case was.

**Case presentation:** We report an 8 years old boy who presented at the age of 4 years with speech delay, mild hearing loss with a flat tympanic membrane, along with a history of cough, recurrent otitis media with effusion (OME), recurrent sinusitis, and bronchiolitis. He underwent 5 tympanostomies during the last 4 years. PCD was suspected, for which nasal biopsy was done and returned negative. Genetic panel testing was positive and confirmed PCD. In July 2020, he presented to the ER with tympanostomy tube otorrhea. Ear culture showed growth of *Vibrio alginolyticus* although the patient's mother reports following strict water precautions without any exposure to swimming pools nor seawater. Ciprofloxacin and Ofloxacin were prescribed, and he improved.

**Conclusion:** PCD should not be ruled out based on the first negative investigation. It also should be suspected in patients with recurrent OME and ventilation tube procedures, especially if there is a history of concomitant respiratory illness.

## 53. Cochlear Implantation in Post-lingual Adults: A 25 Years of Experience in King Abdullah Ear Specialist Center

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### Abstract:

**Background:** Cochlear implantation (CI) is known to be one of the most effective measures of treating severe-to-profound hearing loss. We aim to share our 25-year experience in this topic, including the surgical and auditory outcomes.

**Methods:** We retrospectively reviewed the charts of all post-lingual adults, aged  $\geq 18$  years, implanted in King Abdullah Ear Specialist Center (KAESC) between September 1994 and March 2020. Data retrieval included patients' demographics, clinical evaluation, operative details, post-operative course, and audiologic evaluation.

**Results:** Our review included 176 CIs done on 144 patients, 89 males. Mean age at CI was  $35 \pm 15$  years. Hearing loss etiology was unknown in 43% (62/144), congenital in 13% (19/144), febrile illness in 13% (19/144), and traumatic in 10% (15/144). Years of hearing deprivation prior to the CI was  $15 \pm 11$  years (1-56). Pure tone average preoperatively was  $102 \pm 15$  db. It improved significantly after the CI to  $29 \pm 10$  db ( $P < 0.001$ ). Speech reception threshold improved as well from  $103 \pm 26$  db to  $29 \pm 12$  db ( $P < 0.001$ ). Of those with available information, 88% (84/96) are using the implant with satisfaction, 2% (2/96) are using it without satisfaction, and 10% (10/96) are not using it. Overall, major complications occurred in three patients. One underwent CI explantation due to severe pain, and two had device malfunctioning. Other minor complaints were reported in 18%.

**Conclusion:** CIs in postlingual adults are well established in KAESC with significant auditory improvements outweighing the risks.

## 54. Hypothyroidism and the Risk of Coronary Heart Disease among patients attending KAMC-R.

Mahzari MM<sup>1</sup>, Alserehi A<sup>1</sup>, Almutairi S<sup>1</sup>, Alanazi K<sup>1</sup>, Alharbi M<sup>1</sup>, Mohamud M<sup>1</sup>

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<sup>2</sup> KAMC-R

### Abstract

**Objectives:** Several studies suggested that Hypothyroidism is an accelerating factor for coronary artery disease (CAD), and there is an association between Thyroid Stimulating Hormone (TSH) levels and CAD. Therefore, our aim of this study is to assess the prevalence of CAD in patients with Hypothyroidism, and to then evaluate the risk factors of CAD in patients with Hypothyroidism at King Abdulaziz Medical City, Riyadh (KAMC-R).

**Method:** In this cross-sectional study, we included 412 Hypothyroidism patients who followed at KAMC-R between 2013 and 2018 by using convenience sampling. We excluded patients under the age of eighteen. We made a structured data collection sheet that includes Hypothyroidism-related variables, lipid profile, and whether the patient has CAD or not. We also included Hypertension, BMI, and family history as CAD risk factors. We have set the level of significance at 5%.

**Findings:** Among the 412 patients, females represented 77.4% of the sample. We found the prevalence of CAD among Hypothyroidism patients at 21.8%, with 44.1% of males and 15.4% of the females being diagnosed with CAD. All CAD patients have been diagnosed with Hypothyroidism before developing CAD. We also found that the level of TSH significantly higher in CAD patients before, and at the time of diagnosis of CAD (8.04, 8.73) respectively compared to non-CAD patients (4.73, 4.68). Furthermore, we found the levels of T3 are all-time low in patients with CAD with the mean (2.97). On the other hand, T4 was only lower with a significant p-value at the time of diagnosis of CAD (12.32) compared to non-CAD (13.24). We also found the level of HDL, LDL, Cholesterol lower in CAD patients (0.89, 2.39, 4.05). In contrast, Triglyceride, HbA1c are higher in CAD patients (1.78, 7.59). We found smoking, family history, hypertension, and male gender are risk factors for CAD with odd ratios of (8.79, 7.97, 2.25, 2.85) respectively.

**Conclusion:** We found the prevalence of CAD in patients with Hypothyroidism at 21.8%. We also found a strong relationship between the TSH, T3, and T4 with developing CAD. Patients with Smoking history, HTN, Positive family history, were more likely to develop CAD, along with the male gender.



## **55. A rare case of superior vena cava obstruction in a 16-year-old boy with Burkitt's lymphoma and COVID-19 pneumonia.**

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## 56. Incidence and Predictors of 30-Day Postoperative Complications following Musculoskeletal Tumor Surgery.

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### Abstract

**Objectives:** Surgical intervention remains one of the best curative approaches in musculoskeletal (MSK) tumors. However, postoperative complications remain an issue, especially within the first 30-day postoperatively. Hence, the main objective of this study is to estimate the incidence and to identify the predictive factors of 30-day complications following MSK tumor surgery (MTS).

**Methods:** This is a retrospective, descriptive study of 85 patients who had undergone MTS between 2016 and 2019 in our institution. The included patients were those who had MTS caused by a malignant tumor or giant cell tumor.

**Results:** Twenty-eight patients (33%) had a complication during the first 30 days following surgery. The most common complication was surgical site infection in 64% (n = 18 / 28) followed by venous thromboembolism in 11% (n = 3 / 28) and then death in 7% of the patients (n = 2 / 28). Complications were distributed equally among genders. The complication rate was 36% in bone tumor surgeries (n = 22 / 61) and 21% in soft tissue tumor surgeries (n = 4 / 24). Ewing's sarcoma patients had the highest complication rate among bone tumors (36%, n = 8 / 22). Lower extremities' surgeries had the highest complication rate (35%, n = 18 / 51). Furthermore, 80% of the patients with a cardiovascular condition other than hypertension developed a complication (n = 4 / 5, P = 0.0322).

**Conclusion:** One-third of the patients who underwent MTS developed a complication within a 30-day duration. The diagnosis of Ewing's sarcoma, surgery of lower extremities, and preexisting cardiovascular conditions was linked to a higher complication rate.

## 57. Indications for Phakic Implantable Collamer Lens with Central Port Exchange or Explantation in Patients with and without Keratoconus.

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### Abstract

**Purpose:** The purpose of this study is to evaluate the causes of Phakic Implantable Collamer Lens (ICL) exchange/removal in patients with and without Keratoconus (KC) at two tertiary hospitals in Riyadh, Saudi Arabia.

**Materials and methods:** A retrospective chart review was performed of all patients who underwent ICL with central port exchange/removal at two tertiary hospitals between January 2013 to January 2020.

**Results:** Out of 2283 of ICL insertion procedures; 46 implants (2%) undergone an ICL exchange/removal, of which 14 cases (30.4%) for patients with keratoconus. The most common indication for ICL exchange/removal in keratoconus group was inaccurate vault sizing in 11 patients (78.57%), inaccurate refraction in 2 patients (14.28%), and dissatisfaction was the cause in one patient (7.14%). Indications in non- keratoconus group were vault measurement, cataract formation, increased intraocular pressure, inaccurate refraction, and dissatisfaction in 22 (68.75%), 4 (12.5%), 3 (9.37%), 2 (6.25%), and 1 (3.12%), respectively.

**Conclusion:** Incorrect ICL size was the most common cause of ICL exchange/removal. More accurate sizing methods for ICL are required to reduce the exchange/removal rate.

**Key words:** Explantation, Exchange, Implantable Collamer Lens, Vault.

## 58. KAMC Chronic Kidney Disease Education Class Improves Rates of Early Dialysis Modality Choice and Access Creation.

Saud Alodah, Bandar Alanazi, Mohammed Alrehaily, Elwaleed Elhassan

### Abstract

**Background:** most patients with end stage kidney disease begin hemodialysis in unplanned fashion necessitating to start with a catheter. Despite better or similar patients' outcomes, preemptive transplant and peritoneal dialysis are underutilized in KSA. Early education may help patients accept their disease and choose a kidney replacement therapy modality that reduces complications and matches their lifestyle. A pilot multidisciplinary monthly educational class has been running in KAMC since January 2017 for patients with advanced CKD referred from nephrology outpatient clinics.

**Aim of the study:** to assess the impact of the educational class on therapy choices and outcomes.

**Methodology:** this is a retrospective study based on individual phone interviews for the first 60 class attendees in 2017 and 2018. Study proposal, consent and questionnaire were approved by KAIMRC. Demographic data was obtained from KAMC electronic medical records.

**Results:** Out of 60 class attendees, 40 complete responses were collected. Males were two thirds while females were a third of the attendees. Attendees' ages ranged between 20-85 years, with the majority in 46-65 group. Most were married (75%), unemployed or retired (40%, 30%), had basic or no education (42.5%, 35%), and were overweight or obese (45.0%, 27.5%). After attending the class 31 patients (77.5%) chose preemptive kidney transplant as their first preferred therapeutic choice. If transplant is not feasible; 19 patients (47.5%) chose HD as their second preferred therapeutic choice whereas 16 patients (40%) chose PD. When interviewed (1-2 years after attending the class), 32 out of 40 patients were begun on KRT; of which 14 (43.8%) on HD via a catheter, 11 (34.3%) via a native fistula, and 7 (21.9%) on PD. Hence 18/32 (56%) avoided an urgent HD catheter commencement. Apart from transplant, half of educated patients chose PD as their preferred therapeutic choice while only 3 out of 14 illiterate patients (21.4%) chose PD (P value=0.05).

**Conclusion:** Compared to the national average, KAMC CKD Education Class resulted in a significant proportion of patients accepting the diagnosis of kidney failure, pursuing preemptive native HD access, and enrolling in PD. Peritoneal dialysis seems to be more preferred by educated patients.

## 59. Knowledge and attitude towards total knee arthroplasty among the public in Saudi Arabia: a nationwide population-based study.

Al-Mohrej O, Alshammari F, Aljuraishi A, Bin Amer L, Masuadi E, Al-Kenani N

### Abstract

**Introduction:** Studies on total knee arthroplasty (TKA) in Saudi Arabia are scarce, and none have reported the knowledge and attitude of the procedure in Saudi Arabia. Our study aims to measure the knowledge and attitude of TKA among the adult Saudi population.

**Methods:** To encompass a representative sample of this cross-sectional survey, all 13 administrative areas were used as ready-made geographical clusters. For each cluster, stratified random sampling was performed to maximize participation in the study. In each area, random samples of mobile phone numbers were selected with a probability proportional to the administrative area population size. Sample size calculation was based on the assumption that 50% of the participants would have some level of knowledge, with a 2% margin of error and 95% confidence level. To reach our intended sample size of 1540, we contacted 1722 participants with a response rate of 89.4%.

**Results:** The expected percentage of public knowledge was 50%; however, the actual percentage revealed by this study was much lower (29.7%). A stepwise multiple logistic regression was used to assess the factors that positively affected the knowledge score regarding TKA. Age [ $P = 0.016$  with OR of 0.47], higher income [ $P = 0.001$  with OR of 0.52] and participants with a positive history of TKA or that have known someone who underwent the surgery [ $P < 0.001$  with OR of 0.15] had a positive impact on the total knowledge score.

**Conclusions:** There are still misconceptions among the public in Saudi Arabia concerning TKA, its indications and results. We recommend that doctors use the results of our survey to assess their conversations with their patients, and to determine whether the results of the procedure are adequately clarified.

## 60. Knowledge and attitudes of sexually transmitted infections among medical students in Riyadh, Saudi Arabia.

Abuabat. A, MBBS, Alfarhan. A, MBBS, Alahmari. R, MBBS, Alanazi. W, MBBS, AlJaafary. A, MBBS, Agha. S, Phd, Omair. A, Phd, Masud. N, Phd.

King Saud Bin Abdulaziz University for Health Sciences.

### Abstract

**Introduction:** Sexually transmitted infections (STIs) are among the most common diseases worldwide, putting great pressure on healthcare systems with health, financial, and social implications. However, they are a class of diseases that are preventable due to them having limited routes of transmission. The control of STIs is effectively done through the promotion of preventive and safe sexual practices. This prevention began by assessing the current state of knowledge of undergraduate medical students. This study was conducted to assess the knowledge and attitudes of future educators, i.e., medical students, toward STIs.

**Methodology:** A questionnaire-based, cross-sectional study was conducted among male, undergraduate, medical students of three major universities in Riyadh, Saudi Arabia, namely King Saud University, King Saud Bin Abdulaziz University for Health Sciences, and Alfaisal University.

**Results:** The total number of participants in this study was 387 students. Out of them, 22% were from Alfaisal University, 36% were from King Saud University, and 41% were from King Saud bin Abdulaziz University for Health Sciences. There were no significant differences between the different variables and attitudes toward STIs. However, there was a statistically significant relationship between the level of knowledge and academic year, phase, university, and type of school.

**Conclusion:** This study clearly indicates gaps in the knowledge of medical students in the three designated universities, with Alfaisal scoring the highest in knowledge among them. Further research should investigate the reason behind this gap and the best method to address it. Moreover, additional emphasis on the knowledge of STIs and prevention should be implemented into the curriculums.

## 61. Large right atrial mass, is it a tumor or a thrombus? A case report.

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### Abstract

**Background:** Tumors and thrombi in the right atrium (RA) are rare. Some masses are difficult to differentiate, leading to misdiagnosis. We present the case of a young female who presented with a thrombus in the RA, which was confused with a tumor.

**Cases description:** A 28-years-old single female, with a 5 months history of progressive shortness of breath, palpitation, severe cardiomyopathy with an ejection fraction of <20%, presented with severe acute chest pain aggravated by flight. An electrocardiogram was conducted, which showed atrial fibrillation, and echocardiography showed a large clot occluding the flow of the pulmonary trunk. The patient was admitted to the intensive care unit as a case of decompensated heart failure. Ten days later, transesophageal echocardiography and computed tomography angiography were carried out which showed a mass on the RA appendage, and it looked like a thrombus. Magnetic resonance imaging was carried out later which showed that the mass behaved more like a tumor than a thrombus. The mass was surgically excised and final pathology indicated a thrombus adherent to cardiac muscle.

**Conclusions:** The imaging diagnosis of the masses is challenging since the differentiation of their characteristics is confusing even with the modality of choice.



## 62. Live Birth Rate Comparison between Single vs Double Ovary Women with Assisted Reproductive Technology: A Single Center 18 Years' Experience.

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### Abstract

**Background:** Recommendations toward Assisted Reproductive Technology (ART) brought hope into infertile couples. ART comprise a variety of technologies which manifest in different outcomes that needs to be studied in depth. Hereby, we aim to estimate live birth rate (LBR), and pregnancy rate (PR) in single and double ovary women.

**Methods:** A retrospective cohort study included women who underwent ART at King Abdulaziz Medical City, from Jan 2000 to Dec 2018. A comparison of LBR between women with single and double ovary was done. The patient data for five cycles was collected and the outcome in terms of live birth rate, conservative and optimal birth rate was compared across both groups.

**Results:** Four-hundred and three women were included for final analysis. Amongst 430, 9% (n=37) had single ovary while 91% (n=366) double ovary. The total number of live births was 164. The overall LBRs in five cycles were estimated as 8.8%, 16.4%, 18.2%, 17.8%, 14.7%, respectively. In double ovary group, the highest rate was in the fourth cycle [19.1% (12.4-25.8)], while in single ovary group it was the third cycle [27.3% (8.7-45.9)]. Nevertheless, we found no statistical difference between LBR and number of ovaries ( $P>0.05$ ). Pregnancy was at its highest in the first cycle and accounting for 88, while at its lowest in the fifth cycle.

**Conclusion:** The outcomes of ART varied between studied groups and different factors played substantial roles. LBR were found lower in single ovary women. An average of five cycles in single and double ovary were estimated as 13.04% and 15.34%, respectively. Higher numbers of live births were recorded in double ovary group. The difference between pregnancy and live birth numbers was drastically vast in the first cycle then it decreased across the remaining cycles.

## 63. Management of ventriculo-gallbladder shunt in the presence of gallstones.

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### **Abstract:**

Hydrocephalus is a prevalent health problem that is frequently encountered by paediatric neurosurgeons during infancy and childhood. We report a case of an 11-year-old boy with high cerebrospinal fluid protein hydrocephalus secondary to optic glioma that required a ventriculoperitoneal (VP) shunt. The patient had multiple failures of VP shunt and developed massive ascites. Alternatively, the hydrocephalus was treated by ventriculo-gallbladder (VG) shunt in the presence of sludge which was removed from the gallbladder before placement of the shunt. After VG shunt insertion, the patient expressed signs of infection with elevated liver profile, which emphasised the presence of gallstones. While the shunt was kept in its place without any complications, the gallstones were successfully removed by an endoscopic retrograde cholangiopancreatography.

**In conclusion**, the presence of sludge is not a contraindication for VG shunt placement, and, if the VG shunt was complicated with gallstones, it could be treated without the need for cholecystectomy.

## 64. Methicillin Resistant Staphylococcus aureus bacteremia: Epidemiology, Clinical Characteristic and Outcome in Tertiary Care Center in Riyadh.

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### Abstract

**Background:** Methicillin-resistant Staphylococcus aureus (MRSA) has become increasingly common in hospitals worldwide. The prevalence of MRSA bacteremia is influenced by geographical location. The aim of this study is to identify epidemiology of MRSA blood stream infection, risk factors, and mortality in King Abdulaziz Medical City in Riyadh.

**Methods:** A retrospective chart review study from January 2013 till June 2017; all patients with positive blood culture for MRSA at King Abdulaziz Medical City (KAMC) which is a tertiary care center in Riyadh, Saudi Arabia were included. Data were extracted from electronic and paper medical records for patients who had positive blood culture for MRSA. Data collected included demographics, microbiological details and 30 days mortality.

**Results:** From 2013 through June 2017, 633 S. aureus bacteremia were reported in KAMC, of which 184 (29.07%) were MRSA. The mean age of these patients was 60 years. All of our isolates were susceptible to vancomycin, linezolid and tigecycline. The most common infectious syndrome these patients presented with was endovascular infection which accounts for (30.4%) while (19.9%) presented as a case of pneumonia. Skin and soft tissue infections was reported in (19.3%), urinary tract infection (13.5%). 30 days' mortality in the five years demonstrates a total of 38/174 (20.65%) patients died within 30 days of collection of the positive blood culture.

**Conclusions:** The prevalence of MRSA bacteremia at KAMC is high and increasing and carries a significant rate of mortality. Identifying the prevalence of MRSA bacteremia in each locality is of significance to help monitoring MRSA infection in each hospital. Also, it helps recognizing new risk factors in each society.

## 65. Modeling risk assessment for breast cancer in symptomatic women: a Saudi Arabian study.

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### Abstract

**Background:** Despite the continuing increase in the breast cancer incidence rate among Saudi Arabian women, no breast cancer risk prediction model is available in this population. We developed a risk assessment tool to distinguish between the high risk and low risk of breast cancer in a sample of Saudi women who were screened for breast cancer.

**Methods:** A retrospective chart review was conducted on symptomatic women who underwent biopsy of breast mass between 08 September 2015 and 08 November 2017 at King Abdulaziz Medical City-Riyadh (KAMC-RD), Saudi Arabia. We retrieved data on demographic, clinical, reproductive factors, and breast imaging tests.

**Results:** A total of 633 women with available breast biopsy findings were analyzed, with 404 (63.8%) malignant breast biopsies and 229 (36.2%) benign breast biopsies diagnosed. Women  $\geq 40$  years old (adjusted odds ratio [aOR]: 6.202, confidence interval [CI]: 3.497-11.001,  $P = 0.001$ ), menopausal hormone therapy (aOR: 24.365, 95% CI: 8.606-68.987,  $P = 0.001$ ), postmenopausal (aOR: 3.058, 95% CI: 1.861-5.024,  $P = 0.001$ ), and family history of breast cancer (OR: 2.307, 95% CI: 1.142-4.658,  $P = 0.020$ ) were independently associated with an increased risk of breast cancer. This model showed an acceptable fit and had area under the receiver operating characteristic (ROC) curve (AUC): 0.877, 95% CI: 0.851 - 0.903 with optimism-corrected AUC = 0.865. We defined probability  $\geq 0.72$  to predict a high-risk breast cancer woman.

**Conclusions:** The risk model includes age, hormone therapy, postmenopausal, and family history of breast cancer, and shows substantial ability to identify women at high risk of breast cancer. External validation is required to assess the effectiveness of the model in prospective cohort and then develop primary preventive strategies for breast cancer in Saudi Arabia.

## 66. Title Not available

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### Abstract

**Background:** Rapid weight loss after bariatric surgery is a known risk factor for cholelithiasis development. This study aimed to estimate the incidence of cholelithiasis following bariatric surgery among morbidly obese patients who underwent bariatric surgery.

**Methods:** This is a retrospective cohort study of all morbidly obese patients who underwent bariatric surgery in King Abdulaziz Medical City (Riyadh, Saudi Arabia) or King Abdulaziz Hospital (Al Ahsa, Saudi Arabia) between January 2015 and December 2018. Patients with a history of cholecystectomy or previous bariatric surgery were excluded. We estimated the incidence rate of cholelithiasis among the cohort. We also examined the associated risk factors of cholelithiasis development.

**Results:** The study cohort contained 490 patients (38.7% males; 61.43% females) with a mean age of  $36.87 \pm 11.44$  years. Most patients (58.54%) were followed up for 12 months. The incidence of cholelithiasis post-operation was 6.53% ( $n = 32$ ). The average period of cholelithiasis formation was 12–24 months. The percentage of total weight loss (TWL%) was significantly associated with the development of cholelithiasis post-operatively.

**Conclusion:** A significant association was found between weight loss following bariatric surgery and the incidence of cholelithiasis. Gender, age, and comorbidities were not associated with the formation of cholelithiasis. We recommend regular follow-up appointments with thorough patient education about gradual weight loss to reduce the risk of developing cholelithiasis.

**Keywords:** gallstones, weight loss, cholecystectomy, BMI—body mass index, LSG, laparoscopic sleeve gastrectomy

## 67. Neonatal Hospital Readmission: Rate and Associated Causes.

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### Abstract

**Background:** The neonatal period is important for establishing a strong healthy foundation and is also associated with high mortality and morbidity rates. This study aimed to determine the rate of neonatal hospital readmission and to identify the associations between the neonatal age at readmission and the length of stay (LOS) during readmission, the outcome of readmission, and the associated maternal and neonatal factors.

**Methods:** A cross sectional study was performed by reviewing the medical records of 570 neonates who were born in and readmitted to King Abdulaziz Medical City, Riyadh, Saudi Arabia, through emergency and outpatient clinics from January 2016 to December 2018.

**Results:** The neonatal readmission rate during the study period was 2.11%. The most common causes for readmission were respiratory diseases (24.9%), jaundice (22.1%), and fever to rule out sepsis (16.7%). Sex and breast feeding were significantly associated with neonatal age at readmission (P-value = 0.025 and 0.017, respectively), but only breast feeding was a significant predictor of age at readmission. Males were more likely to be admitted at the age > 7 days; and exclusively formula-fed neonates were approximately 3 times the risk compared to exclusively breast-fed neonates to be admitted at age > 7 days (Adjusted RR 2.9, 95% CI). Neonates readmitted at ages > 7 days had double the LOS as those readmitted at ages ≤ 7 days (P-value < 0.001). The outcomes (discharge or paediatric intensive care unit admission) had no significant association with the neonatal age at readmission.

**Conclusion:** The readmission rate was 2.11% and was most commonly due to respiratory diseases. Age at readmission was significantly associated with sex, breast feeding, and LOS. Assessment of the factors associated with readmission before discharge may reduce the rate of readmission.

## 68. Neurological Complications in Children with Infective Endocarditis: Incidence, Risk Factors and Outcome: A 10 years Single Center Experience.

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### Abstract

**Introduction:** Despite improvement in medical management, infective endocarditis (IE) remains a serious disease that may affect children with and without preexisting cardiac condition 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.

**Methods:** A retrospective cohort study was conducted from 2009-2019 where all pediatric patients fulfilling 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 results.

**Results:** We identified 31 (17-male) patients with IE. Neurological complications occurred in 7/31 (23%) patients, mainly in form of 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, 0.04), respectively. Although mortality was higher in neurological complications group 43% in comparison to 21% in control group, it did not reach statistical significance (p=0.49). Large vegetation size (more than 10mm) was seen in 57% of patients with neurological complications compared to 16% in control group (p= 0.052).

**Conclusion:** Neurological complication occurred in almost quarter of children with IE. Possible risk factors include lower body weight, left-sided valvular lesion and higher level of inflammatory marker (CRP). Stroke was the most common neurological complication encountered with possible increased risk of mortality.



## 69. Nurses Compliance to Standard Precautions in a Specialized Flu Clinic at King Abdul-Aziz Medical City, Riyadh, Saudi Arabia.

Almuhareb, M, Binfadhl, M, Alotaibi, T, Masud, N, Alonazi, E, Alenazi, T

### Abstract

#### Introduction:

Standard precautions are required in all hospital settings to avoid transmission of infections and to protect patients and health care workers. Hand hygiene was found to significantly reduce influenza A virus transmission (1). The use of face mask in combination with hand hygiene during influenza A (H1N1) pandemic, have also proven to reduce influenza transmission (2). Nurses, being the core work force of hospitals because of their close contact with patients, makes compliance to standard precautions, a crucial step in preventing infection transmission in hospitals. (3)

**Aim & Objectives:** To assess nurse's compliance to standard precautions in a specialized flu clinic at King Abdul-Aziz Medical City, Riyadh, Saudi Arabia

**Methods:** We have conducted a cross-sectional study in the Flu Clinic at King Abdul-Aziz Medical City, Riyadh, Saudi Arabia. All nurses were included, both genders, all nationalities, and who were working there for more than 5 months. It was a cross sectional design and convenience sampling technique was done. Percentage was used to describe variables with a confidence level of 95% and any p-value of less than 0.05 was statistically significant. Data was statistically analysed using V24-SPSS and organized using EXCEL. Chi-square was used to cross compare all variables to find differences.

**Results:** Overall compliance rate was found to be 90%. The highest scores were 93% on 3 scales of whether nurses sanitize their hands immediately after procedures involving possibility of touching urine, feces, or procedures touching airway discharges, or dispose needles, blades, and other sharp materials in containers that are specific for that purpose. However, 22% of nurses never immediately disinfect, squeeze affected part, dresses it after workplace accidents with potentially contaminated sharp materials. Furthermore, 32% of nurses never wear caps and shoe covers when there is a possibility of touching drops of blood, bodily fluids, discharges, or debris.

**Conclusion and recommendations:** This study investigated compliance with standard precautions among nurses in a specialized Flu clinic at KAMC, Riyadh, Saudi Arabia which was significantly high. Further studies are recommended using larger sample size.

## 70. Title Not available

### Abstract

**Objective:** To compare the inflammatory outcomes of diclofenac versus dexamethasone in patients after strabismus surgery.

**Data Sources:** A systematic review and meta-analysis were performed as per the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) Guidelines. An electronic search of databases was conducted on MEDLINE, EMBASE, EMCARE, CINAHL and the Cochrane Central Register of Controlled Trials (CENTRAL) with the last search on 2nd of June 2020.

**Study Selection:** All Randomised Controlled Trials (RCTs) comparing the outcomes of diclofenac versus dexamethasone post-strabismus surgery were included.

**Data Extraction and Synthesis:** An extraction spreadsheet was amalgamated that abided with Cochrane's data collection form for intervention reviews. Review Manager 5.3 was used for data analysis based on the fixed and random effect models.

#### Main Outcome(s) and Measure(s)

Discomfort, inflammation, chemosis, conjunctival gap and intraocular pressure (IOP) were primary outcome measures. Secondary outcomes included conjunctival congestion and injection, discharge and drop intolerance. Fixed and random effect models were used for the analysis.

**Results:** Five RCTs enrolling 248 subjects were enrolled. At week 2 post-operatively, there was a significant difference favouring diclofenac over dexamethasone in terms of discomfort (Mean Difference [MD] = -0.37, P = 0.02), conjunctival inflammation (MD = -0.16, P = 0.02), conjunctival chemosis (MD = -0.16, P = 0.04) and post-operative conjunctival gap (MD = -0.17, P = 0.002). However, there was no significant difference in those outcomes at day 1, week 1 and week 4. Additionally, there was no significance in terms of the intraocular pressure, despite a trend favouring diclofenac. For secondary outcomes, dexamethasone had significantly improved results compared with diclofenac in terms of conjunctival congestion; however, diclofenac was associated with significantly less injection at site of muscle attachments at week 2. No significant difference was noted in terms of discharge and drop intolerance.

**Conclusions and Relevance:** Diclofenac is superior to dexamethasone in patients following strabismus surgery as it improves discomfort, inflammation, conjunctival chemosis, conjunctival gap and IOP only at week 2 post-operatively.

## 71. Parents' Knowledge, attitude, and practice towards influenza immunization of children aged 6-60 months: A cross - sectional survey study at a tertiary care hospital in Riyadh, Saudi Arabia.

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### Abstract

**Background:** One of the most common seasonal respiratory tract infectious diseases that cause a high morbidity and mortality rate is influenza. It results in a substantial burden on the healthcare system and caregivers. Vaccination is the primary tool for preventing influenza, and the mainstay to alleviating influenza outbreaks and disease severity. Our study aimed to assess parental knowledge, attitudes, and practice towards the seasonal influenza vaccination of their children aged 6 to 60 months at a tertiary care hospital in Riyadh, Saudi Arabia.

**Methods:** This study is a cross-sectional study conducted between the period of 2017-2018. All parents of children aged 6-60 months and medically free were potential candidates for this study. Those who agreed to participate anonymously completed a validated questionnaire. The level of knowledge was assessed using the knowledge scoring system. Participants who scored  $\leq 5$  and  $> 5$  were classified to have an inadequate or excellent level of knowledge, respectively.

**Results:** 369 respondents were included in the analysis. The overall knowledge of the participants was inadequate since only 16% of participants scored  $> 5$ . However, their attitude was positive. 239 (64.8%) expressed intent to immunize their children against influenza. The most common two barriers that prevented the parents from vaccinating their children were; worrying about the adverse effects of vaccines (36%) and believing that the vaccine does not have a positive effect (23%). There was a correlation between intention to immunize and parents' knowledge and awareness.

**Conclusion:** The attitude of the parents of children aged 6-60 months toward the seasonal influenza vaccine was positive; however, knowledge was insufficient. Pediatricians and other healthcare professionals should be encouraged to be more involved in educating the population to broadly address misperceptions and promote vaccination.

## 72. Perception and Attitude of Stem Cell donation among blood donors in Riyadh, Saudi Arabia.

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<sup>1</sup> COM-R, KSAU-HS.

<sup>2</sup> RU, MED, COM-R, KSAU-HS.

<sup>3</sup> SSCDR, KAIMRC, KSAU-HS, KAMC, MNGHA, RIYADH, SA.

### Abstract

**Background:** Stem cells are the building blocks of organisms. Stem cells have the ability to differentiate into specific cell types. This type of cell is extremely helpful in the medical field nowadays, as they possess the regenerative power that enables them to have many useful applications. There are two main methods of SC donation; bone marrow harvest and peripheral blood stem cell apheresis.

**Method:** A cross-sectional study that investigated the perception and attitude towards stem cell donation among blood donors at KAMC blood bank through a self-administered questionnaire that consists of 35 questions in 5 sections, demographic, knowledge, attitude, willingness, and fear sections.

**Result:** The survey was distributed to 400 respondents with a response rate of 100%, 98.75% were male, 90.75% were Saudi, and the majority of them were in the 18-29 age group (57.5%). The majority of respondents' education level was high school (64.75%). 53.75% of the respondents were knowledgeable about platelet donation, 53% of the respondents had donated blood more than five times. Only 10.75% of them were knowledgeable with a mean score of 56.3% with a standard deviation of 22.3%. 40-49 age group, females, people with a doctorate, master, bachelor degree, people who are knowledgeable about platelets donation, people who donated blood more than ten times had higher knowledge with a p-value 0.029, 0.010, 0.000, 0.001, 0.000, respectively. people with a master's degree or bachelor had a high level of fear of complication, whereas people with a high school degree had less fear with a significant p-value (0.003). Non-Saudi were more agreed to the need of applying stem cell donation widely with a significant p-value (0.001). The attitude towards the donation of stem cell was highly positive in knowledgeable people. The willingness to donate stem cells if a family member is in need were strongly agreed in (94.5%) and (62%) if someone else is in need. 95% preferred to donate through PBSCA. 85.5% had no fear from PBSCA, 69% had fear from BMH.

**Conclusion:** The knowledge about SC donation among blood donors was low, although their willingness and fear about the donation were positive.

## 73. Perception of Breastfeeding among Saudi Community.

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3 KAMC-NGHA, Riyadh

4 KFMC, Riyadh

### Abstract

**Introduction:** There is no doubt about the enormous benefits of breastfeeding, however its prevalence is not optimal. In the Saudi community exclusive breastfeeding ranges between 7.3 % and 37%

**Aim:** To examine the knowledge and perception of the Saudi community regarding breastfeeding and investigate factors affecting its perception

**Methods and Material:** a cross-sectional study. The data was collected utilizing a questionnaire used in a 2015 Hong Kong survey report, which was translated to Arabic. The questionnaire asked about background information, knowledge about breastfeeding, exposure to breastfeeding awareness, exposure to formula milk advertisement, and acceptance of breastfeeding vs. bottle feeding in public. Data was analyzed using the Statistical Package for the Social Sciences (SPSS v. 21). For the analysis, p-value < 0.05 was considered significant.

**Results:** 914 samples were included for analysis. When asked about whether breast milk or formula milk is more beneficial to the health of babies, 94% answered breast milk is more beneficial, while 0% answered formula milk, 4% answered both are equally beneficial, and 2% did not know. The age of participants, educational level and monthly income were not found to have a significant effect on acceptability of breastfeeding in public places. There was however a significant difference between male and female acceptability of this issue, p-value < 0.001: Among male participants 39% disapproved, 24% were neutral, and 37% approved of breastfeeding in public places; while among female participants 18% disapproved, 11% were neutral, and 70% approved. Approval of breastfeeding in public places was significantly higher among participants who had family members breastfed 68%, compared to those who had not had family members breastfed 50%, with a p-value of 0.010.

**Conclusions:** majority of the population knew that breastfeeding is more beneficial than formula milk. Acceptability of breastfeeding in public places is affected by factors such as gender, and whether the individual has a family member who was breastfed.

## 74. Perceptions, knowledge, and attitude towards complementary and alternative medicine amongst Saudi patients with vitiligo.

Elzahrani M, Aleid A, Alhwimani A, Altamamy S, Almaliki R, AlKushi A, AlJasser M, Feroz Z.  
COM-R/COSHP/KAIMRC

### Abstract

**Background:** Complementary and alternative medicine (CAM) is a popular method of self-medication in Saudi Arabia, both in dermatology and medicine in general. However, no research has been conducted about the use of CAM in vitiligo patients locally. Due to the chronic nature of vitiligo and the paucity of options for conventional treatment, mostly limited to topical corticosteroids and narrowband UVB monotherapy, vitiligo patients are likely to approach alternatives; some of these alternatives include herbal medicine, prophetic medicine, and dietary supplements. Hence, this study was conducted to explore the perceptions, knowledge, and attitudes of Saudi vitiligo patients towards CAM. The most common types of CAM, source of information regarding CAM use, and frequency of use were also reported.

**Methods:** Vitiligo patients visiting the dermatology clinic in King Abdul-Aziz medical city for phototherapy were approached by the co-investigators and asked to fill a validated self-administered questionnaire comprised of 23 questions. Data was collected for 12 months and was coded and analyzed using SPSS 23. Chi-square, T-test, and one-way ANOVA were utilized during the data analysis.

**Results:** The study included 200 patients. Females comprised 56% of the study population, and the mean age of participants was 31.6 years old ( $\pm 15.45$  years). The majority of patients used CAM (52%). Interestingly, the most common source of information regarding CAM use was social media (28%). Most CAM users reported irregular use (45.6%). The most popular CAM's were those mentioned in prophetic medicine including honey (37%), *Nigella sativa* "Blackseed" (29%), and olive oil (29%). Possibly harmful methods such as excessive sunbathing, topical application of apple cider vinegar, and the use of unknown herbs purchased from apothecaries were reported as well. A concerning finding was that 18.5% of CAM users preferred to not inform their dermatologist of their CAM use.

**Conclusion:** Most vitiligo patients in the study used CAM and the most popular modalities were those associated with prophetic medicine like honey (37%), blackseed (29%), and olive oil (29%). Further education of patients regarding the safe use of CAM and increasing public awareness are required.

## 75. Medical students' awareness of Personal Digital Assistant Devices impact on their health.

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### Abstract:

Personal Digital Assistant Devices (PDAs) have been developed to meet humans' needs. Therefore, nowadays, laptops and iPads are frequently used by medical students to facilitate the learning process. However, PDAs have serious impacts on human health, and up to 2018, there has been inadequacy in research that study the medical students' awareness about PDAs' effects on their health. Accordingly, this research focuses on evaluating the students' awareness of PDAs' effect on their health. This is a descriptive cross-sectional study that was conducted at the college of medicine of King Saud bin Abdul-Aziz University for Health Sciences (KSAU-HS) in Riyadh, Saudi Arabia. The participants were medical students who use PDAs for study purposes. A questionnaire consisting of 3 sections, "demographic information", "PDAs usages" and "Assessing the knowledge of the PDAs effects" was distributed. A sample of 289 medical students participated in the study. Kruskal–Wallis test was used to analyse the relationship between the knowledge score and the year of study. The ages of participants ranged from 19 to 25 years. The median and Interquartile range (IQR) age of the study participants was 22.00(21.00 – 23.00). Approximately, 56% of the participants were males. The majority of the students were from year 3. In the sample, 48% (138) of the students don't exercise daily. The average hours spent daily while using PDAs for studying was 5 hours with SD (2.7). 167(58%) of the students reported that studying using PDAs has affected lives. The most experienced effects reported were dry eyes and vision problems, headache and migraine, backache and neck pain as 53(54%), 19(20%), 17(17.5%) respectively. The current study revealed that the majority of medical students have adequate knowledge of PDAs' effects on their health despite their continuous use. More attention should be paid to reduce the effects on their health. Therefore, it is important to raise campaigns to increase the awareness of all the students and the community.



## 76. Predicting Hip Fracture Risk in Older Women in Saudi Arabia.

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### Abstract

**Background:** The incidence of hip fractures globally is 1.3 million and is expected to reach 7–21 million cases by 2050. This study aimed to determine the 5- and 10-year risks of hip fracture in Saudi women by using QFracture score and to determine the association between risk scores and patients' characteristics.

**Method:** This cross-sectional study included 203 older women recruited from November 2019 to August 2020. Patients were interviewed using QFracture questionnaire.

**Results:** The mean hip fracture risk score over five years was 5.43% (standard deviation (SD) 8.95), while for 10 years, it was 12% (SD 12.4). Several variables were significantly associated with high hip fracture risk score: age  $\geq 80$  years (5-year risk:  $F=38.990$ ,  $p<0.001$ ; 10-year risk:  $F=58.882$ ,  $p<0.001$ ), history of fragility fracture (5-year risk:  $T=-4.424$ ,  $p<0.001$ ; 10-year risk:  $T=-5.866$ ,  $p<0.001$ ), and history of fall (5-year risk:  $T=-3.989$ ,  $p<0.001$ ; 10-year risk:  $T=-4.563$ ,  $p<0.001$ ).

**Conclusion:** Older age is associated with an increased risk of hip fracture. In addition, the following patients' characteristics contributed to increased risk of hip fracture: normal body mass index, history of fragility fracture, living in a nursing home, history of fall, parental history of osteoporosis, cancer, history of cardiac disease, history of chronic kidney disease, history of rheumatoid arthritis or systemic lupus erythematosus, chronic liver disease, endocrine disorders, and type 1 diabetes mellitus. In contrast, hypertension and osteoarthritis were associated with a low risk of hip fracture.

## 77. Predictors and Clinical Outcomes of Permanent Pacemaker Insertion Following Transcatheter Aortic Valve Implantation.

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### Abstract

**Background:** Transcatheter aortic valve implantation (TAVI) is a procedure done for symptomatic severe aortic stenosis. Permanent pacemaker (PM) insertion is a known complication of TAVI. The aim of this study was to identify incidence and predictors of this complication, and to assess clinical outcomes of patients requiring PM after TAVI.

**Methods:** We conducted a retrospective chart review of 174 patients who underwent TAVI in our hospital from 2010 to 2018. 74 independent variables were collected per patient to identify predictors. We compared clinical outcomes including in-hospital complications, 30-day survival, and 1-year survival.

**Results:** 48 of 170 patients (28.2%) required PM within 30 days of TAVI. The median time from TAVI to PM insertion was 2 days (IQR: 0 to 5 days). Positive predictors of PM insertion were prior right bundle branch block (20.8% vs 2.5%;  $p < 0.001$ ), development of left bundle branch block after TAVI (45% vs 26.3%;  $p = 0.027$ ), PR interval increment of more than 28 milliseconds after TAVI (30.6% vs 7.6%;  $p < 0.001$ ). Diabetes was a negative predictor of PM insertion (60.4% vs 76.2%;  $p = 0.039$ ). PM implantation was associated with longer median hospital stay (19 days vs. 14 days,  $p = 0.015$ ). There was no statistically significant difference in survival or complications in both groups.

**Conclusion:** One-third of patients require PM after TAVI. Rhythm on serial ECGs before and after TAVI may identify future PM requirement. PM insertion is associated with longer hospital stay but does not affect other outcomes.

## 78.Prevalence and Risk Factors of Chronic Venous Disease among Females in Riyadh City, Saudi Arabia.

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### Abstract

**Background:** Chronic Venous Insufficiency (CVI) in Chronic Venous Disease encompasses morphological and functional abnormalities within the lower limb in which venous return system is impaired by reflux, obstruction or muscular pump failure. Varicose veins are one of the most common chronic venous disorder of the lower limbs. It occurs frequently in most populations which causes considerable morbidity and imposes high cost at therapeutic, occupational and social levels.

**Method:** This study aimed to measure the prevalence, demographic variables and risk factors associated of Varicose Veins in the adult female population in Riyadh, the capital city of Saudi Arabia. This cross-sectional study was conducted in different setting areas in Riyadh city.

**Result:** A total 380 adult females, aged 18 to 65 years were included. The prevalence of Varicose Veins among the study participants was 181 (47.6%). Using Clinical, Etiological, Anatomical, Pathophysiological classification (CEAP), (129, 33.9%) of participants were C1. Chi Square test revealed a positive relationship between age, educational level, marital status, positive family history, body mass index <0.001 and use of oral contraceptives 0.002. Study participants reported pain (35%) and restlessness (33.4%) as the most frequent leg symptoms. Multivariate regression analysis showed a significant association between age and positive family history of Varicose Veins with the presence of Varicose Veins with odds ratio above 1.

**Conclusion:** This study showed a high prevalence of varicose veins among females in Riyadh city. Risk factors such as age and positive family history were significantly associated with increasing prevalence of varicose veins using regression analysis model. More cohort studies with representative samples are needed to assess risk factors associated with development and progression of varicose veins in our population."

## 79. Prevalence of acne vulgaris, its contributing factors, and treatment satisfaction among the Saudi population in Riyadh, Saudi Arabia: A cross-sectional study.

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### Abstract

**Introduction:** Acne vulgaris is one of the most common inflammatory disorders worldwide and mainly affects young people. The frequency of acne and how it is treated in Saudi Arabia is not well characterized. Purpose: The aim of the study was to determine the prevalence of acne vulgaris among the Saudi population in Riyadh, Saudi Arabia.

**Methods:** This was a cross-sectional survey study that was carried out in Riyadh, Saudi Arabia, in the period from March to July 2019. The questionnaire was filled by a convenience sample of 346 Saudi participants aged 15–30 years. The survey questions were related to acne prevalence, associated factors, treatment practices, and depression.

**Results:** Seventy-eight percent of the participants reported having acne. Females were more commonly affected (86.1%) than males (69.9%,  $P < 0.001$ ). Only 31.5% of the individuals who had acne consulted a dermatologist in the past 12 months. The most frequently prescribed medication was isotretinoin (19.2%), and 71.4% were happy with the results of using it compared to only 38.2% who used topical antibiotics ( $P = 0.012$ ). Males reported a less depression (21.5%) compared to females (46.3%,  $P < 0.001$ ).

**Conclusions:** Acne vulgaris has a high prevalence in Saudi Arabia, but only one-third are getting treated by health-care providers. Efforts should be made to increase awareness about acne vulgaris and its treatment.

**Keywords:** Acne vulgaris, impact, prevalence, Saudi Arabia, treatment practices

## 80. Prevalence of colorectal cancer biomarkers and their impact on clinical outcomes in Riyadh, Saudi Arabia

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### Abstract

**Objectives:** KRAS, NRAS, and BRAF mutations are commonly present in colorectal cancer (CRC). We estimated the frequency of KRAS, NRAS, and BRAF mutations and assessed their prognostic value among Saudi patients.

**Design:** Retrospective cohort study design

**Settings:** Oncology department of a tertiary hospital in Riyadh, Saudi Arabia. We gathered information from 2016 to 2018.

**Participants:** Cohort of 248 CRC patients to assess the demographic data, pathological tumour features, response to treatment modalities, disease progression, and metastasis.

**Statistical analysis used:** Correlation analysis using the chi-square test.

**Results:** Demographic data revealed that 84% of patients were diagnosed with CRC above the age of 50 years. Only 27% of patients presented with distant metastasis. KRAS mutations were the most prevalent (49.6%), followed by NRAS mutations (2%) and BRAF mutations (0.4%). Wild type tumours were found among 44.4% of patients. KRAS mutation showed no significant correlation with the site, type, pathological grade, and stage of the tumour. No significant difference was found between the prognoses of CRC patients with the KRAS mutation and patients with wild type genes. The mean survival time among patients with KRAS mutations was shorter than that among patients with wild type CRCs (15 vs. 20 months).

**Conclusions:** Saudi CRC patients had a high frequency of KRAS mutations and a low frequency of BRAF mutations. The KRAS mutation status did not affect the patients' clinical outcomes.

**Keywords:** KRAS, NRAS, BRAF, colorectal cancer, prognosis

## 81. Prevalence of Self-reported Kidney Disease among First Degree Relatives of Saudi Patients on Dialysis and Its Relationship with Speculative and definitive causes of CKD in the index.

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### Abstract

**Introduction:** CKD is common in Saudi Arabia. This study evaluates and compares the prevalence and clinical characteristics of Saudi dialysis patients with a positive family history of kidney disease to those without such a history and to assess certainty of the CKD diagnosis by their physicians.

**Methods:** This is a cross-sectional survey-based study on adult Saudi hemodialysis patients in six dialysis centers in four Saudi cities. The first part of the survey recorded the demographic variables and the degree of diagnostic certainty (completed by the physicians) and the second part (completed by the patients) recorded first degree family history of kidney disease.

**Results:** A total of 1080 patients were included. The prevalence of positive family history (FH) was 21.5%. The number of relatives affected was 285, (41%) were parents and (57%) were siblings. More relatives of female patients had ESRD than in relatives of male patients (80.2% and 68.9% respectively) ( $p=0.0001$ ). There were significantly more patients with “unknown” or “hypertensive” diagnostic labels among the patients with FH of kidney disease than in the group without a family history ( $p=0.007$  and  $0.005$  respectively). Dialysis vintage was significantly shorter and CKD vintage was significantly longer in positive FH patients ( $4.9 \pm 6.4$  yrs.) than in patients without FH ( $5.9 \pm 5.8$  yrs) ( $p=0.03$ ). The duration since the diagnosis of CKD was made was significantly longer in patients with FH of kidney disease ( $7.5 \pm 7.7$  yrs.) than in patients without ( $2.0 \pm 4.5$ ) ( $p=0.0001$ ). Of all the diagnoses given to the patients, more than half (57.8%) were either “unknown” (33%) or only speculative in nature (25.3%). In those with a diagnostic label, the diagnosis was thought to be definitive in only 62.2% of the cases.

**Conclusion:** The prevalence of FH of kidney disease was 21.5%, and it was more prevalent with patients with “unknown” or “hypertension” (13%) diagnostic labels.

## 82. Prognosis of low level of lipoprotein cholesterol and triglycerides in patients with acute coronary syndromes in King Abdulaziz Cardiac Center, King Abdulaziz Medical City, Riyadh. Saudi Arabia.

Aljizeeri, A. Abdullah, A. Altoyan, M. Alhelal, M. Bin Talib, F. Albaqami, F.

### Abstract

**Background:** coronary artery disease is a major cause of morbidity and mortality in developed and developing countries. The prognostic value of normal levels of LDL and TG in Saudi population wasn't evaluated. The aim of the study is to assess the prognostic value of normal levels of triglycerides and LDL in patients presenting with ACS to King Abdulaziz Cardiac Center at King Abdulaziz Medical City, Riyadh, Saudi Arabia.

**Methods:** This is retrospective cohort made by electronic chart review of all the patients presented with ACS to KACC from 2008 to 1/12/2019. Demographic data, hypertension, dyslipidemia, diabetes, the levels of LDL and triglycerides were collected as well as the rate of death (all-cause death and cardiac death).

**Results:** A total of 393 patients were included in the analysis (Age;  $64.3 \pm 12.14$ , 65.1% males). The mean LDL was  $3.6 \pm 2.8$  mmol/L. TG was  $1.8 \pm 1.4$  mmol/L. Risk factors were prevalent in this cohort. 81 (20.5%) patients had cardiac events. Logistic regression of LDL level was significantly associated with outcome OR 0.916 (95% CI, 0.818 to 0.997)  $p=0.044$ . however, normal level of LDL didn't predict poor outcome OR 0.912 (95% CI, 0.539 to 1.543),  $p=0.732$ . On the other hand, TG level wasn't associated with poor outcome OR 1.066 (95% CI, 0.903 to 1.259)  $p=0.447$ . However, TG level of more than 0.04396 mmol/L was significantly associated with poor outcome OR 2.009 (95% CI 1.22 to 3.292)  $p=0.006$ .

**Conclusion:** Our findings suggested that lower levels of LDL were associated with higher rate of adverse outcome. This association wasn't observed with TG and total cholesterol. However, high level of TG was found to have two folds increase risk of outcome. Therefore, more aggressive control of other risk factors should be pursued in this population.



## 83. Prognostic Value of Physical Fitness in Patients with Suspected Coronary Artery Disease Referred to Cardiac Positron Emission Tomography.

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### Abstract

**Background:** Predicting outcome is pivotal in the management of stable coronary artery disease (CAD). Physical fitness (PT) measured by exercise time provides independent and incremental prognosis in patients with suspected CAD. Recently, Positron Emission tomography (PET-MPI) has emerged as a robust diagnostic and prognostic tool for evaluation of CAD. However, due to pharmaceutical properties of the radiotracers used in PET, exercise cannot be combined with PET-MPI. Whether PT has an added prognostic value over PET-MPI is unknown. Therefore, we sought to evaluate the prognostic value of PT measured by exercise time in patients referred for PET-MPI for suspected CAD.

**Methods:** A retrospective cohort study of patients with suspected CAD referred to PET-MPI at King Abdulaziz Cardiac Center who had exercise stress test before the PET exam. Patients with known CAD, congenital heart disease and cardiac transplant were excluded. Patients were followed up for cardiac death, non-fatal Myocardial Infarction (CD/MI) and MACE including late revascularization.

**Results:** 637 patients (51.3 ±9.6 years, 75% males) were enrolled in the analysis. Diabetes, hypertension, and hypercholesterolemia were prevalent. 494 (77.5%) patients exercised for >6 minutes while 22.5% exercised for <6 minutes. Patient who exercised > 6 minutes tend to be males (p<0.0001) and had lower diabetes and hypertension (p=0.0003 and p=0.037 respectively). After a median follow up of 5.8 years, the rate of CD/MI and MACE were 4.4% and 8.5% respectively. Exercise time more than 6 minutes was associated with 60% less risk of CD/MI (HR = 0.37, P-value = 0.007). However, after adjusting for the confounder including age, risk factors and myocardial perfusion, exercise time did not predict poor outcome (p= 0.078).

**Conclusion:** Physical fitness has no added prognostic value over PET variables for prediction of CD/MI or MACE in patients with suspected CAD. Larger prospective studies are needed to confirm these findings.

**Key words:** Coronary artery disease; Stress test; Positron emission tomography; MACE; Cardiac death; Myocardial infarction.

## 84. Psychologic stress and burnout among dental staff: A cross-sectional survey.

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### Abstract

**Background:** Professional burnout, a prolonged response to stress, may affect standards of patient care. Burnout is defined as emotional exhaustion (EE), depersonalization, and diminished personal accomplishment (PA). Aim: The aim of the current study is to identify and compare the psychologic stress and burnout levels among different job titles and specialties in the dental services department. We also examined the effects of marital status, age, and sex on stress and burnout levels. Settings and Design: A cross-sectional study conducted in the department of dental services at a tertiary medical complex.

**Materials and Methods:** A convenient sampling approach was used to distribute the questionnaire in the dental services department (n = 177, response rate = 88.5%). Two-validated questionnaires, the Psychological Stress Measure-9, and Maslach Burnout Inventory–Human Services Survey, were used. Statistical Analysis: SAS 9.4 (SAS Institute Inc., Cary, NC, USA) was used for data analysis. P<0.05 was considered statically significant.

**Results:** The mean ( $\pm$  standard deviation) stress level was 32.6 ( $\pm$ 11.43), with the highest stress levels seen in consultants and residents (39.17% and 38.33%, respectively). Hygienists and technicians exhibited the highest lack of PA (24.53%), consultants exhibited the highest EE (24.64%), and residents exhibited the highest impersonal response toward patients (26.67%).

**Conclusion:** Participants with the job title “Consultant” or “Resident” are the most stressed and burnt-out dental personnel. Specialty, sex, age, and marital status were not identified as risk factors for stress and burnout in our study. Stress and burnout should be reduced to maintain standards of patient care.

## 85. Pulse Pressure as an Early Warning of Haemorrhage in Trauma Patients.

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### Abstract

**Introduction:** low systolic blood pressure (SBP) is a well- studied indicator of hemorrhage. However, the utility of pulse pressure (PP) for hemorrhage detection has not been extensively studied.

The purpose of this study was to determine whether a narrowed PP in non-hypotensive patients is an independent predictor of bleeding requiring surgical or endovascular control.

**Methods:** It was a retrospective cohort study (January 2001 to September 2019), including trauma patients  $\geq 16$  years old with SBP  $\geq 90$  mmHg upon emergency department admission, Data extracted from BestCare health recording system at NGH facilities in Riyadh.

We identified patients who were both received blood products and required either surgical or interventional radiology for definitive hemorrhage control as the active hemorrhage (AH) group. Analyses were then conducted to explain the relationship between PP and hemorrhage.

**Results:** From January 2001 to September 2019, 1387 patients met our inclusion criteria, 1220 (88 %) are males and 167 (12 %) are females and the mean age was  $30.7 \pm 13.4$  years. 513 (37%) patients considered to be active hemorrhage (AH) group, when compared it with those who are non active hemorrhage (non-AH), we found that there was a significant difference in pulse pressure ( $36.4 \pm 15.7$ mmHg vs  $51.5 \pm 14.3$  mmHg,  $p < 0.001$ ) and more frequently had a narrow pulse pressure  $< 25$  mmHg (90% vs 10%  $p < 0.001$ ).

**Conclusion:** A narrowed PP is an independent early indicator of active hemorrhage in patients who are non-hypotensive and need blood product transfusion and hemorrhage control intervention.

Pulse pressure is a simple and easily measured variable that can help direct the care of trauma patients by using it early in the resuscitation process.

## 86. Rate of Keratoectasia Post LASIK vs. Post PRK in a tertiary Eye Hospital in Riyadh, Saudi Arabia; A Retrospective Study

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3 King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia

### Abstract

**Purpose:** To determine the rate of postoperative ectasia among patient underwent laser in situ keratomileusis (LASIK) vs. photorefractive keratectomy (PRK).

#### Settings

At a single eye institute, King Khaled Eye Specialist Hospital in Riyadh, Saudi Arabia. All patients who were diagnosed with post-refractive ectasia post LASIK and post PRK from the year 2014 to 2020 were reviewed retrospectively.

**Methods:** Evaluation of age, gender, spherical equivalent refraction, intraocular pressure (IOP), pachymetry, topographic data, type of refractive surgery, presence of flap, and time to the onset of ectasia.

**Results:** A total of 704 charts of ectasia were reviewed; of which 127 eyes were identified as post LASIK/PRK ectasia. Only 26 of the cases were females (p-value >0.0001). The mean age at ectasia was 31 years (ranges from 20 to 39 years old). Ectasia occurred after LASIK in 114 cases while 13 cases were after PRK (p-value >0.0001). LASIK group presented with a higher average k max 54.04 compared to 51.58 in the PRK group. Mean central corneal thickness was 444.4  $\mu$ m (ranges from 272-570) and 490  $\mu$ m (ranges from 404-570) after LASIK and PRK respectively (P-value 0.004).

**Conclusion:** Our study revealed significantly lower rate of ectasia among patients who underwent Photorefractive keratectomy and a lenient clinical outcome compared to LASIK patients.

## 87. Retrospective study of childhood Neurobrucellosis in tertiary care center in Saudi Arabia in twenty years' experience.

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<sup>2</sup> Head, Biostatistics Section King Abdullah International Medical Research Center

<sup>3</sup> Consultant of pediatric department.

### Abstract

**Background:** Brucellosis is a zoonotic bacterial infectious disease. The infection is usually transmitted to humans through the consumption of contaminated unpasteurized dairy products or getting in contact with infected animals. Brucellosis patients are at risk of developing many complications that can affect multiple organ systems of the human body including the CNS which is called Neurobrucellosis. The symptoms of Neurobrucellosis are similar to many other diseases, and thus it can be misdiagnosed. Our aim is to assess the risk of Neurobrucellosis among those who were exposed to risk factors of Brucellosis. In addition to assessing the clinical presentation and the outcomes of pediatric Neurobrucellosis.

**Methods:** A retrospective chart review study of patients diagnosed with Brucellosis and Neurobrucellosis from January 1998 to December 2018 at both King Abdulaziz hospital (before the year of 2015), and King Abdullah Specialist Children's Hospital in Pediatric Neurology, our subjects included the pediatric patients aged from (0-14) years diagnosed with Brucellosis.

**Results:** A total of 291 brucellosis patients were included of whom 214 (73.5%) were males. The mean age was 7.95, 98.6% were Saudi. Neurobrucellosis development accounted for 6 patients (2.4%).

**Conclusion:** We recommend that patients diagnosed or have a history of brucellosis and have symptoms such as: fever, headache, neck stiffness should be screened for the development of Neurobrucellosis. Advising the use of protective equipment when in contact with farm animals. More community-based public education activities are required for the proper handling of unpasteurized dairy products.

**Key words:** brucellosis; neurobrucellosis; pediatric

## 88. Retrospective Study of Post-operative Implantable Cardiac Devices Infections in a Cardiac Tertiary Care Center in Riyadh, Saudi Arabia in a Seven Years' Experience.

Modi Alamer<sup>1</sup>, Yara Alhamad<sup>1</sup>, Foz Alanazi<sup>3</sup>, Husam Ardah<sup>2</sup>, Haitham Alanazi<sup>1, 3</sup>

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2 King Abdullah International Medical Research Center, Riyadh, Saudi Arabia; 3Ministry of National Guard-Health Affairs, Riyadh, Saudi Arabia.

### Abstract

**Background:** The worldwide health burden of Sudden cardiac death (SCD) is largely increasing as the risk factors of cardiac diseases are increasing. Multiple randomized controlled trials have proven that Implantable Cardioverter Defibrillators are used as a life-saving preventive measure for susceptible individuals at risk of SCD. As the incidence of infection of cardiac implantable electronic devices (CIEDs) is increasing and exceeding that of implantation, the need for a detailed risk factor based paper is crucial to control and reduce the number of infected patients.

**Methods:** A retrospective case control study conducted at King Abdulaziz Cardiac Center in Adult Cardiology in National Guard hospital in Riyadh, Saudi Arabia between (January 2012-December 2018). Our subjects included 23 infected patients and 190 non-infected controls who underwent cardiac electronic device implantation from all nationalities of both genders aged from 14 above who were managed and seen in the cardiac centre.

**Results:** Our study included 213 of whom 23 (10.8%) were infected. The mean age  $\pm$  SD was  $47.2 \pm 14.04$ . Anticoagulant use, age and smoking were the most common patient-related risk factors associated with infection. Regarding procedural and post-procedural risk factors, as the number of leads and length of procedure increases the risk of infection will be higher. In addition, the most reported type of device related to infection was pacemaker.

**Conclusion:** Our study is the first to aim for better understanding of risk factors and clinical presentation related to the patients to improve prompt diagnosis and treatment quality in order to reduce the economic impact on the health care systems by minimizing the infectious complications. We advise the prompt use of strict preoperative antiseptic prophylaxis measures and the follow-up for post-implant patients along with patient's education for early signs of infections.

## 89. Review on Damage Control Surgery.

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University for Health Sciences, Riyadh,  
Saudi Arabia

### **Abstract:**

Damage Control Surgery (DCS) is a concept of abbreviated laparotomy, designed to prioritize short-term physiological recovery over anatomical reconstruction in the seriously injured and compromised patient. Over the last 10 years, a new addition to the damage control paradigm has emerged, referred to as Damage Control Resuscitation (DCR). This focuses on initial hypotensive resuscitation and early use of blood products to prevent the lethal triad of acidosis, coagulopathy, and hypothermia. This review aims to present the evidence behind DCR and its current application, and also to present a strategy of overall damage control to include DCR and DCS in conjunction. The use of DCR and DCS have been associated with improved outcomes for the severely injured and wider adoption of these principles where appropriate may allow this trend of improved survival to continue. In particular, DCR may allow borderline patients, who would previously have required DCS, to undergo early definitive surgery as their physiological derangement is corrected earlier.



## 90. Risk of Thyroid Cancer in Patients Treated Surgically with Assumed Benign cytology in Riyadh, Saudi Arabia.

Al Essa, M<sup>1</sup>, Doubi, A<sup>1</sup>, Aldosari, L<sup>2</sup>, Alkhaldi, A<sup>2</sup>, Alzahrani, M<sup>2</sup>, Alsadi, M<sup>2</sup>, Alsalem, A<sup>3</sup>

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2 College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KASU-HS). Riyadh, Saudi Arabia.

3 Department of Otolaryngology, Head and Neck Surgery, King Abdulaziz medical center.

### Abstract

**Introduction:** Fine needle aspiration (FNA) is a well-established technique in the diagnosis, staging and follow-up of thyroid nodules. FNA results are routinely reported using the Bethesda System for Reporting Thyroid Cytopathology (BSRTC). This study aims to report the rate of thyroid malignancy in cases of benign fine-needle aspiration (Bethesda category II) at a single tertiary care center.

**Method:** In this retrospective study, all patients referred for thyroid surgery between 2009 and 2019 were identified (n = 1968). Of these, only patients with benign FNA, corresponding to Bethesda category II, were included (n = 373). Information on age, gender, basal metabolic rate, serum stimulating thyroid hormone, type of surgery, and histopathological outcomes were retrieved. Patient data were reviewed to establish a correlation between the FNA results and histopathological outcomes.

**Results:** Out of 373 patients with initial benign FNA, 61 patients had a malignancy on postoperative pathological examination, yielding an overall false-negative rate of 16.4%. The most reported histotype is papillary thyroid microcarcinomas (n = 50). Among these 61 patients, average age was 44.7 (range 21-70) with 83.6% female predominance. The surgical choice was total thyroidectomy in 44 (72.1%) cases, hemithyroidectomy in 16 (26.2%) cases, and subtotal thyroidectomy in 1 (1.6%) case. There was no single factor showed significant association with an increased risk of malignancy.

**Conclusion:** This study indicates a higher risk of malignancy compared to previously published studies on benign FNA. Risk of malignancy should be considered even with benign FNA, and high clinical suspicion with attention to high-risk ultrasound features and patient history may guide to the proper intervention.

## 91. Safety and Efficacy of Maxitrol in Pediatric Age Group below 2 years with Adenoid Hypertrophy: A Retrospective Case-control Study.

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2 College of medicine, King Saud bin Abdulaziz University for Health Sciences.

### Abstract

**Introduction:** Adenoid hypertrophy is a common condition in children and represents one of the common indications for surgery in pediatrics. Medical treatment alone is not effective and most of the time those patients are managed by surgical removal of the adenoid. The aim of this study to assess the safety and efficacy of intranasal corticosteroids in pediatric patients with adenoid hypertrophy aged less than 2 years and to document any side effects during its use.

**Methods:** This retrospective case-control study was conducted at King Abdullah Specialist Children's Hospital (KASCH). We reviewed the charts of 86 pediatric patients aged less than 2 years who were diagnosed with adenoid hypertrophy between 2015 and 2017. Patients were grouped according to the type of intervention (use of Maxitrol, and no use). The follow-up time ranged from 1 to 3 years.

**Results:** Out of the total 86 patients, 75 (87.2%) were males and 11 (12.7%) were females. 55 (63.9%) patients had adenoid hypertrophy alone and 31 (36.1%) had adenoid hypertrophy plus another disease. Out of 86 patients, 47 (54.6%) used Maxitrol (case group), while 39 (45.3%) did not take Maxitrol (control group). Out of the patients who used Maxitrol, 22 (46.8%) were not booked for surgery within 1 year, and 25 (53.1%) were booked for surgery. No eye complications were reported in any of the patients.

**Conclusion:** The use of Maxitrol in pediatric age group below 2 years with adenoid hypertrophy was safe and effective in this small sample. Eye complications were not reported in any of our patients during the follow-up time. Further long-term large randomized clinical trials are needed to evaluate the safety and efficacy of Maxitrol.

## 92. Severe Asthma Patients experience and satisfaction with virtual clinics in a large tertiary care hospital during COVID-19 Period.

Yassar AL-Jahdali, Sami Alanazi, Thamer Alghamdi, Abdulmajeed Ratah, Ayaz Khan

### Abstract

**Background:** Enforced social distancing (i.e., lockdowns) greatly facilitated control of COVID-19. Whilst access to hospitals was restricted, outpatient care continued remotely. At our institute, the biologic therapy for severe asthma patients is administered on-site by specialist nurses who follow manufacturers' recommendations.

**Aim:** The aim of this study was to determine the satisfaction of patients with severe asthma with telemedicine, and the impact of COVID-19 lockdown on their receipt of biologics and other treatments for asthma.

**Methods:** A cross-sectional survey of 58 patients with severe asthma scheduled to receive biologic therapy at our hospital during the lockdown was performed with ethical approval.

**Results:** Fifty-four patients participated (F 37; mean age 46.7 years; response rate 93.1%). Meantime since diagnosis was 19.2 years (SD 11.5 years). All had been on biologic therapy Omalizumab (45), Mepolizumab (7), or Dupilumab (2) for over three months (mean 38.4 months  $\pm$  SD 26.5 months). Fifty (92.6%) had telephone follow-up, 31 (57.4%) were satisfied with telemedicine, 45 (81.4%) agreed that biologic therapy improved their asthma, and 40 (74.1%) received scheduled biologic therapy. Of the 45 patients living in the city, nine did not receive biologic therapy, two cited the lockdown as the reason for this; two did not receive an appointment; two did not perceive any benefit; 2 had other reasons. Five of the nine patients living outside the city did not receive biologic therapy, 3 because of the lockdown, and 1 for fear of acquiring COVID-19. Alarming, 16 (29.6%) suggested that they had insufficient medications, and 27 (50%) reported difficulty obtaining medications.

**Conclusions:** Many patients were satisfied with telemedicine, so this could be used to deliver routine outpatient tertiary care post-pandemic. However, logistics around supplying medications, and biologics must be considered in plans preparing for the second wave of COVID-19.

## 93. Sputum induction for pulmonary tuberculosis: Diagnostic yield & safety.

Yassar AL-Jahdali, Sami Alanazi, Thamer Alghamdi, Abdulmajeed Ratah, Mohammad Ayaz Khan, Rajkumar Rajendram, Abdullah AL-Harbi, Majed AL-Ghamdi, Hamdan AL-Jahdali, Mostafa Obaidi, Emad Masuadi

### Abstract

**Methods and materials:** A retrospective review of all patients who underwent SI from 03/12 to 10/19 was performed. All patients with suspected sputum-scarce TB referred for SI after clinical assessment, laboratory blood tests and imaging (i.e. CXR or CT) were included. Other indications for SI (e.g. malignancy) were excluded. Contraindications to SI include uncontrolled asthma or chronic obstructive pulmonary disease, active hemoptysis, recent eye surgery, unstable angina or arrhythmias and concurrent treatment with antituberculous therapy. Patients with these conditions were excluded. Besides standard demographic data, information on the results of sputum induction and the final diagnosis were collected in order to calculate the diagnostic characteristics of SI.

**Results:** Sputum induction was performed in 252 patients (mean age  $54 \pm SD 20$  years; Male 53%). Around 75% had risk factors for TB. Seven (2.8%) developed bronchospasm/chest pain during SI. Although a procedure was abandoned, none required admission. There were no other complications. Whilst 45 (18%) were diagnosed with TB on culture, only 26 (10%) had AFB on SI. Although not done on all specimens, TB PCR was positive in 16 (6.3%). The diagnostic yield increased to 78 (31%) if other investigations were performed (e.g. Bronchoscopy, Biopsies). A few patients (6, 2%) had an atypical mycobacterium.

**Conclusion:** Despite a negative result from sputum induction, the post-test probability of TB will be similar to the pre-test probability. Thus around 20% of TB can be missed by SI unless further investigations are performed. So, in patients suspected to have sputum-scarce TB in whom the risk of bronchoscopy is high, a clinical decision on the appropriateness of empirical therapy is often required.

## 94. Student Learning Experience during Medical Elective Program in College of Medicine at King Saud bin Abdulaziz University for Health Sciences.

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<sup>1</sup> College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

### Abstract

**Background:** The medical elective is a clinical experience program for first year medical students in College of Medicine (COM) at King Saud bin Abdulaziz University (KSAU-HS), Riyadh. It provides students with the opportunity to explore career possibilities, gain experience in aspects of medicine beyond core curriculum, and study subjects in greater depth. This study aims to evaluate the quality of medical elective program, identify the factors affecting student performance and learning during the elective, and to determine the relation between training quality and supervisor involvement.

**Methods:** A mixed-method sequential explanatory design was used, including quantitative and qualitative components conducted in COM at KSAU-HS. The quantitative data was collected from 589 students using evaluation forms upon their completion of the program. For data analysis, we used SPSS version 21, with P- value < 0.05 declared as statistically significant. Then, the qualitative data was collected by interviewing 10 supervisors and 10 students. The field experience, student activities, supervisors' involvement, and duration spent per week were used to assess the overall quality of the elective.

**Results:** The overall quality assessment of the elective program was excellent to very good. There is significant relationship between the quality of the program and supervisors involvement in training during the elective. Pediatrics departments showed significant difference in student activities along with the supervisors involvement. The quality of medical elective in emergency medicine, was significantly higher than those in surgery, medicine, family medicine and other specialties.

**Conclusion:** There is an association between the number of working hours per week and the overall quality of medical elective program. There is an association between the student activities and supervisors involvement during the elective and the quality of students' learning. Therefore, students activities, duration spent in the field, and supervisor involvement are important factors for the success of the program.

## 95. Superior Oblique Lengthening Procedure for Brown Syndrome, Outcome and Complications.

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2 Department of Pediatric Surgery, Division of Pediatric Ophthalmology, King Abdullah Specialized Children's Hospital, National Guards, Riyadh, Saudi Arabia.

3 King Abdullah International Medical Research Center (KAIMRC), National Guards, Riyadh, Saudi Arabia.

### Abstract

**Introduction:** To evaluate the outcome of the Superior Oblique Split Tendon Lengthening (SOSL) procedure for Brown syndrome (BS).

**Methods:** At a single institution, all patients who underwent SOSL surgery for BS from the year 2013 to 2019 were reviewed retrospectively. We looked at the outcomes and complications of the surgery in a total of 20 eyes of 18 patients. The SO muscle was isolated and then extend. Two 6-0 Polyglactin sutures are then placed on each end of the split tendon 6-10 mm apart. To complete the Z-cut, the split tendon is cut distal to the preplaced sutures. The sutures are then tied producing the split Z-tendon lengthening.

**Results:** Eleven (55%) of patients were female. The mean age of the patients was 6.6 years (ranges from 2-17 years). Mean follow up of 24.3 months (3 to 72 months). The mean degree of preoperative limitation of elevation on adduction (LEA) was  $-3.6 \pm 0.58$  preoperatively and  $-0.75 \pm 1.25$  postoperatively. The difference between the means of the elevation on adduction, primary position and abduction before and after the SO split tendon lengthening surgeries was found to be statistically significant (p-value 0.0001). Preoperatively, the mean degree of vertical deviation at near  $3.5 \pm 7.62$  and distance  $3.10 \pm 7.84$ , respectively. Postoperatively, the mean vertical deviation was  $2.77 \pm 4.75$  and  $2.10 \pm 4.08$  at near and distance respectively. Postoperative complications included hematoma 5% and Inferior Oblique overaction 10%. One patient required reoperation.

**Conclusion:** SOSL is a safe procedure that can be considered in the management of patients with brown syndrome.

## 96. Surgical Bioprosthetic Valve Implantation Intermediate and Long-term Outcomes in King Abdulaziz Medical City.

Alghamdi M<sup>1,2,4</sup>, Alnofal W<sup>3,4</sup>, Alanazi Sh<sup>3,4</sup>, Alehaideb R<sup>3,4</sup>, Alrajhi N<sup>3,4</sup>, Arifi A<sup>4,5</sup>, Alrajawi S<sup>1,4</sup>, Masud N<sup>2,3</sup>

### Abstract

**Background:** Heart valve replacement (HVR) is a standard of care procedure that modify the natural history of valvular heart diseases and improve the overall patient prognosis. We studied the incidence of intermediate and longterm outcomes of biological heart valves among patients who underwent surgical HVR at King Abdulaziz Cardiac Center (KACC) in Riyadh.

**Methods:** Observational retrospective cohort study of consecutive patients who underwent surgical biological HVR (n=143 patients) at KACC during the period between January 2004 and December 2020. Patients with concomitant mechanical HVR Study data were collected from electronic patient records and analyzed using the SPSS.

**Results:** The mean age of the study population was 60  $\pm$  2 years with a predominant male gender (59%). The most frequent underlying valve pathology was calcific valve degeneration (n=58, 40%), followed by rheumatic heart valve disease (n=41, 29%) then congenital heart disease (n=24, 17%). The most frequently replaced valve was the aortic valve (n=85, 61%), followed by the mitral valve (n=39, 27%). Death was confirmed in 35 cases (25%), eight of them were attributed to cardiac causes. Re-do valve surgery was performed in 9 cases (6%), six of them were in the aortic valve position. Prosthetic valve complications included; 4 cases of endocarditis, 8 cases of ischemic stroke and one case of cerebral hemorrhage. Preoperative atrial fibrillation (AF) persisted in 22 patients (15%) and disappeared from 9 patients (6%). New postoperative permanent AF developed in 18 patients (13%) while 94 (66%) were free of AF before and after surgery. Predictors of high risk for mortality, with a p value <0.05 included: older age group, history of hypertension, reduced follow fraction, worsening of ejection GFR or need for hemodialysis, and development of atrial fibrillation.

**Conclusion:** In this study of pure tissue long Prosthetic Heart Valve (term mortality is mostly attributed to nonPHV) surgical replacement, intermediate and cardiac causes. Predictors of adverse long outcomes in this population include; older age, hypertension, worsening of renal function and presence of postoperative atrial fibrillation.



## 97. Surgical Site Infections Following Pediatric Cardiac Surgery in a Tertiary Care Hospital: Rate and Risk Factors.

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\*\* = Both authors have contributed equally to this project

### Abstract

**Background:** Surgical site infections (SSIs) are the second most common type of healthcare-associated infections and leading cause of postoperative morbidity and mortality in pediatric cardiac surgery. This study aims to determine the rate of, risk factors for, and most common pathogen associated with the development of SSIs after pediatric cardiac surgery.

**Methods:** Patients aged  $\leq 14$  years who underwent cardiac surgery at our tertiary care hospital between January 2010 and December 2015 were retrospectively reviewed.

**Results:** The SSI rate was 7.8% among the 1,510 pediatric patients reviewed. Catheter-associated urinary tract infection (CAUTI) (odds ratio [OR] 5.7; 95% confidence interval [CI] 2.3-13.8;  $P < 0.001$ ), ventilator-associated pneumonia (VAP) (OR 3.2; 95% CI 1.4-7.2;  $P = 0.005$ ), longer postoperative stay ( $\geq 25$  days) (OR 4.1; 95% CI 2.1-8.1;  $P < 0.001$ ), and a risk adjustment in congenital heart surgery (RACHS-1) score of  $\geq 2$  (OR 2.4; 95% CI 1.2-5.6;  $P = 0.034$ ) were identified as risk factors for SSIs. Staphylococcus aureus was the most common pathogen (32.2%).

**Conclusions:** SSI risk factors were longer postoperative stay, CAUTI, VAP, and RACHS-1 score of  $\geq 2$ . Identification and confirmation of risk factors in this study is important in order to reduce the rate of SSIs following cardiac surgery.

## 98.The addition of silver nitrate cautery to antiseptic nasal cream for patients with epistaxis: A systematic review and meta-analysis.

### Abstract

**Objective:** To compare the outcomes of the addition of silver nitrate cautery versus antiseptic cream alone in paediatric patients with recurrent epistaxis.

**Methods:** A systematic review and meta-analysis were performed as per the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) Guidelines and a search of electronic information was conducted to identify all Randomised Controlled Trials (RCTs) and non-randomised studies comparing the outcomes of the addition of silver nitrate cautery versus antiseptic cream alone in paediatric patients with recurrent epistaxis. Treatment success and persistence of bleeding were primary outcome measures. Secondary outcome measures included treatment side effects. Fixed effects modelling was used for the analysis.

**Results:** Four studies enrolling 240 patients were identified. There was no significant difference between silver nitrate cautery group and antiseptic cream alone group in terms of complete resolution (Odds Ratio [OR] = 1.07, P = 0.81), the partial resolution (OR = 1.02, P = 0.96) and persistence of bleeding (OR = 0.91, P = 0.71). For secondary outcomes, antiseptic nasal cream was associated with few side effects such as rash in one case and several complaints of bad smell or taste.

**Conclusions:** The addition of silver nitrate cautery is not superior to the use of antiseptic cream alone in paediatric patients with recurrent epistaxis as it does not improve treatment success or persistence of bleeding.

## 99. The association between COVID-19 and cardiovascular complications.

Ahmed Aldubaikhi

### **Abstract**

The COVID-19 pandemic speedily emerging has placed an uttermost negative impact globally. The symptoms of this disease can range from mild to severe leading to further systematic complications. The presentation of the virus has shown evidence to cause life-threatening myocardial damage such as myocarditis, cardiac arrest, and acute heart failure. As the body's immune system secretes inflammatory cytokines to reduce viral proliferation, excessive cytokines will play a key role in the causation of heart failure. This also causes an increase in the structural changes of the cardiac muscle and vascular pathology. Abnormal cardiac biomarkers such as elevated levels of troponin were also found in patients battling the coronavirus. Upon recovery, cardiac magnetic resonance imaging (MRI) manifested the structural abnormalities which were a consequence of the virus proliferation. These conditions trouble physicians as they face tremendous challenges in the management and prognosis of the patient's situation. Many studies have been identifying the COVID-19 linkage with cardiovascular complications and the strategies of reduction.

## 100. The Association between Mobile Phone Use and Severe Traffic Injuries: A Case-Control Study from Saudi Arabia.

Suliman Alghnam, Jawaher Towhari, Mohamed Alkelya, Ahmad Alsaif, Mohamed Alrowaily, Fawaz Alrabeeh, Ibrahim Albabtain.

### Abstract

Road traffic injury (RTI) is the third leading cause of death in Saudi Arabia. Using a mobile phone when driving is associated with distracted driving, which may result in RTIs. Because of limited empirical data, we investigated the association between mobile phone use and RTI in injured patients and community controls in Riyadh. Cases were patients admitted to King Abdulaziz Medical City (KAMC) between October 2016 and March 2018 due to RTIs. During admission, mobile phone use at the time of the accident was investigated. The controls were drivers observed at various locations citywide. A logistic regression model was constructed to estimate the association between mobile phone use while driving and sustaining RTIs. We included 318 cases and 1700 controls. For the cases, using a mobile phone was associated with higher severity and prevalence of disability. In addition, using a mobile phone while driving is associated with 44% higher odds of incurring a severe RTI ( $p = 0.04$ ). Mobile phone use while driving is prevalent in Riyadh and poses a significant threat of disability. In addition, the low prevalence of seatbelt use is alarming and requires significant improvement. Prevention programs may use these findings to educate the public and policymakers and to advocate for increased visibility of enforcement to reduce RTIs and improve population health.

## 101. The Current Practice of Adult Idiopathic Scoliosis Surgical Treatment among Spine Surgeons in Saudi Arabia.

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### Abstract

**Background:** Scoliosis is a spinal deformity consisting of lateral curvature and rotation of the vertebrae. The goal of corrective scoliosis surgery is to restore alignment of the spine and maintain motion. However, there is no global agreement among spine surgeons on the best method of surgical intervention, and little is known about the variations in practice among spine surgeons in Saudi Arabia.

**Objectives:** The aim of this study is to examine the current surgical practices relating to adolescent idiopathic scoliosis and to establish the degree of variation and consensus among spine surgeons in Saudi Arabia.

**Methods:** This was a cross-sectional study conducted among spine surgeons in Saudi Arabia, using a self-administered questionnaire. The questionnaire addressed four areas: surgeons' demographics, pre-operative assessment, operative assessment, and infection control practices. There were a total of 27 questions. Data was analyzed using (SPSS) software.

**Results:** A total of 150 surgeons were included in this study. Of these, 73 responded to the questionnaire (response rate: 48.6%), (63.01%) of whom were fellows. All respondents were males, and 51.39% were aged between 30 and 40 years. 75.34% were orthopedic surgeons. The most commonly used pre-operative health assessment test was an echocardiogram. 90% of surgeons requested scoliosis anteroposterior (AP) view and lateral radiograph for curvature between 40 degrees and 90 degrees, and 89% requested it for curvature greater than 90 degrees. For the posterior construct, 45.31% did not use cross-links for fewer than 10 levels, and 35.94% did not use cross-links for more than 10 levels. In addition to a local bone graft, the most commonly used transplant method was allograft 37 50.68%. 85.94% respondents favored an all-screw pedicle construct over hybrid construct.

**Conclusion:** A large variation in surgical practices was observed. This was especially apparent in practices including the use of cross-links, intra-operative cell salvage, and the intra-operative use of traction. Some degree of variation was observed in pre-operative imaging assessment practices. Surgical guidelines should be developed to build a consensus among surgeons.

## 102.The effect of human placental chorionic villi derived mesenchymal stem cell on triple-negative breast cancer hallmarks.

Alaa T. Alshareeda , Emad Rakha, Ayidah Alghwainem, Bahauddeen Alrfaei, Batla Alsowayan, Abdullah Albugami, Abdullah M. Alsubayyil, Mohmed Abomraee, Nur Khatijah Mohd Zin

### Abstract

**Introduction:** Mesenchymal stem cells (MSCs) can influence the tumour microenvironment (TEM) and play a major role in tumorigenesis. Triple-negative [Oestrogen receptor (ER-), Progesterone receptor (PgR-), and HER2/neu receptor (HER2-)] breast cancer (TNBC) is an aggressive class of BC characterized by poor prognosis and lacks the benefit of routinely available targeted therapies. This study aims to investigate the effect of human placental chorionic villi derived MSCs (CVMSCs) on the behavior of TNBC in vitro.

**Methods:** This was done by assaying different cancer hallmarks including proliferation, migration and angiogenesis. Cell proliferation rate of TNBC cell line (MDA-MB231) was monitored in real time using the xCELLigence system. Whereas, Boyden chamber migration assay was used to measure MDA-MB231 motility and invasiveness toward CVMSCs. Finally, a three-dimensional (3D) model using a co-culture system of CVMSCs with MDA-MB231 with or without the addition of human umbilical vein endothelial cells (HUVECs) was created to assess tumour angiogenesis in vitro.

**Results:** CVMSCs were able to significantly reduce the proliferative and migratory capacity of MDA-MB231 cells. Co-culturing of MDA-MB231 with CVMSCs, not only inhibited the tube formation ability of HUVECs but also reduced the expression of the BC characteristic cytokines; IL-10, IL-12, CXCL9 and CXCL10 of CVMSCs.

**Conclusion:** These results support the hypothesis that CVMSCs can influence the behavior of TNBC cells and provides a basic for a potential therapeutic approach in a pre-clinical setting. The data from this study also highlight the complexity of the in vitro cancer angiogenesis model settings and regulations.

## 103. The frequency of genetic mutations in pediatric patients diagnosed with nephrotic syndrome: a single-center retrospective study in Saudi Arabia.

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### Abstract

**Background:** Genetic mutations may contribute to the etiology of nephrotic syndrome (NS). However, limited data are available on the common genetic mutations causing NS in the Saudi pediatric population. We therefore conducted this study to estimate the frequency of genetic mutations in pediatric patients diagnosed with NS.

**Methods:** A retrospective cross-sectional study was conducted at a single center in Riyadh, Saudi Arabia. The data of all pediatric patients diagnosed with NS from 2015 to 2019 were reviewed.

**Results:** We identified a total of 206 patients diagnosed with NS during the study period. Molecular genetic profiling was performed only for 35 patients who met the inclusion criteria. Female patients represented 42.8% of all cases (n = 15). The median age of the patients at diagnosis was 36 months (IQR 12–72). Associated anomalies were recognized in 37.14% of the patients (n = 13). Out of the 35 patients, 19 had positive molecular genetic results. Consanguinity was present in 18 (51.42%) of these patients. The most common homozygous mutation detected was PLCE1 (42.1%; n = 8), followed by NPHS1 (26.32%; n = 5). Heterozygous mutations were detected in three children (15.8%). CFB and WT1 mutations accounted for one patient each, and both COL4A5 and INF2 mutations were reported in a single child. Two mutant genes of unknown zygosity—CD151 and COL4A3—were also identified.

**Conclusions:** PLCE1 is a major underlying cause of NS. PLCE1 may cause diffuse mesangial sclerosis in the kidney with early-onset NS and a poor prognosis.



## 104.The Impact of Total Parenteral Nutrition on Pediatric Stem Cell Transplantation Complications.

Alramyan, R. Altheyeb, F. Alaqel, R. Alsalamah, S. Alrashed, R. Alessa, M.

### Abstract

**Background:** Hematopoietic stem cell transplantation (HSCT) is a curative treatment for malignant and non malignant disorders. However, complications such as mucositis, vomiting and diarrhea are very common. Nutritional support with Total Parenteral Nutrition (TPN) is usually commenced with benefits and risks. Complications related to central venous catheter such as infections, and metabolic disturbances including abnormal liver function is usually of concern in such patients.

**Methods:** A retrospective electronic charts review of 162 pediatric patients who underwent HSCT in King Abdullah Specialist Children Hospital in Riyadh between the period 2015-2018 was done to describe the indication of TPN use based on patients characteristics and to evaluate the impact of TPN on survival and possible related complications especially liver toxicity and rate of infections.

**Results:** a total of 162 HSCTs were identified during the period mentioned. Indication of allogenic transplant included hemoglobinopathy in 50 patients (31%), Acute lymphoblastic Leukemia in 21 patients (13%). TPN was used in 96 patients (59.30%) for a median of 14 days, nasogastric tube feeding (NGT) in 16 (9.90%) patients for a median of 11 days, and 71 of patients (43.80%) were able to tolerate oral feeding.

Out of the 96 patients (59.30%) who were dependent on TPN, 64 patients (66.7%) had severe mucositis in comparison to 17 patients (25.8%) who were either on NGT or tolerated oral intake. (P-value= 0.00)

Hepatic veno-occlusive disease (VOD) was seen in 14 patients (14.6%) who were receiving TPN compared to none in non-TPN patients (P=0.001). Moreover, majority of patients who had VOD received myeloablative conditioning therapy for non-malignant disease (hemoglobinopathy). However, There were no statistically significant differences in Graft-vs-Host Disease (both acute and chronic), bacteremia, and patient outcome between both groups.

**Conclusions:** Nutritional support using TPN is used in majority of patients especially post-myeloablative conditioning associated with severe mucositis. TPN was associated with VOD especially in hemoglobinopathy patients who received myeloablative therapy. This may emphasize on use of preventative measures such as fluid restriction, use of diuretics or defibrotide in high risk patients.

## 105. The Incidence of Central Nervous System Infection Post Ventriculoperitoneal Shunt Insertion among KASCH-RYD Pediatric Patients over 20 Years period.

Alnazer, M Hussain, Alshareef, Alhamzah, Aljohani, Azzubi, Alalola Zainab Alnazer<sup>1</sup>, Mariam A M.Hussain<sup>1</sup>, Mozon Alshareef<sup>1</sup>, Albanderi Alhamzah<sup>1</sup>, Alaa Aljohani<sup>1</sup>, Motasim Azzubi<sup>2</sup>, Suliman Alalol<sup>3</sup>

1 COM, KSAU-HS, Riyadh, Saudi Arabia.

2 Pediatric surgery, KASCH, Riyadh, Saudi Arabia.

3 Pediatrics, KASCH, Riyadh, Saudi Arabia.

### Abstract

**Background:** Surgical insertion of a ventriculoperitoneal (VP) shunt is the standard treatment of hydrocephalus. However, shunt infection is a major complication, and might lead to many complications.

**Methods:** A retrospective case series study was performed on 700 randomly selected pediatric patients to identify the incidence of infection post VP shunt surgery from 1997- 2017 in King Abdullah Specialized Children Hospital (KASCH), Riyadh, Saudi Arabia. Patients aged 0 - 14 years old who had their VP shunt surgery at KASCH were included. Patients who underwent any other neurological procedure one year prior to the VP shunt, patients with any missing data, and patients with immunodeficiencies were excluded. P-value of less than 0.05 was considered statistically significant, with a 95% confidence interval.

**Results:** Out of 172 included patients, 55.8% were females, and the majority (66.3%) were full-term babies. Preoperative prophylactic antibiotics were prescribed in 79.1% of the cases. Infection accounted for 9.3% with a mean symptoms onset time of 1.3 ( $\pm 2.5$ ) months post-operatively. Other post-operative complications found were; malfunction (21.5%), obtrusions (4.1%) and hemorrhage (0.6%). Pre-term gestational age reported a significant increase in infection incidence compared to other post-surgical outcomes with a percentages of 10.3%. Age and weight at surgery, and weight at birth were significantly associated with an increase in post-operative complications with p-values of 0.035, 0.043 and 0.022 respectively. Low birth weight was significantly associated with mortality with a p-value of 0.019.

**Conclusion:** The incidence of infections post VP shunt in this study was 9.3% with a mean symptoms onset time of 1.3( $\pm 2.5$ ) months post-operatively. Gestational age, age and weight at surgery were identified as the major risk factors for post-operative complications. Further studies to identify what makes pediatric patients more susceptible for infections post VP shunt surgery are needed.

## 106.The incidence of congenital heart defects in offspring among women with diabetes in Saudi Arabia at tertiary hospitals in NGHHA.

Sarah M Alyousif<sup>1,2,3</sup>, Faisal T Aldokhel<sup>1</sup>, Omar K Alkhanbashi<sup>1</sup>, Majed H Alqahtani<sup>1</sup>, Abdulrahman M Aladawi<sup>1</sup>, Abdullah A Ashmawi<sup>1</sup>, Emad Masuadi<sup>1,2</sup>, Ada Alqunaibet<sup>3</sup>

1 COM, KSAUHS

2 KAIMRC

3 CDC

### Abstract

**Background:** Congenital heart defect (CHD) is structural and functional abnormality of heart that present at birth. Among all congenital defects, CHD is the most common. In Saudi Arabia, estimate found that every year 5.4 per 1000 infants suffering from severe CHD. The exact etiology is unknown, but it has multiple risk factors which could be genetic and/or environmental factors. The research aimed to estimate the incidence of infants with CHD whose mothers have diabetes in Saudi Arabia at tertiary hospital in Ministry of National Guard – Health Affairs (NGHA).

**Materials and methods:** This study is a retrospective cohort. The population was all births of type 1(T1DM) and type 2(T2DM) diabetic mothers and non-diabetic mothers (also mothers with gestational DM) in Saudi Arabia at tertiary hospitals in NGHHA by following the exclusion criteria, mothers over 40 and below 20 years of age, deceased infants, and other risk factors such as drugs induce congenital disease. The data is the deliveries from January 1st 2018 to January 1st 2019. Data was collected by chart review using Best-Care system, an electronic health record at NGHHA hospitals. SPSS version 20 was used for the statistical analysis.

**Results:** A total of 1838 diabetic mothers, non-diabetic mothers, and the outcome is whether the infant has CHD or not were included in this study. Most of the mothers, 544 (30.11%) aged 30-34 years old. About two-thirds of mothers, 1161 (63.24%) weren't diabetic, 500 (27.2%) was gestational diabetic patients, 132 (7.19%) were T2DM, and 43 (2.34%) were T1DM. 218 (11.82%) of offspring had CHD with the overall ratio between male to female infants was 1.72:1. The most frequent echocardiographic abnormalities in the infant of diabetic mothers were patent ductus arteriosus (PDA), patent foramen ovale (PFO), and atrial septal defect (ASD).

**Conclusion:** The incidence of CHD among infants in this cohort study is 11.82% with overall ratio between male to female infants was 1.72:1. Pre-gestational DM (T1 and T2) had the highest influence in having CHD, however GDM and non-diabetic mothers had almost the incident.

<http://shorturl.at/bmsHK>

## 107. The Prediabetes Outcome at National Guard Primary Health Care Centers in Riyadh, Saudi Arabia: Retrospective Chart Review.

Alateeq M<sup>1</sup>, Aljohani M<sup>2</sup>, Kinani S<sup>1</sup>, Aljabr I<sup>2</sup>, Alduayji A<sup>2</sup>, Aloud A<sup>2</sup>, Alzahrani E<sup>1</sup>, Alharbi K<sup>2</sup>

1 COM, KSAU-HS

2 COM, Qassim University.

### Abstract

#### Objectives:

To assess the outcome of prediabetes and the interventions that have been implemented for prediabetic patients at primary healthcare centers (PHCs) affiliated with King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia.

**Methodology:** This retrospective chart-review study was carried out using the BestCare electronic health records (EHRs) system. Data from the PHCs of KAMC were extracted. Inclusion criteria were patients with prediabetes who were diagnosed between Jan. 2015- to Dec. 2016, with at least one follow-up visit. Variables included demographics, comorbidities, blood sugar lab results, and lipid profile measurements at each visit and intervention at the time of the initial diagnosis. Fisher's exact test, sign test, and Kruskal-Wallis test as well as paired t-test were used variables. Data were analyzed using the statistical program SAS, version 9.4.

**Result:** Of the 92 patients followed up with for three years, 76.08% remained in the prediabetic range, while 16.4% regressed to a normal glycemic state (NGS) and 7.6% progressed to the diabetic range after intervention and follow-up for three years. Metformin use was not significant in the glycemic outcome. In comparison to the baseline, there was a considerable reduction in fasting blood sugar (FBS) and glycosylated hemoglobin A1c (HbA1c) at the end of the follow-up.

**Conclusion:** Most of the patients remained in the prediabetic range after the three-year follow-up, with or without intervention. A commonly prescribed drug intervention e.g. metformin showed no regression benefit in most patients. Further prospective studies are needed to evaluate the outcome and adherence to different interventions.

## 108.The Prevalence of Keratoconus among Saudi Adults in Riyadh, Saudi Arabia; A Cross Sectional Study.

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1 Department of Surgery, Division of Ophthalmology, National Guard Hospital, Riyadh, Saudi Arabia;

2 King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia;

3 Spokane Eye Clinic, Spokane, WA USA

### Abstract

**Background:** Keratoconus represents a particularly significant healthcare burden in Saudi Arabia and is the leading indications for corneal transplantation. The prevalence of KC varies significantly based on the geographical region

**Purpose:** To determine the prevalence and associated risk factors for keratoconus (KC) in the Saudi population.

**Methods:** Cross-sectional study enrolled Saudi subjects between the ages of 20-40 who randomly participated at a mall in Riyadh, Saudi Arabia on December 2018. Volunteers were excluded if they had corneal or ocular pathology other than KC, a history of ocular surgery or trauma and contact lenses wear within 7 days of data collection. All subjects underwent bilateral corneal topography and auto-refraction. Keratoconus was defined and staged based on the Amsler-Krumeich criteria by two cornea specialists. Statistical analysis was performed to determine an association of KC with age, gender, and geographic location. A P-value less than 0.05 was considered statistically significant.

**Results:** A total of 400 individuals (768 eyes) with a mean age of  $29 \pm 5.8$  years were included. More than half of the volunteers were females 260 (65%). Forty-six individuals had keratoconus indicating a prevalence of 9.89%. KC was significantly associated with positive family history of the disease ( $P < 0.0001$ ). The highest distribution of KC was in the central region (55.6%) followed by the southern region (24.4%).

**Conclusions:** The prevalence of keratoconus in Saudi Arabia was higher than other parts of the world. This may be associated to a combination of genetic and environmental factors, and improved diagnostic methods. This study highlights the need for public health outreach programs to include screening and early intervention to manage visual disability due to keratoconus.

## 109. The Prevalence of Pediatric Acute Lymphoblastic Leukaemia, Related to Month of Birth, at King Abdullah Specialized Children Hospital, Riyadh, Saudi Arabia.

Aldosari Shaya<sup>1</sup>, Azzam Alrashid<sup>1</sup>, Alhowaish Thamer<sup>1</sup>, Alanazi Rakan<sup>1</sup>, Alhabeeb Abdulrahman<sup>1</sup>, Masuadi Emad<sup>1</sup>, Al Jamaan Khaled<sup>2</sup>

<sup>1</sup> College of Medicine, King Saud bin Abdulaziz University for Health Sciences

<sup>2</sup> King Abdullah Specialized Children Hospital, Riyadh, Saudi Arabia

### Abstract

**Background:** Cancer is one of the diseases that can be caused by many factors such as environmental. The relationship between types of cancer and month of birth (MOB) or seasons have been proposed over the past years. Hence, we investigated the relationship between acute lymphoblastic leukemia (ALL) and MOB. The aim of the study was to assess the association between the month of birth and development of Acute Lymphoblastic Leukemia in children from age 1 to 18 years who were admitted in King Abdullah Specialist Children's Hospital (KASCH).

**Methods:** A cross sectional study was conducted at KASCH. The study included all Saudi and non-Saudi children who diagnosed with ALL from April 2007 to October 2019, and it excluded all children who had a family history of cancer. The sample size was 213 patients. The data was extracted from BESTCare system at National Guard Health Affairs (NGHA). Logistic regression model used to assess the predictors of cancer type and the month of birth.

**Results:** After collecting 227 children diagnosed with ALL from 2007-2019. Only 213 have been selected after excluded those patients with a positive family history of cancer. The association between the month of birth and ALL was notable among those patients (P-value: 0.027). We found that among all months, the incidence in January was the highest. 33 (16%) of those patients born in January followed by May 23 (11%). However, the incidence in February and August 12 (6%) were the lowest.

**Conclusion:** There is a clear evidence that the month of birth has a relation to develop ALL. January has the highest peak of 33 affected patients while February and August have the lowest peak of 12 patients. What we do not know is the exact reason of the relation between the ALL and MOB. More studies are required to clarify the reason behind this relation.

## 110. The trends of obstetric anesthesia practice: in a tertiary care center in the Kingdom of Saudi Arabia.

Alatassi, A<sup>1</sup>, Madkhali, A<sup>2</sup>, Alkinani, A<sup>3</sup>, Alshabibi, M,<sup>4</sup> Alyami, A,<sup>4</sup>

1 Department of Anesthesia, King Abdullah Specialist Children Hospital

2 Department of Obstetrics and Gynecology king Abdulaziz medical city

3 Department of Obstetric Anesthesia king Abdulaziz medical city

4 College of medicine King Saud bin Abdulaziz University for health sciences

### Abstract

**Introduction:** Obstetric anesthesia provided several methods for the analgesia of labor pain. The neuraxial technique is considered the standard of care for parturient women. The epidural block is widely used in spontaneous vaginal delivery while spinal block is the preferred method for cesarean section. We aim to know the practice of obstetric anesthesia in our center

**Methods:** A retrospective cross-sectional study was conducted at a single center in Riyadh, Saudi Arabia. The data of all delivery cases from 1/7/2019 to 30/9/2019 were reviewed.

**Results:** We identified a total of 2140 cases during the three months period. For the mode of delivery Vaginal delivery was the most common with 72.4% (1550) while C-section cases were 27.6% (590). When looking at the type of analgesia/anesthesia intravenous and intramuscular analgesia was the commonest group with 34.8% (540) followed by the group of ladies who did not receive any analgesia/anesthesia with 31.9% (495) thirdly was Epidural cases with 31.8% (493) the rest were Spinal 0.6% (10), Entonox 0.5% (8) and Intrathecal morphine 0.3% (4). For primiparous female who ended up with vaginal delivery we found that 50.7% (176) had Epidural, and regarding multiparous female 29.4% (317) had Epidural. Regarding C-section Emergent cases were 65.4% (386). The types of anesthesia were as follow Spinal 63.5% (375), GA 23.8% (141), and Epidural 12% (74). In regard to Anesthesia for Elective cases Spinal was 85% (174), GA 14% (28), and Epidural 1% (2). Anesthesia for Emergent cases Spinal 52% (201), GA 29% (113), and Epidural 19% (72).

**Conclusions:** The use of Epidural was low, and the use Spinal is relatively on bar if we compare with leading western countries. More focused studies and multi center studies are needed in the country.



## 111.The Association between IVF and Chromosomal Abnormalities Compared to Spontaneous Conception.

Alfadhel M, Nashabat M, Alharthi S, (Alrasheed L), Alrashed G, Almutairi G

### Abstract

**Background:** IVF is a process by which an egg is extracted by needle aspiration and then combined with a sperm so that a 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 also uncommon, several alarming papers were published on the increased risk of chromosomal abnormalities in IVF/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.

**Methods:** Relevant published scientific articles were sought in Medline database. Eligible were considered studies exploring the association of IVF/ICSI with chromosomal abnormalities compared to spontaneous conception. The search included studies published from 1992 to 2018.

**Results:** The results for the association of chromosomal abnormalities and IVF remains unclear. As many studies proved a significant increase for chromosomal abnormalities and syndromes among the IVF population, other studies were contradicting and contributed the abnormalities to several environmental and technical factors.

**Recommendation:** Our understanding of the potential effects of the IVF is underdeveloped and further comprehensive research are needed in order to distinguish the risks related to parental factors from those exclusively resulting from IVF procedures.

## 112. Impact of fluid balance, and inotropes on the outcomes of critically ill cardiac patients: a retrospective study.

Aziz. M, MD, Alfarhan. A, MBBS, Alnahdi. M, MBBS.

### Abstract

**Introduction:** Fluid dynamics is a fundamental aspect in ICU settings. Fluid management in critically ill cardiac patients is complex, and the role of inotrope remains to be elucidated. The aim of the present study was to analyze the influence of fluid balance and the use of inotropes on mortality in cardiac intensive care unit.

**Methods:** A retrospective chart-review was conducted in King Abdulaziz Medical City, Cardiac center. The study included all admitted patients to the Medical Cardiac Intensive Care Unit (MCICU) between June 2015 to May 2016. A number of variables were extracted from the patients' medical records through BestCare system. The outcome variables were fluid balance (increased, decreased, no change) and outcome (discharge or deceased). A p-value < 0.05 was considered statistically significant.

**Results:** Total of 387 admissions were in the study, 266 (69%) were males, mean age was  $59 \pm 15.4$  and 120 (32%) were +70 years old. Positive net fluid balance (NFB) was associated with higher mortality, however, and highest mortality was when NFB remained the same (11%, 17%, respectively; p-value=0.029). Additionally, Epinephrine use was associated with positive NFB in 28 (88%) (p-value=0.000). Overall, In-hospital mortality was 30 (8%), patients' survival after 1 year was 286 (75%) and re-hospitalization rate within first year was 29 (8%).

**Conclusion:** These findings enhance our understanding of fluid management and the use of inotropes by showing possible adverse influence on the outcome of critically ill patients. More work will need to be done to determine the mechanism by which positive fluid balance affects outcome.

## 113. Title Reactive arthritis in children case report and literature review.

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2 Pediatric rheumatology fellowship director at King Abdullah Specialized children hospital

### Abstract

**Background:** Juvenile Reiter's syndrome also known as childhood reactive arthritis (ReA) is an autoinflammatory disease that is rarely reported in children (1). Reiter arthritis was first described in 1918 as a classical triad of urethritis, conjunctivitis, and arthritis, and since then few reports were written about RS in children (1, 6). Children with juvenile Reactive arthritis rarely present with the classical triad, and thus it is easily confused with other childhood illnesses.

**Case:** We report a case of a 10 years old boy presented to our ER with inability to walk for 2 weeks. He appeared ill looking on a wheelchair, unable to walk, with remarkable joint pain. He had fever at 38C. There were significant tenderness and restricted of joint movement in both ankles, elbows, third left finger and fourth right finger with picture of dactylitis, and there was flexion deformity in his fingers. He had pitting nails in both hands. His first symptoms appeared one month earlier when he had a falafel at a restaurant. Later on, he started to develop bloody diarrhea, high grade fever, conjunctivitis, photophobia, and progressive, severe multiple joints inflammation. Labs showed elevated levels of CRP, ESR, and stool calprotectin at 450 ug/g. Endoscopy showed plenty of white nodules over the intestine. HLA-B27 was positive. Clinical suspicion of juvenile ReA was raised and thus he was started on steroids and sulfasalazine, and he showed gradual improvement. And soon after that, he started to gradually ambulate until he was able to walk with mild limping at discharge. At a follow up Adalimumab as anti-tumor necrosis factor alpha was added to his medications as he did not had satisfactory response with the plan to taper steroid.

**Conclusion:** This case suggests that ReA can present in pediatric patients and should considered in children with arthritis and conjunctivitis, positive HLA-B27, negative RF and ANA.

## 114. Risk factors for intra-dialytic hypotension in hemodialysis unit.

Alhamadh M<sup>1</sup>, Owaidah K<sup>2</sup>, Alzaidy N<sup>2</sup>, Alnasrullah A<sup>2</sup>, Almutlaq M<sup>1</sup>, Alhabeeb A<sup>1</sup>, Vishwakarma R<sup>2</sup>, Farooqui M<sup>2</sup>, Tawhari M<sup>2</sup>

1 COM-R KSAU-HS

2 KAMC-R NGH

### Abstract

**Background:** Hemodialysis (HD) is an intermittent form of therapy and is usually instituted three times per week. Between the two sessions, patients, particularly those with reduced urine output, accumulate fluid. Fluid accumulation, which depends on intake of fluid between the two sessions and urine output, must be removed. Patients on HD, particularly those with concomitant medical conditions, such as heart diseases, are prone to develop of intradialytic hypotension (IDH), defined as lowest systolic blood pressure < 100 mmHg.

**Objective:** To study the burden of IDH in patients on HD and assess modifiable factors in order to minimize episodes of IDH and its associated symptoms.

**Methods:** The study was conducted in the HD unit of KAMC-R. Patients data was collected and recorded for every session of HD. Patient's HD access, pre and post HD weight, and BP readings before and during HD at frequent intervals and when patients were symptomatic were recorded. At the end of the session, total and net ultrafiltration volume, On-line clearance, and duration were recorded. Co-morbidities, medications, echocardiography results, and dialysis absenteeism were recorded. low efficiency HD, more or less than three times per week HD, those with active infections and bed-bound who could not have accurate weight were excluded.

**Results:** 235 out of 305 patients in May/2020 fulfilled our inclusion criteria. 48.94% were male and 51.06% were female. IDH was noted in 20.94% patients. In Stepwise logistic regression analysis, we found that receiving HD through a catheter, having T2DM, low pre-HD diastolic BP, receiving albumin, using anti-hypertension medications, and having large difference between pre and post HD Na to be significantly associated with IDH (P-values, 0.02, 0.006, <0.0001, 0.003, 0.018, 0.03) respectively. Patients who were non-compliant with HD duration and with higher absenteeism were unlikely to have IDH.

**Conclusion:** IDH was commonly observed and associated with receiving HD through a catheter, having T2DM, having low pre-HD diastolic BP, receiving albumin, using anti-hypertension medications, and having large difference between pre and post HD Na. Non-compliance with HD duration and absenteeism were not associated with more IDH.

## 115 .The relationship between procrastination and pathological worries in a problem based learning curriculum among undergraduate health professional students at King Saud bin Abdulaziz University for Health Sciences at Riyadh.

Abdulmalik Alshehri, Abdullah Ahmed Alshehri, Abdulaziz Abdullah Alanazi, & Aeyidh Khalid Alharbi.

1 COM-R, KSAU-HS

2 KAIMRC, Riyadh

### Abstract

**Objective:** To evaluate the relationship between procrastination and pathological worries (e.g., stress, anxiety, depression, etc.) among undergraduate medical students at KSAU-HS, Riyadh.

**Methods:** This analytic cross-sectional study was conducted in the college of medicine at KSAU-HS. The questionnaires were distributed to students manually in their respective classes included (N=243). Data was collected by the authors by two standardized questionnaires: The Penn State Worry Questionnaire (PSWQ), Procrastination assessment scale for students. Data was analyzed using SPSS version 20. A test with p-value >0.05 was declared significant.

**Results:** The responses (N=243) were from three batches (14,15, &16). Students mean age was 21.44 with SD±1.58, and the GPA mean was 4.38 with SD ± 0.33. Analysis revealed a Significance between the procrastination score and pathological worries (P-value< 0.013). Additionally, a Comparison of GPA, with Batches found to be significant (P-value < .001), also the Comparison of procrastination, with Batches was significant (P-value < .023). However, the Comparison of the batches and the pathological worries was not significant (P-value < .736).

**Conclusion:** There is a Significant relationship between procrastination and pathological worries, the higher the procrastination the higher the pathological worries. Also, a significant association between the procrastination and GPA on the different batches. There is no significant association between the batches and pathological worries.

## 116 . Idiopathic Intracranial Hypertension with Chronic Disc Edema in a Tertiary Care Center.

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2 Department of Ophthalmology, King Faisal Specialist Hospital and Research Center

### Abstract

**Background:** Idiopathic Intracranial Hypertension (IIH) is a disease of unknown etiology characterized by a rise in the cerebrospinal fluid pressure (>200 mm H<sub>2</sub>O, in the non-obese and >250 mm H<sub>2</sub>O in the obese patient). This occurs in the absence of any other causative factors such as space-occupying lesions, vascular lesions or abnormalities on neuroimaging. The symptoms of IIH are headaches, blurred vision, diplopia, and pulsation tinnitus as well as transient obscuration of vision, whereas the signs include papilledema, visual field defects, and sixth nerve palsy.

### Case description

Herein, we describe the neuro-ophthalmological features of 11 individuals (3 males, 8 females; ages at final examination 4–55 years) from unrelated consanguineous families. These patients were diagnosed and followed up regularly at the Ophthalmology Department in King Faisal Specialist Hospital and Research Center, a tertiary care center in Riyadh, Saudi Arabia

All patients who presented with signs and symptoms of IIH as well as documented optic nerve swelling by ophthalmological examination were included in the study and we excluded all patients who had any intra-ocular mass or lesions, and those who are uncooperative and cannot come for follow ups.

All patients had normal visual acuity, equally reactive pupils with negative RAPD and normal color vision. Esotropia was reported only in 1 case. On fundus examination, all the patients had chronic optic disk edema without optic nerve atrophy. 2 of the patients showed nonspecific visual field loss on visual field exam. Intraocular pressure was normal in all the patients. These patients continued to have good visual acuity despite the fact the optic nerve remained swollen, the CSF was low. 8 of the 11 patients were reportedly obese with a high Body Mass Index (BMI).

**Conclusion:** Early diagnosis of the disease, routine follow-ups every 6 months and lifestyle modification for weight loss are essential to improve the prognoses of these patients and prevent further complications. Further studies are needed to understand the pathogenesis of this disease and to develop clear guidelines on the management of IIH patients.

## 117. Anterior circulation large vessel occlusion stroke in Saudi Arabia: Prevalence, predictors, and outcome.

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1 COM-R, KSAU-HS

2 KAMC-RYD, MNGHA

3 KAIMRC, Riyadh

4 Unaizah COM, QU, Saudi Arabia

5 COM, Almaarefa University

6 COM, IMSU

7 COM-J, KSAU-HS

8 KAMC-JED, MNGHA

### Abstract

**Objective:** Anterior circulation Large Vessel Occlusion (LVO) stroke comes with significant morbidity and mortality. With the advent of endovascular interventions, its management has revolutionized. For health authorities to build systems and allocate resources, its burden, predictors, and outcome must be determined.

**Methods:** In a single tertiary care center, we retrospectively collected data from 1495 ischemic stroke patients to determine anterior circulation LVO prevalence, predictors, and outcome. Patients must have radiologically proven ischemic stroke within 24 hours before arrival at the emergency department. Anterior circulation LVO related stroke was defined as evidence of new anterior circulation infarct detected on neuroimaging, and vascular imaging confirming anterior circulation Large Vessel Occlusion. Data on demographics, vascular risk factors, treatment with reperfusion therapy, modified Rankin Scale (mRS) at admission, National Institute of Health Stroke Scale (NIHSS) at admission, length of stay (LOS) in days, and in-hospital comorbidities and death were collected. Regression analysis was done to determine the predictors and outcomes of anterior circulation LVO ischemic strokes.

**Results:** We found anterior circulation LVO in 27.8% (95 % CI 25.5–30.0) of all ischemic stroke patients. Atrial fibrillation and admission National Institute of Health Stroke Scale (NIHSS) were the strongest predictors of LVO [OR 2.33, P = 0.0011 and OR 1.17, P < 0.0001] respectively. The occurrence of LVO was associated with worse disability score (mRS ≥ 3) [47.22 vs. 19.81% (P = 0.0073)], longer hospitalization in days [Median 9.0 vs. 3.0, IQR (14.0 vs. 5.0) P = 0.0432], and was more likely to results inpatient admission to intensive care unit [Mean 17.59 vs. 3.70 % (P = 0.0002)].

**Conclusion:** Stroke with large vessel occlusion in Saudi Arabia is not uncommon. Its burden and outcome deserve national attention, as effective treatment is now readily available."



## 118 .Clinical, epidemiological and operational characteristics of gastroenteritis in Saudi children; an experience of a single tertiary pediatric center.

AlSelaimy A, AlEnazi B, AlHarthi E, AlHarbi N.

Department of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

### Abstract

**Background:** Acute gastroenteritis (AGE) is considered the second greatest burden of all the infectious diseases. Knowledge of the etiology of diarrhea and its correlation to the length of hospitalization is not only important for implementation of appropriate public health measures to control these diseases but also, in many cases, for correct treatment. Our aim was to investigate the epidemiology, clinical and operational characteristics of acute gastroenteritis in hospitalized children in a tertiary pediatric center in Riyadh.

**Methods:** Patients aged less than 14 years who were diagnosed as acute gastroenteritis (AGE) and admitted to Department of Pediatric of King Abdullah Specialist Children Hospital between January 2017 and December 2019 were enrolled. The demographic information, clinical features and laboratory data were collected by chart reviews from King Abdullah Specialized Children Hospital's records via BESTCare system.

**Results:** Chart review of 902 patients with acute gastroenteritis. The age group with the highest risk of hospitalization with AGE were children under the age of two years and vomiting was the most common symptom. 87.1% of the positive stool culture were due to undetermined pathogen, 8.2% were positive for bacterial pathogen mainly salmonella, 4.1% were positive for rotavirus, while protozoa was found in 0.3%. The study found that gender and the age at diagnosis were statically insignificant with the length of hospitalization, while the length of hospitalization was more among patients with undetermined pathogen.

**Conclusion:** Our study found that salmonella species followed by rotavirus were the most common pathogens of AGE in hospitalized children. The most common symptoms of children with AGE were vomiting and diarrhea and the gender and age of children with AGE had no associations with the length of hospitalization. Moreover, the length of hospitalization was higher in children with AGE caused by undetermined pathogens compared to known pathogens.

## 119 .Competency Differences in ECG Interpretation between Medical Students, Interns, and Family Residents.

Alanazi.H, Ahmed.A, Alsadi.M, Almousa.S, Homoud.E, Almutairi.R, Alkhalifah.B.

### Abstract

**Background:** The 12-lead electrocardiogram (ECG) is a critical screening and diagnostic tool that identifies cardiovascular abnormalities and fatal cardiac emergencies. We aimed to identify whether there is a competency difference in interpreting ECG strips between medical students, interns, and family residents.

**Methods:** A cross-sectional, single-center study was conducted at a tertiary healthcare facility and its academic institution. Participants completed a self-administered questionnaire comprising a demographic sheet and ten ECG traces, each with the same nine multiple choice questions about the basic ECG parameters. Each correct answer was assigned a 1-point score (minimum, 0; maximum, 90) per participant.

**Results:** There were 93 participants: 54 (58.1%) medical students, 27 (29.0%) interns, and 12 (12.9%) family medicine residents. Medical students had a significant higher mean score ( $84.7 \pm 9.5$ ) than medical interns ( $73.4 \pm 12.9$ ,  $p < 0.001$ ) and family medicine residents ( $58.2 \pm 18.0$ ,  $p < 0.001$ ). Family residents had the lowest proportion of correct answers for every parameter, with the medical students scoring the highest. Lectures were reported as the most effective modality of ECG teaching among 38 medical students (70.4%) and nine residents (75.0%). Female family medicine residents had a higher mean score compared to their male colleagues ( $p = 0.04$ ). Previous ECG exposure did not equate with better scores.

**Conclusions:** There was a significant difference in the competency of ECG interpretation. The mean score of the family residents was the lowest with the medical students scoring the highest. Lectures were rated as the most effective method of learning ECG interpretation. We suggest more intensive ECG training in family residency programs."

## 120. Impact of Maladaptive Daydreaming on Grade Point Average (GPA) and the Association between Maladaptive Daydreaming and Generalized Anxiety Disorder (GAD).

Alenizi M<sup>1</sup>, Almushir S<sup>1</sup>, Alenazi S<sup>1</sup>, Alosaimi A<sup>1</sup>, Alqarni A<sup>1</sup>, Anjum I<sup>2</sup>, Omair A<sup>3</sup>

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3 Research Unit, Department of Medical Education, College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

### Abstract

**Introduction:** This study demonstrates the prevalence of the maladaptive daydreaming (MD) and generalized anxiety disorder (GAD) among Saudi medical students. It also illustrates the association of MD with both GAD and the students' grade point average (GPA).

**Methods:** MD was assessed by using the 14-item Maladaptive Daydreaming Scale (MDS), and GAD was assessed by using both the 7-item Generalized Anxiety Disorder (GAD-7) questionnaire and the Penn State Worry Questionnaire (PSWQ).

**Results:** Our data estimate the prevalence of MD among the students to be 70%, GAD prevalence to be 80%, and 55% when using both GAD-7 and PSWQ, respectively. A statistically significant decline in the GPA was apparent among maladaptive daydreamers (MDers). A statistically significant rise in the scores of GAD-7 and PSWQ among MDers compared to non-MDers was found.

**Conclusion:** To sum up, our findings demonstrate a high number of MDers and GAD sufferers among our subjects, and it appears that MD is associated with both GAD and GPA."

## 121. Influence of Preoperative Atrial Fibrillation on Outcomes Following Primary Total Knee Arthroplasty: A Single Center Retrospective Study.

Wazzan AL Juhani, Abdullah Alanazi, Rakan Aldusari, Shoug Alnujaim, Rawan Alanazi, Haitham Alanazi

### Abstract

**Background:** The rate of Total Knee Arthroplasty (TKA) has been progressively increasing annually. Although being an effective procedure, TKA can lead to several post-operative complications by itself. Atrial fibrillation (AF) is the most common cardiac arrhythmia that can lead to complications especially when AF patients are exposed to invasive procedures like TKA. Having a pre-operative AF whether persistent or paroxysmal makes the patients more prone to post-operative complications

**Objectives:** To assess if preoperative Atrial Fibrillation increases the risk of complications following Total Knee Arthroplasty.

**Design:** Retrospective cohort, Medical record review.

**Setting:** Tertiary care center.

**PATIENTS AND METHODS:** All 89 patients with Pre-Operative Atrial Fibrillation (Persistent, or Paroxysmal) who underwent Total Knee Arthroplasty were included. Computer database and paper records from 2015-2019 were used to identify the patients in a single tertiary healthcare center

**Main outcome measures:** Post-operative complications of PreAF patients following TKA.

**Sample size:** 89 patients

**Results:** Patients with AF had significantly increased hospital stay length post-operatively ( $<0.001$ ), increased post-operative transfusions (10.1%), and increased incidence of post-operative UTI particularly with *E. coli* (11.9%). Furthermore, increased post-operative complications were recognized with absence of use of Beta-blockers ( $<0.001$ ), and the absence of use of anticoagulants ( $<0.001$ ). Other complications associated with AF were hyponatremia and tachycardia compared to the non-AF patients.

**Conclusion:** Patients with AF who underwent TKA had increased blood transfusion requirement, longer hospital stay, increased risks of complications following the surgery in comparison to non-AF patients. Therefore, this study reinforces the importance of managing AF patient before and after surgery to prevent complications.

## 122 .Knowledge of Down syndrome among Down Syndrome Children's Mothers In Riyadh Care Centers.

Alosaimi M<sup>1\*</sup>, Hakeem A<sup>2</sup>, Alfentokh O<sup>3</sup>, Alsomali A<sup>4</sup>.  
Presenting Name: Anan Hakeem

### Abstract

**Background:** Assessing the level of knowledge about Down Syndrome (DS) among the mothers of DS children might help in the development of effective strategies to increase the knowledge and awareness in general, and especially, in the areas of deficiencies. This study aimed to assess the level of knowledge in Riyadh, Saudi Arabia.

**Methodology:** This cross-sectional study used a self-administered survey that was designed and modified to assess the DS children's mothers' knowledge during October 2018-January 2019. The surveys were distributed among eight care centers and completed by 211 mothers of DS children.

**Results:** The majority of the mothers had good knowledge about DS. There was no statically significant association between the knowledge and mothers' sociodemographic characteristics. The majority of mothers had a good and favorable attitude toward their children's condition. The postnatal diagnosis of DS was delivered by a nurse, pediatrician, and obstetrics/gynecology physician. While only a minority received a prenatal diagnosis, 90% of DS children's mothers were multiparas.

**Conclusions:** Even though there was good knowledge about DS among mothers, the majority received the diagnosis of DS postnatal. This necessitates promoting awareness about the prenatal diagnostic test and prenatal genetic counseling specifically targeting older mothers and multiparas.

**Keywords:** Knowledge, down syndrome, Saudi Arabia, Riyadh, care centers."

## 123 .Perception, Understanding, and Management Knowledge of Immunotherapy Toxicities among Emergency and Medicine Physicians in Riyadh, Saudi Arabia.

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College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

### Abstract

**Background:** Immunotherapy is being standardized as a new modality in treatment of cancer patients. However, a new profile of toxicity has emerged. Given that, it is essential for healthcare practitioners to understand their side-effects. Emergency medicine physicians are the first-line health providers and hence must have a thorough knowledge and understanding of immunotherapy-related adverse effects to enable them to appropriately identify and manage patients. This cross-sectional study aims to assess the level of scientific knowledge of immunotherapy toxicity among Emergency Medicine physicians in Riyadh.

**Methods:** This cross-sectional study was conducted at the largest Emergency Medicine training centers in Riyadh. 107 of Emergency Medicine physicians took part in this study. The questionnaire form contained multiple choice questions that assessed the scientific knowledge of immunotherapy toxicity and their management. After data collection, data was analyzed using SPSS.

**Results:** The majority of participants were male residents. The response rate varied among the selected training centers. While evaluating knowledge regarding toxic side effects of cancer immunotherapy, the majority of emergency physicians were likely to choose "I don't know".

**Conclusion:** This study along with previously published studies have revealed an alarming lack of knowledge towards basic principles of cancer immunotherapy. We anticipate that this gap of knowledge will increase with time. The findings of this survey indicate the need for non-oncologist health practitioners -including emergency physicians- to enhance their knowledge of the basic principles of cancer immunotherapy. Understanding this will help promote health education to improve their clinical decision-making skills.

## 124. Quality of Life and Self-Esteem in Patients More Than Five Years after Undergoing Bariatric Surgery in King Abdulaziz Medical City in Riyadh.

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1 College of Medicine, KSAU-HS, Riyadh, Saudi Arabia

2 Family Medicine, KAMC, Riyadh, Saudi Arabia

### Abstract

**Background:** This study evaluates quality of life (QoL) and self-esteem of patients more than 5 years after undergoing bariatric surgery. Also it evaluates the post-operative prevalence of diabetes, hypertension, and dyslipidemia.

**Methods:** This is a quantitative cross-sectional study done in surgery department at a tertiary hospital in Riyadh. The study population were bariatric surgery patients who underwent the surgery in the years 2012 and 2013. Patients meeting our criteria were included. Each were interviewed through telephone calls and were asked to answer the Moorehead-Ardelt QoL questionnaire and the Rosenberg self-esteem scale. All statistical analyses were done using SPSS software version 23.

**Results:** 39 (73.6%) females and 14 (26.4%) males were included. The mean age of the patients was  $41.9 \pm 11.0$ . The mean QoL score was  $1.4 \pm 1.2$ , which is interpreted as "Good" QoL, and the mean self-esteem score was  $21.4 \pm 5.0$ , which is interpreted as normal self-esteem. 74% of patients had "Good" to "Very good" QoL. Among QoL subscales, physical activity and approach to food subscales had the least satisfaction (Only 58%, 60% responded with "Good" to "Very Good"). Only 11.1% of hypertensive patients had "Very good" QoL ( $P=0.054$ ). Only 12% of patients had low self-esteem. 83.3% of low self-esteem patients had fair or less QoL ( $P=0.003$ ). Post-operative prevalence of diabetes was 18.9%, hypertension was 15%, and dyslipidemia was 28.3%.

**Conclusion:** The findings of the study showed that after more than 5 years of undergoing bariatric surgery, majority of patients had very good QoL and normal to high self-esteem. Low self-esteem was associated with fair or less QoL. Hypertensive patients were found to be associated more with having fair or less QoL more than 5 years after bariatric surgery. Further research to confirm bariatric surgery long-term effects on QoL and self-esteem is required."



## 125 .Risk factors for transposition of the great arteries in Saudi population; A Case-control study.

Alfarhan. A, MBBS, Alquayt. M, MBBS, Alshalhoub. M, MBBS, Alnahdi. M, MBBS, Masuadi. M, PhD, Alhabshan. F, MD, FESC.

### Abstract

**Objectives:** To assess potential risk factors and their effect on the development of transposition of the great arteries (TGA).

**Methods:** A retrospective case-control study of all patients diagnosed with TGA between 1999 to 2016 at King Abdulaziz Medical City, Riyadh, Saudi Arabia. Age and gender-matched controls were selected. Risk factors, including consanguinity, gestational diabetes, family history of congenital heart disease, parental age, and maternal parity, were collected. Regression modeling was used to analyse the effects of risk factors on the development of TGA.

**Results:** A total of 206 patients with transposition of the great arteries were enrolled in the study. Transposition of the great arteries cases were divided into simple and complex TGA. Selected healthy controls were 446. In the studied cases, consanguinity was found in 95 (46%) of cases, gestational diabetes was diagnosed in 36 (17.5%) mothers, and 35 (17%) had a confirmed family history of congenital heart disease. When risk factors of the cases were compared to the controls, consanguinity, gestational diabetes, maternal age, and parity were found to significantly increase the incidence of TGA.

**Conclusion:** Our study revealed significant risk factors for the development of transposition of great arteries including first degree consanguineous marriages, gestational diabetes, family history of congenital cardiac anomalies, and increasing maternal age and parity. These factors increased the risk by at least 2 folds."

## 126 .Sleeping habits of medical students in King Saud bin Abdulaziz University for Health Science.

Alaqeel, M , Alyahya.S , Almasoud, A , Alrakban, M , Alfarm, B , Alsulaimi, M  
King Saud bin Abdulaziz University for Health Sciences

### Abstract

**Background:** Sleep is important as a part of a healthy lifestyle, Good sleep quality is especially important for medical student. Studies have shown a link between academic performance and good sleep quality.

**Aim:** To Assess the sleep quality of KSAU-HS medical students, and to look for correlation between sleep, GPA and depression.

**Methods:** This was a cross sectional study. A self-administered questionnaire was distributed among preclinical medical students of King Saud Bin Abdulaziz University for Health Science. It was conducted in Riyadh, Saudi Arabia on April 2019. The questionnaire included gender, age, batch, height, weight, exercise, grade point average (GPA), Pittsburg quality of sleep index (PQSI) score and Patient Health Questionnaire-9 (PHQ-9) score.

**Results:** Out of 156 male participants 110 (70.6%) had bad sleep quality, while out of 72 female participants 58 (80.6%) had bad sleep habit.

**Conclusion:** Sleep disturbance is common affecting two thirds of KSAU-HS medical students. Sleep is affected by many factors like depression and gender and Counseling, better planning and support should be provided to students who suffer from sleep disorders

## 127 .Surgical Management and Outcomes of Homozygous Familial Hypercholesterolemia in Two Cousins: A Rare Case Report.

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2 Cardiology Consultant at King Abdulaziz Medical City, King Abdulaziz Cardiac Center, Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia

### Abstract

**Introduction:** Homozygous familial hypercholesterolemia (HoFH) is a rare life-threatening condition characterized by high levels of low-density lipoprotein (LDL) cholesterol in the blood, which increases a person's risk of developing early atherosclerotic cardiovascular disease (ASCVD). In this report, we present two cases of related patients with aortic stenosis and mitral regurgitation as complications of HoFH. We also discuss the surgical interventions they underwent and their outcomes.

**Case summary:** The two related patients with HoFH were admitted to our hospital with signs and symptoms of heart failure. Physical examination revealed an ejection systolic murmur over the aortic valve. Echocardiography revealed valvular disease, and coronary angiography revealed coronary artery disease (CAD). They had undergone the Bentall procedure, mitral valve replacement, and coronary artery bypass graft (CABG) surgery. We elaborate on the progressive course of HoFH, the possible complications associated with this condition, treatment options, and prognosis for the disease.

**Conclusion:** HoFH is very rare and associated with many cardiovascular complications that can be fatal. The medical treatment of HoFH is rarely sufficient to manage the disease, and surgical interventions are eventually required. The outcomes of surgical treatment are generally good and acceptable.

## 128 .The Effect of Hyperoxemia in Traumatic Brain Injury Patients in the Intensive Care Unit of a Tertiary Care Center in Saudi Arabia.

Dr. Raymond Khan<sup>1</sup>, Sarah Alromaih<sup>2</sup>, Hind Alshabanat<sup>2</sup>, Muna Alqasem<sup>2</sup>, Nasibah Alshanqiti<sup>2</sup>, Almaha Aldhuwaihy<sup>2</sup>, Sarah Almohanna<sup>2</sup>, Fatmah Othman<sup>2</sup>

1 Department of Intensive Care Unit

2 College of Medicine, KSAU.

### Abstract

**Background:** Traumatic brain injury (TBI) is a leading cause of morbidity and mortality globally. Oxygen therapy remains a cornerstone for treating critically ill patients. However, the relationship between hyperoxia and outcomes in TBI patients remains uncertain. This study aimed to identify the mortality rate among traumatic brain injuries with hyperoxia in a tertiary hospital (KAMC, Riyadh).

**Methods:** This was a retrospective study of adult patients admitted to ICU with the moderate-severe TBI and on mechanical ventilator between 1st January 2016 to 31st December 2019. We noted Arterial Blood Gas (ABG) done within 20 minutes, 3-6, 12-24 and 48 hours after. The patients were divided in to 2 groups: Group I had  $\text{PaO}_2 < 120$  mm Hg on  $\geq$  two ABGs and Group II had  $\text{PaO}_2 \geq 120$  mmHg on two of the three ABGs (persistent hyperoxia). Multivariable logistic regression was performed to assess predictors of hospital mortality and good neurologic outcome (Glasgow outcome score [GOS]  $\geq 4$ ).

**Results:** The study included 309 patients: 54.7% (n=169) in Group I and 45.3% (n=140) in Group II. The median age was 28 years (IQR 23-36), and 94% were male. Hyperoxia was not associated with significant increased ICU (20.1% vs. 17.9%,  $p=0.62$ ) or hospital (20.7% vs. 17.9%,  $p=0.53$ ) mortality between groups I and II respectively. In multivariable logistic regression analysis, persistent hyperoxia was not associated with increased mortality (adjusted odds ratio [aOR] 0.71, 95% CI 0.34-1.35,  $p=0.29$ ). However, hyperoxia  $>400$ mmHg was associated with being less likely to have good neurological (GOS  $\geq 4$ ) outcome on hospital discharge (aOR 0.36, 95% CI 0.13-0.98,  $p=0.046$ ).

**Conclusion:** In moderate-sever TBI patients on mechanical ventilator, hyperoxia is not associated with increased hospital mortality. However,  $\text{PaO}_2 > 400$ mmHg may result in worse neurological outcome on hospital discharge"

## 129 .The Relationship between Lifestyle and Academic Achievement: An analytic cross sectional study.

Almadani MS, Alshathri AM, Alsoomali EO, Almutairi FM, Almutairi MB, Agha S, Masudi E  
COM-R, KSAU-HS

### Abstract

**Objective:** Literature suggest that the way students live affect their academic achievement. This study aims to evaluate the relationship between lifestyle factors such as depression, anxiety, and physical activity and academic achievement. Grade point average (GPA) is considered as academic achievement measure.

**Methods:** This analytic cross-sectional study was conducted at KSAU-HS including College of Medicine (COM), College of Applied Medical Sciences (CAMS), College of Pharmacy (COP), and College of Dentistry (COD). A survey was distributed to the students using quota sampling technique, and all students who agreed on participation were included (N=406). Data was collected by the authors using three self-administered questionnaires: Generalized anxiety disorder -7, Patient Health Questionnaire-9, and International Physical Activity Questionnaire. Data was analyzed using SPSS version 25. ANOVA was done to assess the association of study variables. A test with p-value  $>0.05$  was considered significant.

**Results:** The response rate was 90%. Results did not find a significant relation between depression, anxiety, or physical activity, and GPA. However, analysis revealed a significant association between components of life-style with demographics. First, female participants have higher depression and anxiety rates than male participants ( $P=0.008$ ,  $p=0.023$  respectively). Also, younger students are more depressed than older students ( $P=0.025$ ). Additionally, COP students have higher depression than other KSAU-HS students ( $P=0.042$ ). Finally, students with both alive parents have lower rates of depression ( $P=0.025$ ).

**Conclusion:** The study did not find any association between the level of physical activity, psychosocial status and academic achievement. However, a significant association between the gender, age, colleges, and whose parents were alive with healthy lifestyle such as low level of anxiety and depression was reported. Longitudinal studies with multiple institutions are recommended.

## 130 .The Role of P62/SQSTM1 in Mechanism of Drug (Cisplatin) Resistance in Ovarian Cancer.

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Imam Abdulrahman bin Faisal University.

### Abstract

**Introduction:** ovarian cancer is the most common cause of mortality from gynecological cancers. Nowadays, debulking surgeries and platinum-based chemotherapy, such as cisplatin and carboplatin, are the first-choice therapeutic strategies with the greatest recovery chances. Acquired resistance to cisplatin leads to the failure of ovarian cancer treatment. However, the exact molecular mechanisms leading to this resistance remain unknown. Several resistance mechanisms to platinum-derived drugs have been proposed, many of them involve the multifunctional protein, p62/SQSTM1. P62/SQSTM1 is an intracellular protein induced in response to stress and regulates many signal transduction pathways responsible for survival and regulation of cell death. The aim of this study was to investigate the role of SQSTM1/p62 in cisplatin resistance at the levels of RNA and protein in human ovarian carcinoma cell lines. **Materials and Methods:** in order to study the gene expression of p62/SQSTM1 in human ovarian cancer cell lines (SKOV3), we decided to investigate the mRNA levels of p62/SQSTM1 as a preliminary step. mRNA expression was investigated using qRT-PCR. The analysis was performed in duplicate using the relative quantification method, where the expression of p62/SQSTM1 was normalized to a housekeeping gene (GAPDH). We also assessed the level of p62/SQSTM1 protein in human ovarian cancer cell lines (SKOV3), by employing Western blotting technique. The analysis was normalized to a housekeeping protein ( $\beta$ -Actin). Human ovarian cancer cell line (PEO6) was used as a control.

**Results:** it was observed that SKOV3 cell line expresses 2.58 times more p62 than PEO6 (the basal control). This was further confirmed by Western blotting results. More p62 protein was observed in SKOV3 cells when compared to the control cell line (PEO6) as revealed by the band density.

**Discussion:** we found that p62 level was clearly increased in SKOV3 ovarian cancer cell line (Cisplatin-resistant). We are hypothesizing that high levels of p62 might have contributed to cisplatin resistance in this cell type. Having said that, p62 would be a potential therapeutic target and hence its down regulation might re-sensitize resistant SKOV3 cells to cisplatin therapy.

## 131. Updated review on Thyroid Cancer Incidence in Saudi Arabia: Recent Comparison with Nearby Countries'

Alhabeeb A.<sup>1</sup>, Ali R.<sup>2</sup>, ALHADAB A.<sup>2</sup>, ALSHEHRI N.<sup>2</sup>, FELEMBAN R.<sup>2</sup>, AL-ALAWI E.<sup>2</sup>, EL-METWALLY A.<sup>2</sup>, Alshehri S.<sup>2</sup>

<sup>1</sup> COM-R KSAU-HS

<sup>2</sup> KAMC-R NGH

### Abstract

**Background:** There were a few studies reported the incidence of thyroid cancer (TC) in the Middle East and North Africa (MENA) region. This is an updated review of previous study aimed to emphasize on the high incidence of TC in Saudi Arabia and compare it with MENA countries.

**Methodology:** Updated online search, using PubMed, local journals, and cross-referencing, was conducted on 15 January 2020 with keywords (Epidemiology, Risk, Incidence, Prognosis, Complications, Thyroid, and Cancer) and designated geographical area. The primary screening of articles was aimed to exclude non-relevant and duplicate papers. Secondary screening of articles was aimed to exclude case-reports, trials, reviews, and non-malignant thyroid diseases. The ultimate results were reviewed thoroughly by the board of contributors. All incidence rates used were per 100,000 capita. For comparison purposes with worldwide indices, we selected the latest TC incidence in some countries: USA (15.7), UK (5.7), France (14.4), and China (16.32).

**Results:** We started with 1628 articles. 1542 were excluded due to either irrelevance or duplication. The second screening excluded 73 articles based on the full abstract review being non-incidence articles. 13 countries were available in our paper. Saudi Arabia considered one of the highest countries in the incidence rate of TC among females (8.1) followed by Oman (7.6), yet Yemen was the lowest (1.6).

**Conclusion:** The incidence rate of TC in Saudi Arabia seems to be consistently higher than other MENA countries. Stronger and well-constructed cancer registries in all MENA countries would be a great tool for better estimation comparison. Potential factors for increased incidence should be investigated rigorously.



## 132. New Escobar Syndrome Classification Criteria: Case Report and Review of the literature.

AlGhasab N, AlSheri B, AlYousef L, Altamimi L, Assiri R, AlMesned S, AlShehri F, and Kharabsheh S.  
KKUH, KFSH&RC, KSAU, KSU, ImamU and more.

### Abstract

**Introduction:** Escobar syndrome (ES) is an autosomal recessive disorder that was first described by Bussiere nearly a century ago in South India. This condition is considered rare and is characterized by facial abnormalities, congenital diaphragmatic muscle weakness, myasthenic-like features and skin pterygiums on multiple body regions (cervical, antecubital, popliteal, interdigital and on neck). Congenital heart defects can be seen in some patients with ES; however, this approach remains briefly addressed in the literature. To fill this literature gap, the main focus of this review is to address types and features of cardiac anomalies associated with ES.

**Case Summary:** A 3½-year-old girl was referred to King Faisal Specialist Hospital and Research Center for neuromuscular evaluation of congenital contractures affecting her fingers, knees and feet. Her initial physical examination was unremarkable except for some distinct dysmorphic facial features. On neuromuscular assessment, various abnormalities were found including deformity of the fingers, thinning of the leg muscles associated with pterygium behind both knees, and subtle scoliosis, in which the patient was also followed by the orthopedic department. Knee MRI showed bilateral knee flexion contracture deformities of the posterior fibrotic bands/pterygia. Echocardiogram showed dextrocardia with situs solitus and persistent left superior vena cava to coronary sinus.

**Conclusion:** This patient presented with classical phenotype of ES but with a unique characteristic, that is, isolated dextrocardia (situs solitus). This report highlights the fact that ES may present with a clinical combination of dextrocardia, which helps in showing the spectrum of anomalies that can be associated with this condition.

## 133. The Prevalence, Knowledge, and Attitude of Using Weight Reduction Aids among College Students in Riyadh.

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College of Medicine, KSAU-HS, Riyadh

### Abstract

**Background:** With the increased interest towards fitness and weight reduction, the need for more recent research is required to clearly understand the impact of weight reduction aids on weight and health. This study aims to estimate the prevalence of using weight reduction aids among female and male college students in governmental colleges in Riyadh and to assess their knowledge and attitude regarding the side effects related to their use.

**Methods:** An Internet-based questionnaire survey was distributed among participants (377 students) from 4 different colleges. An observational cross-sectional study was conducted, to achieve our goal objectives. The main study predictors in the questionnaire were age, gender, BMI, university, specialty, and further inquiries for those using the weight reduction aids including source, purpose, type of dietary supplements and adverse effects experienced, and response to the effects if any.

**Results:** The prevalence of weight reduction aid users among Riyadh college students was 12% (n=45). Results indicated that studying nutrition and food sciences had no significant impact on the use of weight reduction aids. The favored source of information obtained on dietary supplement was via social media and the internet. The most commonly used weight reduction supplement among the participants (45 students) were herbs with 41.93% (26/45), followed by Glucophage 12.9% (8/45), followed by Xenical with 6.45% (4/45). Of the 45 users, 49.9% experienced side effects and most of them didn't seek contact with an authoritative figure.

**Conclusion:** These findings raise the need for well-established reporting systems and future educational programs regarding weight reduction.

## 134. Traumatic vertebral artery injuries in patients with fractures at the foramen transversarium.

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2 Division of Neurosurgery, Department of Surgery, King Abdulaziz Medical City (KAMC),

3 King Abdullah International Research Center (KAIMRC), Ministry of National Guard Health Affairs (NGHA), Riyadh, Saudi Arabia.

### Abstract

**Background:** Vertebral artery injuries (VAI) are major life-threatening events which may complicate cervical spine fractures that involve the foramen transversarium (FT). This can result in mortality and lifelong neurological sequelae. We present data in regard to this issue from King Abdulaziz Medical City (KAMC), a major trauma center in Riyadh, Saudi Arabia.

**Methodology:** A retrospective cohort study was conducted including all adult patients ( $\geq 14$  years) who presented to the emergency department with a trauma code in a five-consecutive-year period (2014-2018). Electronic charts and radiological studies were reviewed. Patients with radiological evidence of cervical spine vertebral fractures that involve the FT were identified. Patients' data including demographics, radiological findings, hospital course, and outcome were collected. We reviewed 1206 trauma code patients. Radiological evidence of cervical spine vertebral fractures was identified in 257 cases. A total of 47 cases had CT scan evidence of vertebral fractures involving FT which were included in the current study.

**Results:** Our cohort group (47 cases) were 81% males ( $n=38$ ) with mean age of 43 years  $\pm$  22.5 SD (age range; 14-90 years). Twenty-one cases (44.7%) underwent CT angiography (CTA) as a neuroimaging modality based on radiology report recommendations. Eight/twenty-one cases (38%) had CTA findings of traumatic vertebral artery injury including dissection, narrowing, and occlusion comprising (50%,  $n=4$ ), (25%;  $n=2$ ), (25%;  $n=2$ ), and (25%;  $n=2$ ), respectively.

Neurological sequelae related to the vertebral artery injury were present in 44.4% ( $n=1$ ).

**Conclusions:** Post-traumatic vertebral artery injuries (VAI) are rare but important factors that contribute to mortality and morbidity in spinal trauma. Early identification and management are essential to prevent serious neurological sequelae."

## 135. Types and consequence of child neglect among Saudi children.

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2 King Abdullah Specialized Children Hospital KASCH

3 College of medicine, Alfaisal University, Riyadh, Saudi Arabia

### Abstract

**Introduction:** Child maltreatment is a universal problem with life-long negative outcomes. Although child neglect is the most common cause of child maltreatment, many studies have been focusing on other types such as physical abuse. This study aims to shed light on types, family profile, risk factors, and outcome of child neglect.

**Methodology:** A retrospective chart review study was conducted at King Abdulla Specialized Children Hospital (KASCH), Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia. The charts of cases diagnosed with child neglect by the Suspected Child Abuse and Neglect (SCAN) team were reviewed. Data were extracted from the patient's electronic charts and from the SCAN team records.

**Results:** A total of 309 cases of child neglect were diagnosed from 2014-2018. The victim's mean age was  $4.4 \pm 4.1$  years and 51.8% were male. More than half of the sample (55.7%) lived in a family of  $\geq 6$  people (including parents) and 46.6% had  $\geq 4$  siblings. Five main types of neglect were noted; Supervision neglect was the most common form of neglect accounting for 63.1% which was followed by medical neglect (39.2%), emotional neglect (6.8%), physical neglect (5.5%), and educational neglect (3.2%). Result of chi-square tests reported a statistically significant age difference and it was more likely among older children who experienced medical neglect ( $p < 0.01$ ) and younger children who experienced supervision neglect ( $p < 0.01$ ). Females were more likely to experience educational neglect as compared to males ( $p < 0.05$ ). Regarding living arrangements, those who lived with single parents were more likely to experience emotional neglect ( $p < 0.05$ ). Compared to children with  $< 4$  siblings, those who had  $\geq 4$  siblings were significantly more likely to report physical neglect ( $p < 0.01$ ), medical neglect ( $p < 0.01$ ), and educational neglect ( $p < 0.05$ ).

**Conclusion:** Child neglect is common in Saudi Arabia, and it causes high rate of morbidity and mortality. This signifies the need for a protocol that will help to identify high risk families for early detection and implementation of prevention programs.

## 136. Undergraduate medical students knowledge and attitude regarding first aid courses on their learning, College of Medicine, King Saud Bin Abdulaziz University for Health Science, Riyadh, Saudi Arabia.

Agha, S. Alshahrani, J. Alsharef, M. Alamri, S. Abalhassn, S. Bin shibrayn, A

### Abstract

**Background:** Conducting first aid programs has been found to have a great influence on medical students. The study aims to assess the knowledge, attitude, and practices regarding first aid among undergraduate medical students of King Saud Bin Abdulaziz University.

**Methods:** This analytic cross-sectional study was conducted in the college of medicine at KSAU-HS. An open invitation was sent to all the medical students and those willing to participate were included (N=329). Data was collected by the authors using a self-administered questionnaire developed by Hong Kong Red Cross to get the knowledge about first aid, personal perspective of first aid, importance for medical students, confidence level in performing life saving interventions, and factors that may prevent taking first aid course. Data was analyzed using SPSS version 20. A test with p-value >0.05 was declared significant.

**Results:** The response rate was 82%. The mean age was 21.97 with  $\pm$ SD 1.93. Most of the students (64%) did not receive the course previously while 83% showed their willingness to attend the course. Analysis revealed a significant association between BLS and First Aid courses and better learning outcome among those who attended the course previously (P-value < 0.001). ANOVA test was used to compare the responses between students from first year to the fifth year. A significant difference on the scores of knowledge, attitude, and practices was found ( $f=2.81$ ,  $P= 0.026$ ) between the groups.

**Conclusion:** There is a positive attitude towards taking the BLS courses. Significant association between knowledge and skills was found among those who had taken the course previously. The study also identified the lack of first aid knowledge among students. Thus there is a need for formal first aid training to be introduced in the medical curriculum from first year.

## 137 .Upper thoracic spine fractures healing rates and complications in King Abdulaziz Medical City, Riyadh.

Konbaz,Faisal,Alhelal,Fahad,Alhandi,Ali,Alsaheed,Abdullah,Alhoshan,Fai,Alqusaer,Sumaya.  
Orthopedic Surgery, King Abdulaziz medical city

### Abstract:

Upper thoracic spine fractures (T1-T6) are not uncommon. There is a controversial discussion in the literature regarding the treatment choices for unstable upper thoracic fractures. Thoracic pedicle screw (PS) fixation has replaced all other fixation techniques for its success rate and safety over the other techniques. Complications postoperatively included hardware failure, progressive kyphosis, redislocation, lordotic changes, and back pain.

This is a retrospective chart review study including all adult cases diagnosed as traumatic upper thoracic spine fractures in KAMC in Riyadh. The data was abstained from the computerized database. Information about the timing and type of fracture, pre and post-operative assessment, follow up duration, and the presence of complications. Data was analyzed by using SPSS v21.

A total of 19 patients were involved in the study. The majority of participants 17 (89.5%) were injured secondary to motor vehicle accident (MVA). Only few cases had an isolated upper thoracic spine fractures. There were 3 patients (Table 5) with a fixation level crossing the CT junction who required more OR time and yield more blood loss. From all the 19 cases involved in the study, three patients had developed complications. Two had chest infection post operatively treated in same admission. The third patient developed sepsis. There was a notable improvement in upper thoracic kyphosis by 9 degrees when measuring pre and post op cobb's angle. As it known in the literature, correction of kyphosis and absence of residual deformity post operatively are indicators of the success and safety of the procedure used. The mean pre-op fracture COBB's angle was 28.98. The mean post-op fracture COBB's angle was 20.76 + 9.18. This improvement can be attributed to the urgent surgical interventions provided using posterior approach PS fixation for all 19 patients.

Our findings correspond to the literature discussion that the current practice in managing traumatic upper thoracic spine fracture in KAMC in Riyadh is relatively safe and effective. Yet, further studies are needed to elaborate more in the relationship between presence of other injuries, level of injury, and patient's factors and post-operative outcomes.

## 138. Verres Needle and Open Technique Complications In Abdominal Surgeries.

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1 Department of General Surgery, King Abdulaziz Medical City

2 College of Medicine, King Saud bin Abdulaziz University for Health Sciences

### Abstract

**Introduction:** In laparoscopic approach, the first and most important step is the entry to abdominal cavity. Entry is followed by creation of pneumoperitoneum which is essential to lift the abdominal wall off of the organs and visualize the entered space. However, entry and establishing pneumoperitoneum are not without risks and Complications. Complications include vascular injuries and bowel perforations in all the different techniques used. The most commonly used techniques are closed (Verres) and open. The approach varies according to the surgeon's preference and other regional and local factors.

**Aim:** To compare the outcome in open technique and verres needle for accessing peritoneum in laparoscopic surgery.

Methods and materials:

This is a cohort retrospective study held in King Abdulaziz Medical City. All patients from 2006 to 2016 who have performed abdominal laparoscopic surgery were included.

**Results:** Of a total of 365 operations studied, 213 were gall bladder operations, 141 (66.2%) were on females and 72 (38.8%) on the males. It is of note that, there were significantly more complicated gall bladders among male than female patients (56.9% and 27.5% respectively  $p=0.007$ ). Of a total of 365 operations studied, 152 were appendix operations, 48 (31.6%) were on females and 104 (68.4%) on the males. The proportion of complicated appendices among males and females were not significantly different (12.5% and 6.7% respectively  $p=0.34$ ).

**Conclusion:** Major complications were relatively higher with the closed technique as it was found in "Open Versus Closed Laparoscopy paper" by Dr. Milan Kumar Taye, although there was no significant difference between opened and closed technique in term of the complication in our study. Furthermore, as the rate of complicated gallbladder was much higher among men group, the proportion of complicated appendix was similar in both groups. In conclusion, the choice of the technique should be individualized as not all cases are the same. Multiple factors were described in the literature upon which the technique should be selected such as patient gender, diagnosis and most importantly surgeons experience and preference yet it still debatable.



## 139. Extraventricular Neurocytomas In Paediatric Population: A Review of 73 Case Reports.

### **Abstract:**

According to World Health Organization (WHO) 2007 classification of tumors of the central nervous system, Extraventricular Neurocytomas (EVNs) are rare Grade-II neoplasms of brain parenchyma, which are situated outside of the ventricular system. Both extraventricular and Central neurocytomas present similar histopathological characteristics, yet EVN's have larger morphological spectrum and more aggressive biological behaviour. The association between the presence of atypia characteristics and tumor recurrence patterns' of EVN's must be highlighted. Considering that paediatric population is most likely to present with atypia characteristics of the tumor, defining proper treatment modalities can be difficult for such group. A thorough literature review of published cases of EVN's between 1991-2018. Each record was screened for age, sex, tumor location, type of surgical treatment, the use of radiotherapy, presence of atypical characteristics and the final treatment outcome. The final search result included 73 records of EVNs in children. To assess the effect of age on the outcome, we carried out two independent sample t-tests for comparison of means. Chi-square test was performed to assess the association of outcome with sex and intervention. Fisher's exact test, a non-parametric test, was conducted to appraise the association of outcome with atypical cases and implementation of radiotherapy, as the assumption of parametric test was not met for these two variables. The average age of disease presentation among these cases was 8.6 year, with a standard deviation of five. The most common location of extraventricular neurocytomas reported among children is the frontal lobe. Those who have recurrences or death were twelve males (80%) and three females (20%), a marginally significant association between sex and recurrence/death, has been noted. A total of 50% of patients who experienced recurrence of extraventricular neurocytomas/died were having typical presentation of disease, also 50% of them had radiotherapy as adjuvant treatment. A significant association was found between typical presentation and recurrence or death.

## 140. Prevalence of Medication Non-adherence Among Patients with Cardiovascular Diseases in Saudi Arabia.

Hind Almodaimegh<sup>1\*</sup> PhD, Nada Ayedh Hadi<sup>2</sup>, Norah Nasser Altuwayli<sup>3</sup>, Rema Abdulrahman Alghofaili<sup>4</sup>, Shaden Abdulelah Almuneef<sup>5</sup>, Shukrya Yaaqub Kenkar<sup>6</sup>,

### Abstract

**Background:** Cardiovascular disease is one of the most common causes of death in Saudi Arabia, and it is responsible for 15.2 millions of global mortality. Approximately 50% of patients with cardiovascular diseases and/or its major risk factors have poor adherence to their prescribed medications. Medication non-adherence means that a patient stops taking medication or takes it less than the prescribed dose. We are intending to implement a multi-measure approach to estimate medication non-adherence of Cardiovascular diseases in the National Guard Health Affairs (NGHA).

**Method:** This is a cross-sectional survey that was done on cardiac patients in National Guard Hospital (NGH) and King Khalid University Hospital (KKUH) in Riyadh. The survey contains Self-Efficacy for Appropriate Medication Use Scale (SEAMS) and Likert scale. An electronic questionnaire using Google forms was distributed via online platforms and in-person at both hospitals.

**Results:** 235 patients with chronic cardiovascular diseases were interviewed to answer 26 questions. Questions 8 and 10 in SEAMS were found that female subjects (% 78.8 and 75.6) were more confident than male patients (% 60.8 and 58.2) with the P value of 0.005 and 0.006 respectively. In questions, 7,8,9 in SEAMS patients who have a mean of 5 or more medication has 58.1, 60.5, and 69.8% compared to those who have 4 or fewer medications 77.9,79.9 and 81.2% and a p-value of (0.006, 0.004 and 0.010), respectively.

**Conclusion:** In conclusion, the adherence to medication in this study population appeared to be improved compared to the previous study in Saudi Arabia. However, due to the small sample size, the result cannot be generalized to all populations in Saudi Arabia. More studies with larger sample size are needed.

## 141. Factors Associated with Delayed vaccines in Children during COVID-19 Pandemic.

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2 Pediatric Emergency Consultant, Pediatric Emergency Department, King Abdullah Specialist Children Hospital, King Abdulaziz Medical City, Riyadh, Saudi Arabia.

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4 Biostatistician, College of Applied Medical Science, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

### Abstract

**Background:** Basic vaccinations are essential for child well-being and delaying these vaccines during coronavirus disease -2019 (COVID-19) Pandemic will lead to Vaccine-preventable diseases (VPDs). This study was conducted to identify the factors that contribute to delay of vaccination during COVID-2019 pandemic and assess the prevalence of participants who have positive attitude towards continuing the vaccination during the pandemic.

**Methods:** A cross-sectional study that was conducted during May 2020 in all regions of Saudi Arabia, through a self-administered intent-based questionnaire. Data were acquired from participants who take care of a child from birth to four years old, reside in Saudi Arabia. The questionnaire was structured to collect socioeconomic data, child information, vaccination information, and reasons of delaying vaccination schedule during the pandemic.

**Results:** 820 were included in the study, where 75.6% of participants in our survey had a positive attitude toward completing their children's vaccination even during the COVID-19 pandemic. Participants elected not to continue the vaccine comprised 24.4 % of the study. The main reasons for vaccine postponement were the fear of getting infected by COVID-19 virus if they visit health facilities (45.1%) and planning to delay vaccination till the pandemic ends (28.8%). There was a significant association between continuing vaccination during the pandemic and level of education, transportation, and age of the child.

**Conclusion:** High level of education was strongly associated with continuing vaccination even in a such outbreak. Increasing the awareness will improve the vaccination coverage and prevent the appearance of preventable diseases.

## 142. Real-World Experience of Biologics Use in Inflammatory Bowel Disease Patients in Makkah City of Kingdom of Saudi Arabia, A Retrospective Cohort Study.

\*Alharthi, A\*, Sanad, A, Bakri, H, Alshareef, I, Karawi, H, Altowairqi, K, and Dr. Shariff, M

### Abstract

**Background:** The development of medical technology and science has played a significant role in discovering a new group of drugs. Recent studies have shown that early aggressive therapy with a combination of different agents such as immunomodulators and biologics yields better outcomes in terms of steroid-free clinical remission and mucosal healing. There is hardly any head to head phase three clinical trials of biologics in IBD patients. Also, there is a paucity of data regarding using biologics in inflammatory bowel disease in Saudi Arabia. Therefore, this study aims to utilize real-world data collected from tertiary hospitals' database in Makkah city to assess the clinical outcomes of using biologics in IBD patients.

**Methods:** Fifty-three patients affected by IBD (Cohn's disease) were extracted from the IBD registry at King Abdullah Medical City, Makkah, Saudi Arabia. Patients with incomplete documentation were excluded. Demographic, location of the disease, and lines of therapy used in Crohn's disease were collected. Characteristics of remission after the use of biologic were envaulted and analyzed through Harvey- Bradshaw Index and lab tests, such as Hemoglobin, sensitive CRP, Albumin, and Calprotectin.

**Result:** Forty-one out of fifty-three patients were treated with biologics. The average age of diagnosis is 23 years old with (60%) male and (40%) female. The two most involved disease locations are Ilial and colonic. The preliminary results of the Harvey-Bradshaw index baseline show high moderate activity and low remission. Whereas, Harvey-Bradshaw index follows up illustrates low moderate activity and high remission. Hemoglobin and CRP show significant with P-values of (0.002 and 0.022) whereas Albumins shows board-line significant with P-value of (0.052).

**Conclusions:** preliminary results of the Harvey-Bradshaw index and lab results illustrate an improvement after the use of biologic therapy. The study will continue futher to obtain the rest of IBD pateints at KAMC and the rest of the main medical centers in Makkah city.

## 143. 100 Years of Neurosurgery: Contributions of Women in the Middle East.

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### **Abstract:**

The Middle East is known for its complex history and rich environment and culture. The region is home to a wide variety of traditions, cultures and religions, which have made the area vulnerable to political conflicts. Despite these difficulties, science and medicine have always thrived in the region, with many medical practices and principles established by physicians and scholars living in the Middle East. The first academic neurosurgical activity in the region started in the 1950s. The first women neurosurgeons in the Middle East started training in the 1970s, and were from Iran, Palestine, followed by Saudi Arabia in the 1970s. They have encountered serious struggles and obstacles, yet have become role models for the next generation. These women have paved the way and facilitated neurosurgical training and practice for more female surgeons. The gradual increase in the number of female neurosurgical residents in the region leads to the expectation that women will play a more prominent role in the future as leaders in neurosurgery in the Middle East.

## 144. A Look into Patients' Awareness of their Rights: A Single Center Study

Ghada Almutairi<sup>1</sup>, Batool Alaskar<sup>1</sup>, Mona Alshehri<sup>1</sup>, Maha shieko<sup>1</sup>, shahad Alanazi<sup>1</sup>, Abdullah Alsayyari<sup>2</sup>

<sup>1</sup>King Saud bin Abdulaziz University For Health Sciences, College of Medicine, <sup>2</sup> King Abdulaziz medical City, Medicine department

### Abstract

**Introduction:** Patient's rights include access to a good treatment, giving consent to any medical intervention, confidentiality of patients' medical information, and the right to refuse treatment against medical advice.<sup>1</sup> It is important for patients to know their rights and what they expect from their governments and health care providers, thus improving the quality of services.<sup>2</sup> Most studies done found that most of the patients are not aware of their medical rights.<sup>2</sup> Education, monthly income and type of hospital utilized are some factors associated with the level of awareness.<sup>4</sup> This study aims to determine the degree of awareness of Saudi patients' rights in King Abdulaziz Medical City in Riyadh, Saudi Arabia.

**Methods:** This cross-sectional study from March 2018 until March 2019, used a self-administered questionnaire-based study on adult patients in different wards which was conducted in King Abdul-Aziz Medical city (KAMC). The study included KAMC hemodialysis unit, surgical care unit, adult cardiology, neurology, obstetrics and gynecology, internal medicine, oncology, pulmonology and rehabilitation's inpatients. The survey consists of three parts. Part one collects demographic data (age, gender, educational level, nationality, marital status, employment, monthly income), part two evaluates the patients' awareness of their rights as patients (the response is "yes" or "no"), and part 3 assesses the patient's perception of how far their rights were implemented in reality (the response is "yes" or "no", or "to some degree") as the patient's perceived.

**Results:** The highest awareness rate was seen in the "right to privacy". The lowest awareness rate was seen in "knowing the existing complaint system". The most implemented right was "respect of privacy" and the least implemented right "not being visited by patient relations representative". More female than male patients knew their diagnosis their MRPs name, and their treatment plan. Education level did not affect the responses except that more educated patients knew their MRPs name. Patient having a relative working in healthcare are more likely to know their privacy right their right to refuse treatment, and their MRPs name, but less likely to feel that they were properly consented. Longer length of stay in the hospital was associated with knowing the MRP's name and being visited by a patients' relations representative.

**Conclusion:** Overall, patients' awareness of their rights was 78.8% and the rate of the implementation in reality was 72.6%

## 145. A retrospective study of Topiramate effect on weight, height, body mass index in pediatric epileptic patients at a Single Tertiary Care Center in Riyadh, Saudi Arabia between 2015-2020.

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3 Department of Pediatric Neurology, King Abdullah Specialist Children's Hospital (KACSH), Riyadh, Saudi Arabia.

### Abstract

**Background:** More than two-thirds of epileptic seizure cases start in childhood. Topiramate is one of the effective drugs that is used to treat children with epilepsy. The literature discussing weight loss as a side effect of Topiramate use in pediatric patients shows conflicting results.

**Objective:** This study aims to look for Topiramate's Effect on weight, height, and body mass index (BMI) in pediatric patients presenting to a tertiary care center in Riyadh, Saudi Arabia.

**Methods:** Electronic files of pediatric epileptic patients on Topiramate and visiting King Abdullah Specialized Children's hospital in Riyadh from January 2015 to August 2020 were retrospectively reviewed. Data were recorded in an excel sheet and analyzed using (SPSS).

**Results:** When taken for (6-12) months, Topiramate was correlated with significant reductions in BMI and restricted weight gain compared to the unexposed group. After a year or more, this BMI reduction was not significant, and only the patient with high initial BMI showed significant weight loss.

**Conclusion:** In the short term, Topiramate can affect BMI through the restriction of weight gain. However, with time this effect seemed to wear off and only be apparent on those with high initial BMI, which is reassuring.



## 146. Title Not available

### Abstract

**Objective:** To compare the outcomes of fibrin glue versus sutures in pterygium surgery with amniotic membrane transplantation.

**Methods:** A systematic review and meta-analysis were performed as per the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) Guidelines. An electronic search identified all Randomised Controlled Trials (RCTs) comparing the outcomes of using fibrin glue versus sutures in pterygium surgery with amniotic membrane transplantation. Conjunctival inflammation, postoperative pain and discomfort, pterygium recurrence, pyogenic granuloma and surgical time were primary outcome measures. Secondary outcome measures included amniotic membrane transplant outcomes, time to recurrence, graft loss and subconjunctival haemorrhage. Fixed and random effects models were used for the analysis.

**Results:** Four RCTs enrolling 180 patients were identified. Conjunctival inflammation (OR 0.21,  $P=0.0005$ ) demonstrated a significant difference favouring the fibrin glue group. Despite the trend favouring the use of fibrin glue, there was no significant differences in terms of postoperative pain and discomfort (OR= 0.46,  $P=0.25$ ), pterygium recurrence (OR= 0.74,  $P=0.48$ ), pyogenic granuloma (OR = 0.47,  $P=0.38$ ) and surgical time (MD =-17.52,  $P=0.13$ ). For secondary outcomes, fibrin glue had significantly less cases of graft loss compared with sutures. No statistically significant difference was found in amniotic membrane graft outcomes, time to recurrence and subconjunctival haemorrhage.

**Conclusions:** Fibrin glue is superior to the sutures used in the pterygium surgery with amniotic membrane transplantation as it improves conjunctival inflammation and does not increase postoperative pain and discomfort, pterygium recurrence, pyogenic granuloma and surgical time.

## 147. Title Not available

### Abstract

**Context:** Family planning is a voluntary practice that individuals engage in to control the number of children for promoting the health and development of countries. The aim is to evaluate the level of contraceptive knowledge in Saudi males and females in Riyadh at King Abdul-Aziz Medical City (KAMC) and King Abdullah Specialist Children's Hospital (KASCH).

**Methods:** A cross-sectional questionnaire-based study conducted among educated, under educated, single, married Saudi males and females (n = 385), and aged (20 to 65) years old. Healthcare providers and participants underwent permanent sterilization were excluded.

**Results:** Approximately half of the participants were aware about contraceptive methods. More males (n = 132, 70%) were significantly aware compared to females (n = 110, 56%) (p-value <0.001). The most commonly used contraceptive methods were oral contraceptive pills, male condom, and intrauterine device (69%, 34%, 22%, respectively). A significant difference was noted for the used and preferred contraceptive method, which was condom for male and oral contraceptive pills in female (p-value <0.001). Healthcare provider was the main source of information and women significantly consult healthcare provider more than men 47% vs 32%, ( $\chi^2=9.23$ , p-value =0.002). Side effects were reported as a main reason for discontinuation 61% (n=120) of females and 52% (n=98) in males, respectively. Logistic regression indicated a significant association of contraceptive knowledge with age and parity.

**Conclusions:** Regardless of educational level, high levels of awareness were identified in both genders. Oral contraceptive pills were reported as the most used, safest, and preferred method.

## 148. Effect of Electromagnetic Fields Generated by Cellular Phones on Electrocardiogram and Heart Rate Variability of Female Medical Students

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### Abstract:

The growth of cellular phone use accompanies an increase in electromagnetic fields exposure. 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 healthy 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. 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. A total of 43 healthy female, aged  $20 \pm 1$  and had BMI of  $21.63 \pm 3$  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 ( $p > 0.05$ ). We concluded that the effect of short-term exposure to cellular phones on the ECG and HRV components is minimal and within the physiological range, and does not result in abnormalities in the ECG or HRV parameters.

## 149. Assessment of Central Corneal Thickness and Endothelial Cell Density in Saudi Patients with Pseudoexfoliation Syndrome and Pseudoexfoliation Glaucoma.

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2 Senior Glaucoma Consultant, Specialized Medical Center. Riyadh - Saudi Arabia

### Abstract

**Background:** Glaucoma is a group of optic neuropathies associated with visual field loss resulting from the degeneration of retinal ganglion cells; The loss of ganglion cells is influenced by the level of intraocular pressure (IOP). Pseudoexfoliation syndrome is a known complication of an age-related ocular and systemic disease in which white abnormal extracellular material is produced accumulating in different tissues. Abnormal extracellular material may impeded drainage of anterior chamber.

**Methods:** 93 eyes recruited from Bin Rushd Ophthalmic center in Riyadh were enrolled in this study. Eyes were divided into three groups: PXF, PXFG, and control. All participants in this prospective nonrandomized cross-sectional study underwent full ocular examination including: visual acuity (VA) evaluation for distance and near vision using Snellen chart, IOP measurement using Goldmann applanation tonometry, slit-lamp examination of the anterior eye structures and fundus examination. Patients with significant ocular media opacity were examined with B-scan ultrasonography. Independent sample t-test was performed to compare the means of CCT and ECD between groups using SPSS statistical software (SPSS version 22.0, SPSS Inc., USA).  $P < 0.05$  was considered statistically significant.

**Results:** The mean of CCT in PXF group ( $560.2 \pm 50.8 \mu\text{m}$ ) was higher than mean CCT in the other groups: PXFG ( $540.1 \pm 40.1 \mu\text{m}$ ) and control group ( $532.7 \pm 29.5 \mu\text{m}$ ). P-values of mean comparison between PXF-control, PXF-PXFG, and PXFG-control were (0.021, 0.090, and 0.271), respectively. On the other hand, the mean ECD in control group was ( $2766.1 \pm 296.1 \text{ cells/mm}^2$ ) higher than mean ECD in the other groups: PXF ( $2629.6 \pm 287.4 \text{ cells/mm}^2$ ) and PXFG ( $2610.5 \pm 342.9 \text{ cells/mm}^2$ ). P-values of mean comparison between PXF-control, PXF-PXFG, and PXFG-control were (0.083, 0.979, 0.082), respectively.

**Conclusion:** Eyes with PXF syndrome showed higher CCT than eyes with PXFG and healthy eyes. Regarding ECD, eyes in the control group showed higher ECD than eyes with PXF and PXFG but without statistical significance.

## 150. Association of elderly age and chronic illnesses: Role of gender as a risk factor.

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### Abstract

**Background and aims:** Chronic diseases are the leading cause of death as well as disability worldwide. There is a little information about the prevalence of these diseases among Saudi elderly population. The aim of the study was to assess the role of gender as risk factor for chronic diseases among elderly patients seen at primary health care centers and identify the most common chronic comorbidities among the elderly.

**Methods:** A cross-sectional study was conducted by reviewing charts of elderly patients having chronic illnesses seeking consultation between January to December 2016. Based on WHO classification data for 19 chronic diseases were extracted using electronic charts of the patients. Chi-square test and logistic regression was used to access the gender as predictor for chronic illnesses with statistical significance was set at  $P < 0.05$ .

**Results:** The total number 319 elderly patients were included in the study after random sampling with a mean age of  $75 \pm 7$  years. Around 83 (26%) of patients were severely obese ( $BMI > 35$ ) with a mean BMI of  $30 \pm 6.7$ . The most common chronic illnesses were cardiovascular diseases 229 (71.8%), dyslipidemia 183 (57.4%) and diabetes 179 (56.1%). The chronic respiratory and endocrine diseases were common among the elderly females ( $P$  value 0.004,  $P$  value  $< 0.001$ ). The most significant problem among males was disease of genitourinary system. There was significant positive correlation of multimorbidity with number of times of consultation in a year ( $r = 0.442$ ,  $P$  value  $< 0.001$ ).

**Conclusion:** The study concludes that females are more likely to have chronic diseases at elder age than males. However, disease of the genitourinary system was significantly higher among male elderly. Multimorbidity significantly increased the need for frequent visits to the hospital.

## 151. Association of Low Socioeconomic Status with Advanced Thyroid Cancer Stage at Presentation.

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### Abstract

**Introduction:** Thyroid cancer is the most common endocrine cancer. The socioeconomic status of thyroid cancer can affect the timing of the diagnosis and staging of thyroid cancer patients. This study aims to investigate the relationship between SES and the stage of thyroid cancer at presentation in Saudi Arabia.

**Method:** A retrospective cohort study on thyroid cancer patients from January 2016 until April 2020. Data was collected using patient medical reports and interview-based surveys. In order to assess the factors predicting advanced thyroid cancer stage, the stage of thyroid cancer as well as the predictors of socioeconomic status (location of residency, educational level, income, and marital status) were collected.

**Results:** A total of 220 thyroid cancer patients were enrolled in this study. Being male ( $p = 0.025$ ), older than 55-year-old ( $p < 0.001$ ), living in rural areas ( $p = 0.002$ ), having low educational level ( $p = 0.021$ ) were significantly associated with late-stage thyroid cancer at presentation. Further analysis showed male gender, and age more than 55 years are significant predictors of presenting with advanced stage of thyroid cancer. However, there was no association found between income and thyroid cancer stage. The following characteristic was observed to significantly less likelihood of presenting with an advanced stage of thyroid cancer: females and patients with bachelor's degree or higher education.

**Conclusion:** Even though income was not found to affect thyroid cancer stage in Saudi Arabia, other socioeconomic disparities have a significant role on advanced thyroid cancer stage at presentation. Low income might not be a true risk factor for having advanced thyroid cancer, but it is probably a barrier for early detection of thyroid cancer. Even if all patients are receiving the same management, their disease prognosis can be differentiated based on their SES.

## 152. Surgical Bioprosthetic Valve Implantation Intermediate and Long-term Outcomes in King Abdulaziz Medical City.

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### Abstract

**Background:** Heart valve replacement (HVR) is a standard of care procedure that modify the natural history of valvular heart diseases and improve the overall patient prognosis. We studied the incidence of intermediate and long-term outcomes of biological heart valves among patients who underwent surgical HVR at King Abdulaziz Cardiac Center (KACC) in Riyadh.

**Methods:** Observational retrospective cohort study of consecutive patients who underwent surgical biological HVR (n=143 patients) at KACC during the period between January 2004 and December 2007.

**Results:** The mean age of the study population was 60±2 years with a predominant male gender (59%). The most frequent underlying valve pathology was calcific valve degeneration (n=58, 40%), followed by rheumatic heart valve disease (n=41, 29%) then congenital heart disease (n=24, 17%). The most frequently replaced valve was the aortic valve (n=85, 61%), followed by the mitral valve (n=39, 27%). Mean follow up duration was 99±55 months with 71% and 43% of patients had a follow up of >5 and > 10 years respectively. Death was confirmed in 35 cases (25%), eight of them were attributed to cardiac causes. Redo valve surgery was performed in 9 cases (6%), six of them were in the aortic valve position. Prosthetic valve complications included; 4 cases of endocarditis, 8 cases of ischemic stroke and one case of cerebral hemorrhage. Preoperative atrial fibrillation (AF) persisted in 22 patients (15%) and disappeared from 9 patients (6%).

**Conclusion:** In this study of pure tissue Prosthetic Heart Valve (PHV) surgical replacement, intermediate and long-term mortality is mostly attributed to non-cardiac causes. Predictors of adverse long-term outcomes in this population include; older age, hypertension, worsening of renal function and presence of postoperative atrial fibrillation.

**Key words:** Heart valve; prosthetic valve; tissue valve; valve disease; valve replacement & open heart surgery: cohort study: survival analysis.



## 153. Behavior of Corneal Topography following Corneal Collagen Cross-Linking in Different Stages of Keratoconus.

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### Abstract

**Introduction:** Keratoconus is the most common cause of corneal transplant in Saudi Arabia and considered a potentially blinding disease in young adults. Corneal collagen cross-linking has recently become approved for treating the progression of keratoconus. This study aim to investigate the effect of CXL on corneal topography among Saudi keratoconus pateints at KAMC, Riyadh.

**Methods:** All progressive keratoconus patients who underwent CXL in the period 2016-2019 were included consecutively. Patients with history of previous corneal procedure, corneal trauma or any corneal scaring were excluded. Amsler-Krumich grading system was applied to classify severity of keratoconus. Pentacam® (OCULUS) parameters were used to assess corneal topography. Wilcoxon signed-rank test was applied to compare pre-CXL with post-CXL topography at 12 months. SPSS v20 was used for data analysis

**Results:** CXL induces a reduction in means values of central corneal thickness, maximum keratometry (K-max), and inferior minus superior value (I-S index) while front and back elevation in apex increased 12 months postoperatively. The effect in CXL on front elevation in apex, back elevation in apex, and corneal thickness at 3 mm postoperative topography values increases more in advanced stage, particularly grade 3, of keratoconus. However, this effect was not statistically significant.

**Conclusion:** CXL seems to be safe and promising to halt the progression of keratoconus in different stages of the disease among Saudi patients at 1 year of follow up

## 154. Causes of the Delay in Creating Permanent Vascular access in Hemodialysis Patients.

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### Abstract

**Introduction:** Majority of chronic kidney disease (CKD) patients start hemodialysis (HD) with central venous catheter (CVC) which has multiple complications. This study aims to identify the physicians' perspectives regarding the reasons of delayed arteriovenous fistula (AVF) creation in Saudi Arabia (KSA) to improve the quality of CKD patients' care and prognosis and prevent complications.

**Methodology:** A cross-sectional descriptive study was conducted on KSA nephrologist using a questionnaire which includes factors associated with delay in AVF creation classified into patient's factors and physician's and hospital factors. The optimal timing of starting dialysis was also assessed. In a total of 212 participants, 131 (61.8%) were of consultant level with the largest number being from the Central region (52.4%).

**Results:** The most important patient factors associated with delay in AVF creation were denial of kidney disease or the need of AVF (76.4%), dialysis fears and practical concern (75.9%), and patient refusal (73.1%). The most important physicians & hospital factors were "insufficient conduction of pre-dialysis care and education (63.7%), and late referral to a nephrologist (56.6%). Participants would create AVF when the patient reaches stage 4 CKD (69.3%) or stage 5 (27.4%) and 88.7% would do so 3 to 6 months before the anticipated start of hemodialysis. Over two thirds of participants (68.4%) chose the patient as the main factor contributing to the delay of permanent vascular access creation.

**Conclusion:** Depending on the finding of our study, there is a need for patient centered pre-dialysis care regarding renal replacement therapy, education, types, and shared decision-making process. To overcome this challenge, a validated approach to patients' selection and referral to vascular access creation is needed to improve the quality of care.

## 155. Comparing Knowledge Acquisition and Retention between Mobile Learning and Traditional Learning in Teaching Respiratory Therapy Students.

Alhamad, B\*; Agha, S; Masuadi, E

### Abstract

**Background:** Mobile learning (m-learning) is one of the trends in health professions education. Although students reported a positive attitude and acceptance of m-learning, no studies have examined the effect of using m-learning as a teaching modality on knowledge acquisition and retention in the respiratory therapy programs. The study aimed to compare students' knowledge acquisition and retention between using m-learning and traditional learning.

**Methods:** Randomized pre-test, post-test, control group design was used. All 3rd year (N=46) undergraduate respiratory therapy students in the college of applied medical sciences were included. Students were randomly assigned to the intervention or control group. Both groups took the same content of the lecture about arterial blood gas. However, the intervention group took it using mobile applications, whereas PowerPoint slides were used for the control group. The same quiz was conducted before, immediately after, and two weeks after the lecture. Data analyzed using independent t-test and repeated measured ANOVA. Significance determined at  $P < .05$ .

**Results:** Out of 46, 45 students consented to participate. Both groups' pre-test scores and GPA were similar before the lecture. Despite no statistically significant difference that was found on knowledge acquisition and retention between the two types of learning ( $p=.305$ ,  $p=.904$ , respectively), it was found among the three time-points within each group ( $p<.001$ ).

**Conclusion:** Both m-learning and traditional learning are effective in increasing students' knowledge acquisition and retention. However, no one is better than the other. Further studies with a larger sample size and multi-institutional are needed to validate these findings.

## 156. Compliance to Endoscopic Retrograde Cholangiopancreatography According to Current Guidelines and Adverse Outcomes of Suspected Choledocholithiasis in an Acute Setting.

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4 COM, King Khalid University.

5 COM, Qassim University.

### Abstract

**Introduction:** Globally, cholelithiasis is an endemic condition affecting about 20% of the population according to many studies. In up to 20% of cases, gallbladder stones are associated with choledocholithiasis (CBDS).

Multiple studies demonstrated a lack of compliance according to guidelines, which might reflect

poorly on patients' outcomes and cost of care.

**Methods:** A retrospective chart review was done on 829 adult patients who were admitted with gall stones between Jan 2016 to Jan 2019 in Riyadh in KAMC. Our data collection includes Demographics and level of suspicion based on US, liver function tests, amylase, and lipase. Then, according to guidelines we determined the likelihoods of each patient, procedure performed, adherence, and outcomes of procedures.

### Results:

- 66 (30.8%) of high likelihood and 325 (83%) of intermediate likelihood cases were non-compliant to the recommended guidelines ( $P = .0001$ )
- 48 (21.3%) of ERCP procedures had adverse outcomes and 19 (39.5%) of them were non-compliant to recommended guidelines.
- There was a significant association between compliance to guidelines and the presence of stones on ERCP in high likelihood patients.
- Patients who had non-compliant management were found to be significantly more prone to develop post ERCP complications ( $P = 0.0439$ ).

### Conclusion:

- Although the guidelines recommend that high likelihood individuals proceed directly to ERCP, our study found that a third of the cases were non-compliant.
- In intermediate likelihood patients our findings suggest noncompliance in most cases.
- Where high and intermediate likelihood cases were greatly noncompliant, almost all low likelihood cases were compliant to guidelines.
- patients who had non-compliant ERCP procedures were significantly more prone to post ERCP adverse outcomes.
- To conclude, there is a great lack of compliance to guidelines that is significantly associated with adverse outcomes. Hence, reassessment of health facilities and their compliance to guidelines is highly recommended.

## 157. Discrete Left Ventricle Outflow Tract Obstruction in Children: Incidence and Predictors of Recurrence; A Multi-Center Study.

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### Abstracts

**Objectives:** The purpose of this study is to measure the incidence of recurrence of discrete subaortic stenosis (DSS) after primary resection in two major cardiac centers in Saudi Arabia and to identify risk factors associated with recurrence.

**Methods:** Data on 234 patients who were diagnosed with DSS and underwent surgical resection between 1999 and 2018 were retrospectively reviewed. Patient demographics as well as echocardiographic, surgical, and pathological data were compared between patients with recurrence and non-recurrence.

**Results:** The overall recurrence incidence after primary resection was 44.87% (N=105). Most patients were male (59%). The median age at the 1st operation was 60 months (range 3 months to 133 months). The presence of aortic stenosis at the time of diagnosis was significantly associated with recurrence (p-value=0.002). The overall median peak gradient in which the primary resection was indicated is 60 mmHg (range 11 to 152 mmHg). The median peak gradient pre-operation and post-operation were significantly higher for the recurrence group (p-value=0.018 and p<0.001, respectively). We used univariate and multivariate analysis and controlled for the follow-up time, but there were no significant independent predictors of recurrence.

**Conclusion:** The recurrence rate of DSS after the primary resection is relatively high in this study. Further prospective studies are needed to draw a definite conclusion on risk factors for recurrence after primary resection.

**Keywords:** Subaortic stenosis, Discrete subaortic stenosis, Membrane resection, Subaortic stenosis recurrence

## 158. Does Having Chronic Diseases Affect One's Grip Strength? And How We Can Utilize Grip Strength as a Predictor for All-Cause Morbidity.

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### Abstract

**Background:** Grip strength tests are not a traditional method for recognizing health deterioration. They are an effective predictor for all-cause morbidity in middle-aged and elderly persons by detecting accelerated reductions in physical function. By comparison to a healthy adult grip strength performance, we can predict disability, morbidity, and mortality. Hence, this novel study was conducted to Monitor grip strength performance in the population of Riyadh, KSA. Measure the presence of chronic diseases as a confounding factor. predict mortality and morbidity through confounding factors and grip strength performance.

**Methodology:** We utilized LAFAYETTE Hydraulic Hand Dynamometer, model J00105, to assess the grip strength of both hands, with instructions to assure quality. Recordings were in kilogram(kg). Participants filled a standardized fact-based questionnaire to measure the demographical data and confounding factors. Data were collected for 6 months. Data management and analysis were done through SPSS 27. Frequencies, Independent T-test, ANOVA t-test, and regression analysis were utilized.

**Results:** The study included 504 participants, comprised of 373 (74%) men. The dominant age group was (18-25 yrs.) 259 (51%.4). Most participants showed right-hand dominance (84.5%). 357 (70.8%) had no chronic diseases. 457 (90.7%) had no known conditions affecting their grip performance. Mean strengths of the right-hand and left-hand trials were (36.33kg) and (32.93kg), respectively. Neither Chronic diseases nor having diseases in the hands showed a significant impact on grip strength performance. Regression analysis with the inclusion of gender and dominance as confounding factors showed significance in Lt handgrip strength with ( $p = <.001$ ). Gender also showed significance in Rt handgrip strength.

**Conclusion:** No significance between the presence of chronic diseases or diseases affecting handgrip on the general grip strength performance. Gender and dominance, as confounders, showed significance in hand performance. Due to the current pandemic, data collection was restricted and did not meet the optimal target. Further large-scale studies could prove grip tests to be a predictor for all-cause morbidity.

## 159. Enhancing Donation Willingness Through Targeting the Knowledge Gap and Correcting Misconceptions.

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### Abstract

**Background:** The demand for organ donation is ever increasing given the prevalence of organ failure. Several studies have noted that the scarcity of knowledge and widespread misconceptions regarding organ donation may reflect negatively on the person's willingness to donate. In this study, we examine the effectiveness of promoting organ donation through mending the knowledge gap and correcting misconceptions surrounding organ donation.

**Methods:** On January 2020, A two-day campaign took place in a large shopping-mall in Riyadh, Saudi Arabia. The campaign consisted of four sequential stations. Each station delivered knowledge about a specific aspect of organ donation or clarified widespread misconceptions. Public participation was voluntary. All participants were handed a form which included questions to be answered before passing through the stations and others to be completed at the end.

**Results:** A total number of 201 participated in the campaign, 167 of them completed all the activities (83%). The mean age of the participants was  $27 \pm 9.2$  years (range 10-77). Males represented 65.3% of them. Most of the participants (61%) declared having no or minimal information about organ donation. Although most participants (72%) had an initial positive perspective about organ donation, 8 participants (5%) reported having a negative perspective. The most common barriers affecting donation willingness were the fear of organ failure after living donation (67%), and the fear of body image distortion after deceased donation (43%). At the end of the Campaign, 94% reported learning new information about organ donation, and 95% reported that this knowledge improved their perspective towards organ donation. Five out of the 8 who had an initial negative perspective about organ donation considered registering as an organ donor as their perspective have improved.

**Conclusion:** The lack of knowledge and widespread misconception about organ donation are barriers that hinder the public's willingness to donate. This study suggests that enhancing the public's knowledge by focused education improves their perception and represents a successful strategy to promote organ donation.



## 160. Gene Expression Profiling of Apoptotic Proteins in Circulating Peripheral Blood Mononuclear Cells in Type II Diabetes Mellitus: Modulation by Metformin.

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### Abstract:

Insulin resistance in obesity and type 2 diabetes mellitus (T2DM) is associated with cardiovascular complications such as atherosclerosis. On the other hand, reduction of apoptosis in macrophages has been linked with accelerated atherosclerosis. Apoptosis is controlled by different families of proteins including Bcl-2 and caspases. To examine apoptosis in insulin resistance, we assessed the expression of several Bcl-2 family members, as well as caspase-3, -7, -8, and -9 in peripheral blood mononuclear cells (PBMCs) isolated from lean, obese, diabetic, and diabetic on metformin individuals. PBMCs of diabetic individuals exhibited reduced expression of caspase-7 and increased expression of Bcl-10, Bad, Bax, Bid, and caspase-3, possibly because of increased inflammation and/or increased PBMCs differentiation. T2DM on metformin group had significantly higher Bad, Bax, and caspase-7 expression, suggesting the activation of Bad/Bax/caspase-7 apoptotic pathway. Given the observed altered gene expression in the diabetic groups, further studies are warranted to elicit the underlying apoptotic pathways of PBMCs in T2DM and following metformin treatment.

## 161. Genetic Involvements in Neonatal Progressive Familial Intrahepatic Cholestasis (PFIC) Among Pediatric Patients at King Abdulaziz Medical City (KAMC) in Riyadh.

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### Abstract:

Progressive familial intrahepatic cholestasis (PFIC) is an autosomal recessive disorder that is characterized by a defect in secreting bile acids from the epithelial cells of the liver. However, based on genetic defect PFIC is divided into three types— PFIC I, PFIC II and PFIC III. Although, the exact clinical presentation and genetic variants are still under the scope of research. The world prevalence rate of PFIC types is very rare and is estimated to vary between 1/50,000 and 1/100,000 births. In Saudi Arabia the Prevalence, gene defects and clinical presentation of PFIC types still under investigations.

Hepatocytes and cholangiocytes are liver epithelial cells that contribute in Biliary acid production which is then transported out by the Bile Salt Export Pump (BSEP). PFIC II is Characterized by defects in ABCB11 gene located in 2q24 encoding the BSEP protein. This results in impaired functioning of the bile acid production. whereas PFIC III showed deficiency in ABCB4 gene encoding Multidrug Resistance Protein 3 (MDR3); responsible for translocating phospholipids from outer canalicular membrane into the bile. Signs and symptoms of PFIC2 and PFIC3 usually occurs in the first three months of infancy which may progress into severe liver disease and/or malignancy. Other clinical presentation included are growth failure, developmental delay, ataxia, areflexia, gall-stones and epistaxis.

Genetic and lab results of 27 patients who were diagnosed with PFIC types II and III were recruited in this study. Due to small sample size A Non-parametric Mann Whitney test and Fisher's exact test were used for analysis. The significant clinical findings that differentiate between PFIC type II and III are age at diagnosis (P.value [0.003]), Total bilirubin (P.value [0.008]), and Vitamin E (P.value [0.035]). Additionally, three novel genes have been identified to cause the disease.

## 162. Improving Coordination of Lung Cancer Care at a Tertiary Healthcare Center in Saudi Arabia.

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### Abstract

**Background:** The improvement of healthcare outcomes is the ultimate aim for any health institution. Coordination of care is very critical for providing safe and efficient care. The aim of this study is to improve the care coordination for cancer care which involves patients flow in the health care system and providing care that is safe, timely, efficient, effective, patient centered, and equal.

**Methods:** A prospective study to collect data to be used as baseline for a rapid cycle of quality improvement project. We collected and analyzed data for lung cancer patients who were diagnosed in 2016/2017, collecting information about their demographics, the interval between suspecting cancer and confirming diagnosis, the interval between cancer diagnosis and receiving definitive cancer therapy, tumor board (TB) data (presentation, adherence to recommendations, TB compliance), and palliative care.

**Results:** A total of 60 cases of lung cancer were evaluated with 41 males and 19 females. The majority of them had adenocarcinoma (63.3%) and stage IV (70%). Adherence to guideline of EGFR testing was 100%, while it was 82% for ALK, and 71.4% for ROS1. PD-L1 testing was done for 59.5% in stage IV patients. The median time from first visit to oncologist and the palliative care referral was 35 days [0-643]. Specifically for stage IV patients, 32 (76.2%) were referred to palliative care. Only 40 (66.7%) of all patients were presented in the tumor board (TB), some of these cases presented multiple times with 31 (51.7%) were before treatment. The presentation at TB revealed new findings in pathology 3 (7.5%), in radiology 7 (17.5%) and staging 5 (12.5%). In total, these new findings appeared in 11 (27.5%) unique cases. Tumor board discussion had shown an impact on the patient management in 14 (37.5%) of patients presented.

**Conclusion:** The molecular testing for actionable targets beyond EGFR was limited by the inadequate tissue which was minimized by the implementation of next generation sequencing (NGS). Better processes for referral to palliate care and tumor board presentation are being implemented.

## 163. Incidence of Acute Stroke among Adult Patients at King Abdulaziz Medical City-Riyadh.

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### Abstract

**Background:** Stroke is a global health issue. There are two main types of stroke: ischemic and hemorrhagic stroke. In addition to Transient Ischemic Attack (TIA) which is a form of ischemic stroke in which neurological symptoms last for less than 24 hours.

**Methods:** This is a retrospective analysis of the patients' charts recorded in Hospital Information System (BestCare) as well as physicians interview. The study aimed to measure the incidence of stroke types among patients who were admitted to King Abdulaziz Medical City in Riyadh under stroke service between May 2015 and February 2018. As well as patients' demographics, risk factors and TOAST classification.

**Result:** 1325 patients were studied, 46 patients were excluded as they were not admitted as an inpatient. Total male patients were 817(63.88%) while females were 462 (36.12%). 1041(81.39%) of Patients admitted with acute stroke. The prevalence of stroke types were as follows: ischemic stroke (58.87%), hemorrhagic stroke (10.95%), TIA (11.57%), whereas not stroke/mimics (18.61%). Patients who were diagnosed as ischemic stroke, classified based on TOAST score as large vessel disease 316(24.73%), small vessel disease 268 (20.97%) , cardioembolic 137(10.72%), other determined etiology 10 (0.78) and undetermined etiology 22 (1.72%).

For risk factors, the highest prevalence of stroke was found with hypertension (70.13%) followed by diabetes mellitus (60.80%), Dyslipidemia (30.75%). Out of 84 (6.57%) patients with history of atrial fibrillation, 57 (67.86%) known to have Afib while 27 (32.14%) were newly diagnosed during hospitalization.

**Conclusion:** Ischemic stroke is the most prevalent type and mostly caused by large vessel disease, based on TOAST classification. Male gender, hypertension, diabetes mellitus, dyslipidemia and atrial fibrillation are the most significant risk factors linked to stroke. On the basis of our study findings we emphasize on the importance of primary and secondary prevention."

## 164. Title Not available

### Abstract

**Introduction:** Road traffic crashes (RTCs) are a leading cause of death and disabilities and impose a significant burden on the healthcare system and economy of Saudi Arabia. Around 20% of all hospital beds are occupied by victims of RTCs, which represent approximately 80% of trauma deaths occurring in these facilities. Using a seatbelt is an effective method to reduce traffic deaths and minimize the extent of associated injuries. However, little is currently known about the prevalence and predictors of seatbelt use in Saudi Arabia. More studies are needed to determine the trends of seatbelt use and study the relationship between individual factors and compliance with seatbelt use laws. The aim of the present study is to examine the prevalence and predictors of seatbelt use using the National Saudi Biobank dataset.

**Materials and Methods:** This cross-sectional study was conducted using an in-person survey from the Saudi National Biobank (SNB). The participants were adults affiliated with the Ministry of National Guard Health Affairs in Riyadh who were examined between 2017 and 2019. Chi-squared and Wald tests were used to assess the association between the respondents' characteristics and their seatbelt use. In addition, logistic regression models were constructed to assess the univariate and multivariate associations between seatbelt use and potential predictors. All statistical tests were two-sided, and the findings were considered significant at  $P < 0.05$ .

**Results:** A total of 5,790 adults participated in the survey. The majority of the participants (52.44%) were between 18 and 25 years old, half were males, and 58.80% were single. About 42.83% of the participants reported consistent seatbelt use as drivers or passengers. In the multivariable analysis, females were 86% less likely to wear seatbelts than males (OR = 0.136, 95%CI = 0.107–0.173). Individuals who rated their mental health as “weak” were 26% less likely to wear seatbelts than those who reported “excellent” mental health status.

**Conclusion:** Seatbelt use remains low in the country and substantially lower than in developed countries. Young adults, females, and individuals reporting suboptimal mental health were less likely to fasten their seatbelts.

These findings are valuable for public health programs to target specific groups and raise awareness about the need to increase seatbelt compliance and reduce traffic injuries.

## 165. Knowledge and Attitudes toward HIV among Medical and Non-Medical Students in Riyadh, Saudi Arabia.

AlQumayzi A<sup>1,4</sup>, Alsaab B<sup>1,4</sup>, Maskati M<sup>1,4</sup>, Alajlan A<sup>1,4</sup>, Almudayfir F<sup>1,4</sup>, Omair A<sup>3,4</sup>, Alenazi T<sup>1,2,4</sup>

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4 King Abdullah International Medical Research Center, Riyadh, Saudi Arabia.

### Abstract

**Background:** People living with human immunodeficiency virus or acquired immunodeficiency syndrome (PLWHA) who perceive high levels of stigma are 2.4 times more likely to delay seeking healthcare. This study aimed to evaluate and compare the level of knowledge about HIV/AIDS and stigmatization (attitude) towards PLWHA in medical and non-medical college students in Riyadh and whether the level of knowledge affects the attitude of the individual towards PLWHA.

**Methods:** This was a cross-sectional study, using a non-probability convenience sampling technique. The required sample size was 384. An online validated questionnaire was distributed to the students of three universities in Riyadh, including University A, B and C.

**Results:** A total of 602 students from three universities completed the questionnaire, 225 were non-medical, 253 medical, and 124 health sciences students other than medicine. The knowledge score was calculated based on the responses to 13 questions. The mean knowledge score was  $9.3 \pm 3.0$ . The attitude scale was based on the responses to six statements using a Likert scale, and the mean score was  $15.1 \pm 5.7$  of a total of 30.

**Conclusion:** Medical students had the highest level of knowledge and the lowest stigmatization score. In contrast, the non-medical students had a lower knowledge score with a higher score in stigmatization. There was a negative correlation between the knowledge and stigma scores. We can reduce or eliminate stigmatization and a negative attitude by raising awareness about HIV transmission, prevention and treatment.

## 166. Non-diabetic Kidney Disease in Patients with Diabetes Mellitus.

Ewain N, (Alharthi S), Alyousef L, Alanzan L, Alshaalan R, Alkhater J, Aloudah N, Vishwakarma R, Tawhari M, Farooqui M.

### Abstract

**Background:** Patients with diabetes mellitus (DM) and kidney disease undergo kidney biopsy only when non-diabetic kidney disease (NDKD) is strongly suspected. Kidney biopsy in such patients is considered when they have low or rapidly decreasing GFR, rapidly increasing proteinuria or nephrotic syndrome, absence of diabetic retinopathy, refractory hypertension, or signs and symptoms of other systemic diseases. The aim of this study is to assess the outcomes of performed kidney biopsies in patients with DM and to identify clinical features that might predict NDKD disease before the biopsy.

**Methods:** A retrospective study was conducted at King Abdulaziz Medical City. All adult diabetic patients (Age 18-year-old to 90-year-old) who underwent kidney biopsy in NGH hospitals from February 2016 to February 2020 were included. Transplant kidney biopsies and inadequate biopsy samples hindering a conclusive diagnosis, were excluded.

**Results:** A total of 164 kidney biopsies were performed on patients with diabetes mellitus. Transplant biopsies (n=44) and insufficient sample or clinical information (n=5) were excluded. Data from (n=115) non transplant kidney biopsies was analyzed. The most common indication for biopsy was: nephrotic range proteinuria 55 (47.83%), followed by rapid decline of glomerular filtration rate: 38 (33.04%), systemic features: 3 (2.61%); positive serology: 2 (1.74%); absent retinopathy: 2 (1.74%); other: 15 (13.04%). Diabetic nephropathy was reported in 59 (51.30%). Non-diabetic kidney disease alone or in combination with diabetic nephropathy was identified in 56 (48.69%) and the most common NDKD was focal segmental glomerulosclerosis 14 (12.0%); chronic interstitial nephritis 5 (4.0%); IgA nephropathy 7 (6.0%); MPGN 2 (2.0%); SLE 5 (.0%); myeloma 1(1.0%); post infectious 1 (1.0%); membranous GN 2 (2.0%); Other 19 (17.0%), respectively. Nephrotic range proteinuria as in indication for biopsy was associated with NDKD (p-value=0.0089).

**Conclusion:** Among the urinary parameters studied, dipstick hematuria, albumin to creatinine ratio, protein to creatinine ratio, and 24-hour urinary protein correlated with the presence of non-diabetic kidney disease. Nephrotic range proteinuria, the most common indication for biopsy, had a significant correlation with NDKD.



## 167. Non-immunologic Factors Affecting Long-Term Outcomes of Deceased-Donor Kidney Transplant.

Alenazi S<sup>1</sup>, Almutairi G<sup>1</sup>, Sheikho M<sup>1</sup>, Alshehri M<sup>1</sup>, Alaskar B<sup>1</sup>, Al Sayyari A<sup>2</sup>

1 Medical Intern, College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh

2 Head, Division of Nephrology & Renal Transplantation, King Abdulaziz Medical City, Riyadh

### Abstract

**Background:** 22% of all dialysis patients are on the waiting list for renal transplants. Kidney transplantation provides up to 13 years increase in life expectancy compared to patients on waiting list. Categorizing kidneys is key in determining prognostic risk factors for kidney transplant. We investigated the impact of non-immunologic factors on patient and graft survival after deceased-donor kidney transplant.

**Methods:** All deceased donor kidney transplants performed between January 2004 and December 2015 were included in our analyses. We used the independent t-test to calculate significant differences between means above and below medians of various parameters.

**Results:** All study patients (N=205; 58.7% males) received antithymocyte globulin as induction therapy and standard maintenance therapy. Patients were free from infection, malignancy, and cardiopulmonary and liver system abnormalities. Most patients (89.2%) were recipients of a first graft. Median patient age, weight, and cold ischemia time were 38 years, 65 kg, and 15 hours, respectively. Delayed graft function, diabetes mellitus, and hypertension occurred in 19.1%, 43.4%, and 77.9% of patients, respectively. The 1- and 5-year graft survival rates were 95% and 73.8%. Graft survival was not affected by donor or recipient sex or recipient DM or hypertension. Graft survival was longer in patients who received no graft biopsy (8.2 vs 6.9 y; P=.027) and in those who had diagnosis of calcineurin inhibitor nephrotoxicity versus antibody-mediated rejection after biopsy (8.19 vs 3.66 y; P=.0047). Longer survival was shown with donors who had traumatic death versus cerebrovascular accident (5.9 vs 5.3 y; P=.029) and donors below the 50th percentile in age (8.23 and 7.14 y; P=.0026) but less with donors who had terminal acute kidney injury (6.97 vs 8.16 y; P=.0062). We found a negative correlation between graft survival and donor age (P=.01) and 1-year serum creatinine (P=.01).

**Conclusion:** Donor age, cause of brain death, and acute kidney injury affected graft survival in our study cohort but not donor or recipient sex or posttransplant DM or donor HTN.

## 168. The Association of Internet Use On Sleep Pattern Among Medical Students at King Saud bin Abdulaziz University for Health Sciences Riyadh, Saudi Arabia

Abdullah Omar Alghannami,<sup>1</sup> Mogbel Khalaf Alharbi,<sup>1</sup> Abdullah Turki Alrashed,<sup>1</sup> Rakan Ali Alshehri,<sup>1</sup> Sattam Obaid Alotibi,<sup>1</sup> Afaf Moukaddem,<sup>2</sup> Sajida Agha,<sup>3</sup>

- 1- Medical students, College of Medicine, KSAU-HS, Riyadh
- 2- Lecturer, College of Medicine, KSAU-HS, Riyadh
- 3- Associate professor, College of Medicine, KSAU-HS, Riyadh

### Abstract

**Background:** Internet usage which is growing in an alarming rate among medical students is considered as an essential technological element during their academic journey. There is a significant positive association between negative lifestyles and decreased academic achievements; excessive use of internet is counted as a negative lifestyle.

**Objective:** To determine the excessive internet use and its effect on the sleep pattern of medical students.

**Material and Methods:** This study was a cross-sectional study using two self-administered questionnaires distributed among Phase II (preclinical years) and Phase III (clinical years) students (n=296) in the college of Medicine, KSAU-HS, Riyadh. Two validated questionnaires ""The Pittsburgh Sleep Quality Index (PSQI)"" designed to assess the sleep quality and ""the Internet Addiction Scale (IAS)"" to assess the internet addiction were administered. Nonprobability Convenience sampling technique was used. A t-test was used to measure the association between the two group outcomes. A p-value < 0.05 declared statistically significant.

**Results:** Overall there was no significant association between excessive use of internet with sleep pattern and students' demographics, but a significant association was found between the sleep quality (p= 0.04) and sleep disturbance (p= 0.02) with internet addiction. Also, a significant relationship between sleep duration and daytime functioning of the students was found (p =0.05).

**Conclusion:** In conclusion excessive use of technology has a significant effect on sleeping patterns of medical students. Medical students should be advised through advisors to reduce use of devices and finish academic responsibilities on time to improve their sleep cycle.

## 169. Otolaryngology Manifestations in COVID-19 Paediatric Patients.

Hijazi L <sup>1</sup>, Al Araifi A <sup>2</sup>, AlSaab F <sup>2</sup>

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<sup>2</sup> Division of Otolaryngology-Head and Neck Surgery, Department of Surgery, King Abdulaziz Medical City, Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia

### Abstract

**Background:** The coronavirus disease 2019 pandemic has affected millions of people since its outbreak on December 2019. Limited data on otolaryngology-related clinical features of COVID19 pediatric patients is available.

**Methods:** Data was retrospectively retrieved from January to July 2020 for COVID-19 positive paediatric patients (aged 0–15 years) from electronic medical records at King Abdullah Specialist Children Hospital. We recorded patients' epidemiological and clinical features. Patients were categorized into 3 main groups according to age (3-6 years, 7-10 years, 11-15 years).

**Results:** Within the 660 COVID-19 laboratory-confirmed positive patients, 372 (54.4%) were symptomatic. Fever and cough were the most common reported symptoms (39.2% and 19.8%, respectively). 628 (95.2%) patients were treated conservatively, 29 (4.4%) of them required admission, and 2 (0.3%) patients passed away. In patient aged 3-6 years, 16 (7.6%) reported headache and 12 (5.7%) reported change in taste (p value = 0.001). Vomiting was significantly higher in patients aged 3-6 with a p value of 0.006. Changes in smell and taste were classified as either complete loss, partial loss or no change at all. The three classifications were then compared between the 3 age groups showing that the reported complete loss in smell was 4 (1.9%) in age 3-6 years, 7 (2.9%) in 7-10 years, and 14 (6.9%) in ages 11-15. 18 patients (age 11-15), 8 (ages 7-10) and 6 (ages 3-6) reported complete change in taste (p value of 0.002).

**Conclusion:** COVID-19 in pediatric seemed to have a milder disease course and better prognosis than adults.

## 170. Phyllodes Tumor of the Breast Clinical Experience and Outcomes: a Retrospective Cohort Tertiary Hospital Experience.

Alkushi A, Al-Riyees L, Arabi H, OMAIR A, <u>Aldakheel A (presenter)</u>, Altamimi A, Alsulaiman Y, Al Zarah R, Alhussein F.

### Abstract

**Background:** Phyllodes tumor (PT) accounts for <1% of all breast tumors worldwide. Based on their microscopic features, these tumors are classified into benign, borderline, and malignant. This study aimed at evaluating the clinical experience and the clinicopathologic features of PT.

**Methods:** A retrospective cohort study of 46 female patients with histologically diagnosed PT. Data collection and evaluation was done on patient demographics, preoperative radiological assessment and pathology, surgical procedure, post-surgery pathological evaluation, radiation therapy (RT), and follow-up.

**Results:** The median age at diagnosis was 42 years and young premenopausal patients (median age 35 years) had malignant PT. Forty-five patients underwent core needle biopsy (CNB) with high sensitivity and the positive predictive value (82.2% and 97.4% respectively). Thirty-nine patients (86.7%) underwent conservative surgery and 6 (13.3%) had a mastectomy. Twenty-seven (58.6%) were classified as benign, 11 (23.9%) as borderline and only 8 (17.4%) as malignant PT. Malignant PT had the greatest median tumor size (13cm). Mortality and recurrence rates were 4.3% and 2.2% respectively. RT was administered in 6 patients (13.0%), 5 having malignant and 1 borderline PT. The metastatic rate was found to be 6.5%.

**Conclusion:** PT are rare breast tumors with variable biologic behavior and heterogeneous clinicopathological findings. Young, premenopausal women with large tumors may have malignant PT with a risk of recurrence and metastasis. Core needle biopsy is a reliable tool for diagnosis of PT with strict follow-up recommended for large tumors diagnosed as fibroadenoma on CNB. Surgical management must ensure a tumor-free margin on excision to reduce recurrence.

## 171. Predictors of seatbelt use among Saudi adults: results from the national biobank project.

Alghnam A, Alyabsi M, Aburas A, Alqahtani T, Bajowaiber M, Alghamdi A, Alqunaibet A.

### Abstract

**Introduction:** Road traffic crashes (RTCs) are a leading cause of death and disabilities and impose a significant burden on the healthcare system and economy of Saudi Arabia. Around 20% of all hospital beds are occupied by victims of RTCs, which represent approximately 80% of trauma deaths occurring in these facilities. Using a seatbelt is an effective method to reduce traffic deaths and minimize the extent of associated injuries. However, little is currently known about the prevalence and predictors of seatbelt use in Saudi Arabia. More studies are needed to determine the trends of seatbelt use and study the relationship between individual factors and compliance with seatbelt use laws. The aim of the present study is to examine the prevalence and predictors of seatbelt use using the National Saudi Biobank dataset.

**Materials and Methods:** This cross-sectional study was conducted using an in-person survey from the Saudi National Biobank (SNB). The participants were adults affiliated with the Ministry of National Guard Health Affairs in Riyadh who were examined between 2017 and 2019. Chi-squared and Wald tests were used to assess the association between the respondents' characteristics and their seatbelt use. In addition, logistic regression models were constructed to assess the univariate and multivariate associations between seatbelt use and potential predictors. All statistical tests were two-sided, and the findings were considered significant at  $P < 0.05$ .

**Results:** A total of 5,790 adults participated in the survey. The majority of the participants (52.44%) were between 18 and 25 years old, half were males, and 58.80% were single. About 42.83% of the participants reported consistent seatbelt use as drivers or passengers. In the multivariable analysis, females were 86% less likely to wear seatbelts than males (OR = 0.136, 95%CI = 0.107–0.173). Individuals who rated their mental health as “weak” were 26% less likely to wear seatbelts than those who reported “excellent” mental health status.

**Conclusion:** Seatbelt use remains low in the country and substantially lower than in developed countries. Young adults, females, and individuals reporting suboptimal mental health were less likely to fasten their seatbelts.

## 172. Prevalence of Anxiety and Depression in Patients with Inflammatory Bowel Disease in Saudi Arabia.

Alduhayan Saleh, Alenazi Sultan, Almushir Sulaiman, Alfadel Abdulaziz, Alosaimi Abdulkareem, Alenazi Mutas

### Abstract

**Background:** Inflammatory bowel disease (IBD) patients are not routinely screened for depression and anxiety despite knowledge of an increased prevalence in people with chronic disease and negative effects on quality of life.

**Objectives:** To determine the prevalence of anxiety and depression among IBD patients. To determine the patient characteristics associated with anxiety and depression

**Methods:** Prevalence of anxiety and depression will be assessed in IBD patients by a cross sectional survey using electronic distribution through smart phones to all IBD patients available in IBD educator data base. Patients meeting the inclusion criteria will be asked to fill out the Generalized Anxiety Disorder-7 (GAD-7) and Patient Health Questionnaire-9 (PHQ-9). The GAD-7 and PHQ-9 are self-report questionnaire used to identify Generalized Anxiety Disorder and Depression. The GAD7 has a sensitivity of 89% and a specificity of 82% [9]. When using a cut-off of 10 or greater as a positive result, the PHQ-9 has a sensitivity and specificity of 88% [10].

**Results:** 238 patient charts were reviewed. Rates of depression and anxiety were found to be 23.8% and 18.6%, with 13.4% of patients suffering from depression and anxiety. Disease duration was found to be significantly associated with depression and/or anxiety ( $p = 0.01$ ).

## 173. Reasons for the Unscheduled Return Visits within 72 Hours to the Adult Emergency Department in Riyadh.

Alqahtani F, Aljehani A, Nasraden M, Althunayan M, Aljamaan A, Algerian N, Alhelail M, Omair A  
King Saud Bin Abdulaziz University for health sciences

### Abstract

**Introduction:** Avoidable Emergency Department (ED) return visits are one of the main causes of overcrowding in the ED and are a major barrier to appropriate medical services. This study aimed to investigate unscheduled return visits to the ED within 72 hours, to identify the most common chief complaints/diagnoses, and to estimate the mortality rate within one month of that visit.

**Methods:** A cross-sectional retrospective study was conducted among patients above the age of 15 years of both genders; Saudis and non-Saudis were included. The work was done at King Abdulaziz Medical City, Riyadh from January to December 2017. The data were extracted from the BESTcare system, and there were 11,177 (6.1%) out of 182,602 visits to the ED who had an unscheduled return visit. A computerized simple random sampling technique was used, and we enrolled a total of 375 revisits. The main variables were age, gender, chief complaint of the first and second visits, diagnoses of the first and second visits, comorbidities, admissions, and mortality rate within one month.

**Results:** The mean age was 43.6±19.4 years (range: 15 to 94 years). There were slightly more females (53%) than males. There were 228 subjects (60.8%) who returned with the same complaint as their previous visit. Abdominal pain (24%) was the most common chief complaint in the first return visit followed by cough (8%). Upper respiratory tract infection was the most frequent diagnosis for the first (10%) and second (9%) return visits. Hypertension (25%) and diabetes mellitus (21%) were the most common comorbidities. There were 62 (17%) patients admitted from the ED in the second visit. Most were admitted under internal medicine (34%), general surgery (21%), obstetrics and gynecology (13%). The mortality rate within one month of discharge was 0.8%.

**Conclusion:** This study shows the importance of patient counseling, education, and instruction on returning to the ED. The incidence rate in our study is considered high and should be further explored by reassessing the admission and discharge policies. More attention and preventive treatment measurements for common complaints are needed to avoid ED return visits.



## 174. Reduction of Severe Intraventricular Hemorrhage, A Tertiary Single-Center Experience: Incidence Trends, Associated Risk Factors, and Hospital Policy.

Alotaibi, W <sup>1</sup>, Alsaif, N <sup>1</sup>, Ahmed, I <sup>1,2</sup>, Mahmoud, A <sup>2</sup>, Ali, K. <sup>2</sup>, Hammad, A <sup>3</sup>, Aldibasi, O <sup>1,4</sup>, Alsaif, S <sup>1,2</sup>

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4 Department of Bioinformatics and Biostatistics, King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

### Abstract

**Background:** According to the National Institute of Child Health and Human Development (NICHD) in 2016, 31.6% of all intraventricular hemorrhage (IVH) cases were classified as severe IVH. Neurological sequelae are found in approximately 50–75% of preterm survivors with severe IVH; hence, it remains a significant public health concern worldwide. This study aims to determine the incidence, trends, and maternal and neonatal risk factors of severe IVH among infants born 24–32 weeks and/or <1500g.

**Method:** Retrospective chart review of preterm infants with a GA of 24–32 weeks and/or weight of <1500g born at King Abdulaziz Medical City–Riyadh, Saudi Arabia, from 2016 to 2018. Multivariate logistic regression model was constructed to determine the probability of developing severe IVH and identify associations with maternal and neonatal risk factors.

**Result:** Among 640 infants, the overall incidence of severe IVH was 6.4%, and its rate decreased significantly, from 9.4% in 2016 to 4.5% and 5% in 2017 and 2018 ( $p = 0.044$ ). Multivariate analysis revealed that caesarian section delivery decreased the risk of severe IVH in GA group 24–27 weeks ( $p = 0.045$ ). Furthermore, use of inotropes ( $p = 0.0004$ ) and surfactant ( $p = 0.0003$ ) increased the risk of severe IVH. Despite increasing use of inotropes ( $p = 0.024$ ), surfactant therapy ( $p = 0.034$ ), and need for delivery room intubation ( $p = 0.015$ ), there was a significant reduction in the incidence of severe IVH following the change in unit clinical practice and hospital policy ( $p = 0.007$ ).

**Conclusion:** Cesarean section was associated with decreased all grades of IVH and severe IVH, while use of inotropes was associated with increased severe IVH. The changes in hospital and unit policy were correlated with decreased IVH during the study period.

## 175. Sun Protection among the Changing Saudi Public: A KAP Study in Riyadh.

AlSuhaymi S., AlQatari B., Al-Tulaihi B.

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2 Royal College of Surgeons in Ireland, Dublin.

3 Department of Family Medicine, King Abdulaziz Medical City, Riyadh.

### Abstract

**BACKGROUND:** Sun exposure is known to cause various pathologies, and sun protection is particularly important in Saudi Arabia. Not only is it one of the most sun-exposed regions in the world, but the lifestyle of the Saudi society is changing where it could lead to an increase in sun exposure. We aim to provide a recent assessment of the Saudi public's knowledge, attitude, and practice of sun protection and exposure.

### METHODS:

- A cross-sectional study in National Guard Primary Health Care Centre, Riyadh.
- A self-administered questionnaire from a previous study was modified. Data collected from 17 to 22 July, 2019.
- Participants identified through non-probability convenience sampling.
- Only adults who can read the questionnaire were included.
- Data analysis done using SAS-JMP v9.4.

### RESULTS:

- Demographics: 409 responses collected; 246 (63.2%) females; mean age  $31.9 \pm 10$  years.
- Knowledge: 78 (19%) identified "skin cancer" as a possible effect of sun exposure.
- Attitude: 255 (62%) expressed concern regarding hazards of sun exposure. 117 (29%) believe 'tanning' makes them more attractive.
- Practice: 76% reported protecting themselves by seeking shade.
- Logistic regression tests: Awareness of the harmful effects was higher among females ( $p = 0.0018$ ). Participants using sunscreen had 2.4 times more knowledge compared to those who didn't use sunscreen ( $p = 0.0073$ ).

**CONCLUSION:** Knowledge of sunscreens: 255 (62%) unaware of Sun Protection Factor (SPF); similar to reports by AlMuqati.

Attitude toward sun protection: 198 (48%) find it difficult, 256 (63%) are concerned, but 325 (79%) are hopeful that harms are preventable.

Sun exposure: 37% daily exposure, 45% spend more time exposed in winter; similar to high exposure rates reported by AlGhamdi of 19.13h mean of weekly sun exposure.

Sunscreen use: accounted for 40%; as opposed to 23.7% reported by AlGhamdi. Which can be explained by more commercial advertisement or might be due to the limited area of our sample.

Effective action is needed and can be achieved by designing educational programs in schools or awareness campaigns that exploit means most familiar to the public, like the social media."

## 176. The changing paradigm of proximal ureteric stone emergency management: 17 years' experience.

AlKhayal A, Alothman A, Alathel A, Alharbi R, Alqarni H, Almanna B, Alhammad S, Almaini R, Ghazwani Y, Alrabeeah K.

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### Abstract

**Introduction:** Urolithiasis is a prevalent disorder affecting the urinary system. This study was designed to identify the latest trends in the management of a proximal ureteric stone in an emergency setting at a tertiary care center.

**Methods:** This was a retrospective cohort study, conducted at King Abdulaziz Medical City (KAMC) in Riyadh, Saudi Arabia. The patients' age, gender, stone size and location, modality of diagnosis and method of treatment were retrieved and analyzed. All patients who received treatment for proximal ureteric stones from the 1st of January 2002 to the 1st of June 2019 were included in the study.

**Results:** A total of 360 patients were included, with a mean age of  $49.5 \pm 17$ , and 73.1% were male. In the first decade, 56.75% of the patients had a double "J" (DJ) stent insertion, which increased to 80.2% ( $p < 0.001$ ) in the second decade. Similarly, 17.9% received a nephrostomy tube (NT) insertion in the first decade, compared to 7.2% ( $p = 0.0059$ ) in the second decade. In terms of an ureteroscopy (URS), 25.4% were performed in the first decade compare to 38.6% ( $p = 0.042$ ) in the second decade. However, an urgent URS was less frequently performed in the first decade (13.4%), compared to 29.7% in the second decade ( $p = 0.0066$ ). Lastly, for extracorporeal shock wave lithotripsy (ESWL), the first and second decades were 34% and 3.1% respectively ( $p < 0.001$ ). After analyzing the type of management with the age groups, a DJ stent insertion was the most frequent treatment modality for all age groups. For the majority of the sample (75.8%,  $n = 272$ ), in all age groups, a DJ stent was inserted, with only 9.2% ( $n = 33$ ) receiving a NT insertion.

**Conclusion:** Due to the advancement and availability of URS technologies, there is a significant increase in the trend of an urgent URS as a treatment modality of choice for a patient with proximal ureteric stones in an emergency setting. In contrast, the use of a NT insertion and ESWL decreased significantly.

## 177. The Descriptive Epidemiology of Primary Bone Sarcomas in Saudi Arabia.

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### Abstract

**Background:** The geographic incidence of tumors usually uncovers the influence that environment, race, and culture exert upon cancers. This bone sarcoma study aims to detect incidence and differences in tumor type, site of origin, and mortality across gender, regions, and age, and differences in characteristics among tumor types

**Methods:** This retrospective cohort study included all patients diagnosed with primary bone sarcomas from January 1, 2013, to December 31, 2017. Frequencies and percentages were generated for categorical variables. Mean and standard deviation were calculated for quantitative variables. The Chi-squared test was used to detect differences among categorical variables. T, ANOVA, and Tukey tests were utilized to detect differences among quantitative variables. Incidence was calculated for each tumor type.

**Results:** Of 451 patients, 248 (55%) had osteosarcomas, 160 (35.5%) had Ewing sarcoma, and 43 (9.5%) had chondrosarcoma. Incidence was 1.56 cases per 1,000,000 per year for osteosarcoma, 0.95 cases per 1,000,000 per year for Ewing sarcoma, and 0.27 cases per million per year for chondrosarcoma. The 3-year survival rate was 82.30%. Significant differences in tumor type, origin site, and 3-year survival across age and gender were detected. Significant differences of origin site, grade, base of diagnosis, and lateralization across tumor types were also detected.

**Conclusions:** From the available literature, we have concluded that the observed bone sarcoma incidence rates were mostly lower than the ones detected globally. Understanding the tumor behavior pattern in the region will aid in the development of tailored risk and response-based treatment strategies that allow for early decision making.

## 178. The Effect of Bariatric Surgery on Metabolic Syndrome: A Three-center Experience in Saudi Arabia.

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4 Department of Surgery, King Abdulaziz Medical City, Ministry of the National Guard Health Affairs, Riyadh, Saudi Arabia.

### Abstract

**Introduction:** The prevalence of Metabolic Syndrome (MetS) increases in parallel with the increasing incidence of obesity. Hence, bariatric surgery is potentially curative in obese patients with MetS. We aim to measure the effect of bariatric surgery as well as the potential factors leading to MetS resolution in the Saudi population.

**Methods:** A retrospective review of three tertiary centers in Saudi Arabia was carried out. We identified 386 patients with MetS who underwent bariatric surgery during the period from January 2016 until December 2018. After exclusion of patients with insufficient follow-up, data from 273 patients was analyzed. MetS was assessed using the International Diabetes Federation consensus worldwide definition.

**Results:** MetS resolution was achieved in 64% of patients (n= 174/273) at a mean of 23 months postoperatively. There was a significant difference between MetS responders and non-responders to bariatric surgery. The first had younger age, lower blood pressure, lower fasting plasma glucose, and lower HbA1c preoperatively in addition to higher percentage of excess weight loss post-surgery.

**Conclusion:** Almost two-thirds of MetS patients achieved resolution after bariatric surgery. Younger age, lower blood pressure, lower fasting plasma glucose, lower HbA1c preoperatively and higher percentage of excess weight loss postoperatively were linked to MetS resolution.

## 179. The Effect of Gender, Age, and BMI on Medial and Lateral Posterior Tibial Slopes: An MRI-based Study.

ALJuhani W<sup>1</sup>, Qasim S<sup>2</sup>, Alrasheed A<sup>2</sup>, Altwalah J<sup>3</sup>, Alsalman M<sup>3</sup>

1 Surgery, KAMC, Riyadh, KSA

2 KSAU-HS, Riyadh, KSA

3 Radiology, KAMC, Riyadh, KSA

### Abstract

**Introduction:** The posterior tibial slope (PTS) plays a crucial role in knee joint stability and in maintaining the natural movement of the knee, particularly knee flexion. An alteration in the PTS angle changes the mechanical axis of the natural knee, which is essential in maintaining normal knee kinematics. There is an increased incidence of sustaining anterior cruciate ligament (ACL) rupture with increased PTS. Moreover, individuals are more likely to develop anterior tibial translation (ATT) with increased PTS. In the present study, we aim to establish normative medial and lateral PTS values among adult Saudis using MRI and to identify any possible associations between PTS and gender, age, and BMI.

### Materials and Methods:

A total of 285 consecutive knee MRIs taken from 285 patients between the ages of 18 and 59 were included in the study. The PTS was measured using the proximal anatomical tibial axis as a reference. The Kruskal-Wallis test was used to compare medial and lateral posterior tibial slopes between age and BMI groups. The difference between the medial and lateral posterior tibial slopes was assessed using the Wilcoxon signed-rank test. A Mann-Whitney U-test was performed to compare the medial and lateral posterior tibial slopes between males and females.

**Results:** The mean physiological medial PTS was  $5.86 \pm 3.0^\circ$  and  $6.61 \pm 3.32^\circ$  in males and females, respectively, while the lateral PTS was  $4.41 \pm 3.35^\circ$  and  $4.63 \pm 2.85^\circ$  for the same. This difference showed no statistically significant gender dimorphism ( $p > 0.05$ ). The medial PTS was significantly larger than the lateral PTS in both males and females ( $p < 0.0001$ ). BMI significantly affected the lateral PTS in males ( $p = 0.0029$ ), but not in females ( $p = 0.0586$ ). There was no statistically significant difference in medial and lateral PTS angles between age groups ( $p > 0.05$ ).

**Conclusions:** This study provided normative values for medial and lateral PTS angles in Saudis, which can assist surgeons to maintain normal knee PTS during knee arthroplasty and high tibial osteotomy. BMI affected the lateral PTS in males, potentially increasing the risk of developing ACL injury and ATT. Age showed to statistically significant influence on both medial and lateral PTS.

## 180. The Effects of the COVID-19 Lockdown on Severe Asthma in Patients taking Biologic Therapy and Air Pollution.

Yassar AL-Jahdali, Sami Alanazi, Thamer Alghamdi, Abdulmajeed Ratah, Ayaz Khan

### Abstract

**Background:** The curfews and lockdowns imposed during the COVID 19 pandemic may decreased volume of traffic and reduced air pollution. In addition, social distancing measures may contribute to reduce infection and asthma exacerbation.

**Objective:** To assess asthma control and asthma medication use among sever asthmatics on biologics before and after COVID-19 pandemic

**Method:** This is a cross-sectional survey study of patients with severe asthma receiving biologic therapy at King Abdulaziz Medical City-Riyadh (KAMC-R), Saudi Arabia. We looked at the effects of the COVID19 lockdown on this cohort of sever 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 (ED) visits, hospitalizations, use of oral prednisolone, changes in inhaler therapy, frequency of bronchodilators 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 range from 4-30 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, range 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 overall asthma symptoms is better after curfew and lockdown 28 (50%). Less use of bronchodilators post curfew reported in 38% of the patients. Asthma control ( $\geq 20$ ) using ACT score was significantly higher among patients in post curfew and lockdown period compared to pre curfew period 34(61.7%) and 23 (41%), (p.0.001) respectively.

**Conclusion:** Asthma control was better post curfew and lockdown. Decrease in air pollution and social distances may be contribute factor.



## 181. The epidemiology and outcome of drowning among Saudi children: results from a large trauma center.

Alkhalaf H, Zuraie M, BinAfif A, Alqahtani R, Alghamdi M, alghnam S

### Abstract

**Objectives:** Drowning among children is a significant global health issue, yet limited data is available when it comes to Saudi Arabia. We aimed to determine the epidemiological characteristics, risk factors, and clinical outcomes of drowning among children.

**Methods:** This cross-sectional retrospective study collected data on drowning victims (aged 0–14 years) admitted to King Abdullah Specialist Children Hospital in Riyadh from 2015 to 2020. Patients were identified from the electronic health record system where the discharge diagnosis was drowning or near drowning. Differences between various characteristics and outcomes were determined by using Fisher's exact test and T-test.

**Results:** The study identified 99 drowning and near-drowning cases, among whom 57% were males, 42% were females and 87% were Saudis. Most reported drowning sites were private pools (82%), followed by fountains (5%). The majority of the cases were below age of five, non-witnessed or unsupervised events, and occurred on holidays. A proportional relationship was found between the time delay in initiating resuscitation and the possibility of unfavorable outcomes ( $p < 0.01$ ). A high Glasgow Coma Scale (GCS) score upon admission was a positive predictor of normal recovery ( $p \leq 0.01$ ), while requiring intubation or PICU admission was linked with adverse outcomes by 68%, 54.5% respectively.

**Conclusion:** our study showed the epidemiological characteristics, risk factors, and clinical outcomes of drowning among children. Further studies are needed to evaluate the outcomes of prevention programs.

**Limitations:** The study was conducted in one tertiary center located in a non-coastal city. The results may, therefore, be non-generalizable.

**Keywords:** Drowning, near-drowning, submersion, immersion, supervision, pools.

## 182. The incidence and predictors of pneumothorax among trauma patients in Saudi Arabia Findings from a level-I trauma center.

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### Abstract

**Objectives:** To investigate the incidence and predictors of traumatic pneumothorax using data from a Level-I trauma center in Riyadh, Saudi Arabia.

**Methods:** This is a retrospective chart-review study carried out in King Abdulaziz Medical City, Riyadh, Saudi Arabia. Data were extracted from the hospital's trauma registry (2016-2018). A total of 2,109 trauma patients were included. Inclusion criteria were patients  $\geq 16$  years old admitted for a traumatic injury. Variables included patient demographics, transport mode, trauma team activation, mechanism of injury, mortality rate, Glasgow Coma Scale and Injury Severity Scores. A logistic regression analysis was constructed to evaluate potential predictors of pneumothorax.

**Results:** Of 2,109 patients included from the trauma registry, 236 (11.2%) were diagnosed with pneumothorax. The majority of the study population was young (19-49 years) (60.7%) and male (79.4%). Injury mechanism was significantly associated with the presence of pneumothorax ( $p < 0.001$ ). Regression analysis indicated that the odds of having pneumothorax among intentional injury victims was 15 times higher than fall injury victims (OR=15.3, 95% CI= 7.2-32.9). Participants who sustained motor vehicle collision injuries had 3 times higher odds of developing pneumothorax than those who suffered fall injuries (OR=3.1, 95% CI= 1.5-6.1).

**Conclusion:** The incidence of traumatic pneumothorax is sizable and highly associated with the mechanism of injury. Efforts to reduce motor vehicle collision burden should be directly associated with decreasing the burden of traumatic pneumothorax.

## 183. The Level of Knowledge about Primary Immunodeficiency Diseases among Medical Students in Riyadh City, Saudi Arabia.

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### Abstract

**Background:** Primary immunodeficiency diseases (PIDs) are monogenic disorders that affect the immune system, and increase the susceptibility to infections. The prevalence of PIDs in children less than five years old in United States is 10.3 per 100,000. The lack of knowledge about PIDs is the main cause of the delayed diagnosis that leads to subsequent increments in morbidity and mortality. This study aims to evaluate the knowledge about PIDs in medical students in Riyadh City, Saudi Arabia.

**Methods:** A cross-sectional study was conducted by recruiting university undergraduate students (third, fourth, fifth and sixth-year medical students) from four universities in Riyadh, Saudi Arabia. A questionnaire was distributed to the participants through mediators in each university.

**Results:** In total, 387 students participated in the study. The majority (69%) were 21-23 years old and just a little more than half were female (52%). The student's knowledge score ranged from 3 to 33, with a mean of 14.1 (SD±5.6). The sample was classified according to the level of knowledge into two groups: below-average group and average/above-average group with a cut-off point of 60% of the total score. The majority (83%, n=322) was in the below-average group, while 17% (n=65) in the average/above-average group. In terms of the two groups, the number of participants who are considered average/above-average knowledge were found to be the highest in the sixth-year students compare to the other years (P value<0.05).

**Conclusion:** The results indicated a lack of knowledge about PIDs among medical students. PIDs should be emphasized more in medical education. This is the first study in the Middle East, to evaluates the level knowledge about PIDs in medical students and to highlights the importance of further studies in the future.

## 184. The Prevalence of Enteroviruses in Groundwater of The Riyadh Region.

Alghamdi N<sup>1</sup>, Alotaibi A<sup>1</sup>, Almuzaini N<sup>1</sup>, AlDoukhi A<sup>1</sup>, Aloufi M<sup>1</sup>, Alhendi Y<sup>2</sup>, Aly M<sup>2</sup>, Balkhy H<sup>2</sup>, Alghoribi M<sup>2</sup>

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### Abstract

**Background:** Human enteroviruses (EVs) cause a wide spectrum of acute illnesses specifically gastroenteritis, which consider one of the leading causes of death among children worldwide. The most common route of infection transmission is the oral faecal route through contaminated water and food consumption. Viral gastroenteritis does not have an effective medication. Hence, management mainly relies on prevention by minimizing the consumption of water and food containing gastroenteritis-related viruses. 55% of the Saudi population depend on groundwater as the main source of water. Contaminated groundwater is a key factor in gastroenteritis outbreak worldwide.

**Objective:** The main objective of the current study is to explore the occurrence and diversity of enteroviruses in groundwater of the Riyadh Region.

**Methodology:** A cross-sectional study was used to estimate the prevalence of the groundwater-borne enteroviruses. Between December 2017 and January 2018, 24 samples were collected from Riyadh. Enteroviruses were monitored using PCR. In brief, a viral extraction, viral filtration and RT-PCR, followed by sequencing.

**Results:** Out of the 24 samples, 9 samples were positive, so 37.5% is the prevalence of EV's in Riyadh region groundwater. Positive samples and from the ground water well are shown on the attached map Figure1. Currently we are trying to sequence the positive samples to explore the most prevalent enteroviruses genotypes in that contaminate wells from our region.

**Conclusion:** In Saudi Arabia, the identification of groundwater viral-gastroenteritis contaminants is yet to be identified. Here, we provide the first evidence of enterovirus contaminated ground water from the Riyadh region. More than 37% of our sampled groundwater was found to be contaminated with enteroviruses that may lead to gastroenteritis and other illnesses upon domestic consumption. More studies are needed to better understand of the ground water related gastroenteritis outbreaks.

## 185. The prevalence of non-syndromic orofacial clefts and associated congenital heart diseases of a tertiary hospital in Riyadh, Saudi Arabia.

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5 Pediatric Dentistry and Orthodontics Department, King Saud University Riyadh, Saudi Arabia

### Abstract

**Introduction:** Orofacial clefts are considered one of the most common birth defects and are frequently associated with other malformations. Congenital heart disease is one of the most prevalent congenital malformation.

**Aim & Objectives:** To investigate the prevalence of congenital heart diseases associated with non-syndromic orofacial clefts in the Saudi population.

**Methods:** Electronic files of non-syndromic orofacial cleft patients who visited the Oral and Maxillofacial Surgery Department in King Abdulaziz Medical City of Riyadh, Saudi Arabia from January 2015 to December 2018 were retrospectively reviewed. Data were recorded in an excel sheet and analyzed using SPSS via frequency tests.

**Results:** In the cleft children identified, the prevalence of non-syndromic orofacial clefts was (77%). Orofacial clefts showed a male predominance (62%). The most common orofacial phenotype was unilateral cleft lip and palate (34%). The prevalence of associated congenital malformations with orofacial clefts was (41%). The most prevalent congenital malformation was congenital heart disease (35%), mainly found in unilateral cleft lip and palate patients (33%). The

prevalence of associated congenital heart disease with orofacial clefts was (19%). The most frequent type of congenital heart disease was atrial septal defect (37%).

**Conclusion:** This study highlights the recognition of the associated congenital heart disease with non-syndromic orofacial cleft patients. Global screening protocols designed for newborns with non-syndromic orofacial cleft are needed to eliminate late diagnosis of critical congenital heart diseases

which might present operative risks of anesthesia and/or surgical procedures."

## 186. The role of tissue and liquid biopsy in the clinical management of adenocarcinoma patients at the National Guard Hospital in Riyadh, Saudi Arabia.

Alanazi,L Alqahtani,R Binafif,A Zuraie,M Alanazi,S Masud,N Bamefleh,H Jazieh,A Al Turki,S

### Abstract

**Background:** Among the deaths caused by different types of cancers in both males and females worldwide, those due to lung cancer are one of the commonest. In this study, we assessed the current role of the tumor tissue biopsy and liquid biopsy in the clinical management of lung cancer to evaluate different tumor biomarkers. For this, we conducted a case series study of all the expected adenocarcinoma stage IV and 3B patients from January 2016 to December 2018 at the Adult Oncology Department and the Molecular Oncology Laboratory at King Abdulaziz Medical City (KAMC), Riyadh.

**Methods:** We collected the results in a special form that was designed to collect the data through a purposive sampling technique of the molecular assays and combined them with other clinical information from the patients' charts to meet the primary and secondary objectives of this research.

**Result:** This study involved 62 patients in all of which 42 patients were males and 20 were females with a mean age of  $68 \pm 11$ . Three patients were at stage 3B and 59 patients were at stage IV of the disease. We found that 38 patients were currently smoking, and 24 had a history of smoking. The symptom that was reported the most was cough (in 47% of patients) followed by weight loss (in 26% of patients). Fatigue and fever were the third most common symptom (in 19% of patients). All of these patients had undergone a tissue biopsy and 12 of them had developed the pneumothorax complication due to the procedure.

**Conclusion:** In conclusion, this study shows a higher incidence of adenocarcinoma in men which has not been the case with other studies. Further, the type of mutations observed were similar to those observed in East Asia. The highest reported symptom of cough among the patients in our study was in accordance with the observations made in this regard in similar studies of adenocarcinoma.

## 187. The Use of Mobile Application in Primary Health Care in Saudi Arabia: A Cross-Sectional Study.

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<sup>3</sup> King Abdulaziz Medical City, Riyadh, Saudi Arabia.

### Abstract

**Background:** Technology implantation in primary health care (PHC) is an approach to enhance healthcare services via availability and convenient access. This study described the factors contributing for not booking an appointment using the mobile application, and why patients visit PHC physicians.

**Method:** This is a cross sectional study that included 477 participants who visited the PHC physicians. Eligible subjects who present in the patients' waiting area were asked to participate by giving them a self-administered questionnaire.

**Results:** Out of the 477 participants' appointments, 83.5% (N = 398) of them were booked through the mobile application. Out of 398, 54.6% (N = 217) were not booked by the patients themselves. The most common reasons for the visits were follow up (38.8%), lab/imaging results (34%), and acute complaint (27.3%). Gender, age, and the number of comorbidities the patient has were significantly associated with those who didn't book the appointment by themselves through the mobile application (P value <0.001). Males were more likely to book for themselves than females. The average age for patients who booked for themselves through the mobile application was significantly low (Mean = 39.4, SD = 14.5). Those who were able to book for themselves had a lower number of comorbidities.

**Conclusion:** Age, gender, and number of comorbidities were significantly contributing to not to book an appointment/use mobile application by the patients themselves. The mobile application might cause difficulties and influence the appointment booking process. The application should be expanded throughout the country with further modification to meet the patient's needs."



## 188. Title of the article: Parental Awareness of Headaches among Elementary School-Aged Children in Riyadh, Saudi Arabia: A Cross-Sectional Study.

W Altwaijri<sup>1</sup>, T Almazyad<sup>2</sup>, Y Abuzaid<sup>2</sup>, J Alkhater<sup>2</sup>, D Ashmawi<sup>2</sup>, G Alnami<sup>2</sup>, L Almazyad<sup>2</sup>, R Abuzaid<sup>3</sup>, L Alkhater<sup>4</sup>

### Abstract

**Background:** Childhood headaches are one of the most common complaints in neurological clinics. Headaches in children can have a substantial impact on their physical and mental health, school attendance and performance, functional status, and quality of life. Despite this, not all parents are aware of their children's headaches. This study was conducted to bridge an important knowledge gap as data on parental awareness of childhood headaches are limited both nationally and internationally. Therefore, the aim of this study was to estimate the prevalence of headaches among elementary school children, measure parental awareness of headaches among their children, and evaluate factors that could influence parental awareness.

**Methods:** An observational cross-sectional study was conducted among parents who were shopping in five malls in Riyadh between March and July 2019. Data were collected using a self-completed questionnaire, which included data on socio-demographic characteristics of the parents and their children, the presence of headache in children, and parental awareness about headache susceptibility, possible causes, associated symptoms, and management.

**Results:** A total of 292 parents were included. The majority were mothers (75.3%) in the age range of 26-45 years (83.2%). Approximately 62.3% of the parents reported headaches in their children. Approximately 47.6% of the headaches were attributed to "the use of electronic devices". The overall parental awareness of childhood headaches was 55.1%, with scores being highest for management questions (67.0%) and lowest for susceptibility questions (45.4%). In a multivariate logistic regression analysis adjusted for socio-demographic characteristics, parental awareness was positively associated with the presence of children with headaches in the family and negatively associated with Saudi nationality of the children.

**Conclusions:** Parental awareness of childhood headache is insufficient. There is a need to increase the awareness of parents about childhood headaches and the problems associated with heavy electronic device use.

## 189. Attitude of Pediatricians toward Suspected Cases of Child Sexual Abuse in Saudi Arabia.

AlEissa M, Sultana K, Saleheen H, Aldihan D, Al-Omar R, Alharbi R, Allahidan R, Alshagary R.

### Abstract

**Objective:** To assess pediatricians' attitudes working at the Ministry of National Guard Hospital Affairs (MNGHA) to report Child Sexual Abuse cases (CSA) and assesses the association between the pediatricians' demographic and cultural characteristics on their attitude towards reporting.

**Participants and settings:** The participants were professionals ranging from consultant to residents, from the pediatric department from MNGHA Riyadh and King Abdullah Specialist children's hospital including females and males, Saudis and non-Saudis aged 20-60 years.

**Methods:** A self-administered, hard copy questionnaire was distributed to 277 pediatricians with response rate of 58.48%. Sensitivity/specificity emphasis mean score was calculated. Categorical variables were tested against the sensitivity/specificity emphasis mean score using ANOVA and independent samples T-test. Reliability analysis was measured by Cronbach's Alpha.

**Results:** 153 completed surveys were analyzed. The survey responses were inclined towards balanced (indecisive towards 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, participants' experience, age, gender, and the number of child abuse-related courses. The skepticism scale showed, amongst the different professional levels, the staff physician/residents believed the 3-5 year girls and boys to be genuine. The consultants/associate consultants believed 6-12 and 13-17-year-old girls and boys to be true most of the time. Nearly half of the participants responded, their reporting decision was affected by the possible consequences of reporting suspected CSA for children's families and 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 for assessing, detecting, and reporting CSA cases.

## 190. Depression and Anxiety Symptom Assessment in Adults with Polycystic Ovarian Syndrome.

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4 Department of Psychiatry, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

### Abstract

**Background:** Polycystic ovarian syndrome (PCOS) is an endocrinopathic disorder commonly affecting women in the reproductive age. These women have a potential for depression and anxiety due to biochemical changes, concerns about physical appearance, and social pressure following infertility. This study aimed to assess depression and anxiety symptoms among PCOS patients determine their prevalence and the impact of socioeconomic factors on the patients' psychological status.

**Methods:** Arabic versions of the Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D) questionnaires were filled by 250 PCOS patients visiting gynecology clinics at Khashm Al-An primary health care center in King Abdulaziz medical city in Riyadh. A demographic sheet was filled to assess the socioeconomic and fertility status. Statistical analysis was performed using (SPSS) version 22, p-value of <0.05 was considered significant.

**Results:** The mean age of PCOS patients was  $28 \pm 8$  years. Prevalence of clinical anxiety was reported among 100(40%) of women. Single women had significantly higher prevalence of clinical anxiety 59(48%) ( $\chi^2 = 5.8$ , p-value < 0.01). Also, lower-income status and unemployment were associated with significantly higher prevalence of anxiety 18(67%) ( $\chi^2 = 10.3$ , p-value= 0.03) and 71(45%) ( $\chi^2 = 4.5$ , p-value= 0.03) women respectively. Clinical depression was reported among 122(49%) participants. Those women who had anxiety, had a significant positive correlation with depression ( $r=0.73$ , p-value < 0.001).

**Conclusion:** The overall prevalence of clinical depression in females with PCOS was 49%, while clinical anxiety which was present among 40%. Those females who had anxiety were more likely to experience depression symptoms. Single marital status, low income, and unemployment were predictors of anxiety.

## 191. Epidemiology and Factors Associated with All-Terrain Vehicle Accidents in Children: Finding from Trauma Registry Data.

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### Abstract

**Background:** All-terrain vehicle (ATV) accidents have considerable impact on the pediatric population in Saudi Arabia; however, local studies on the subject are lacking. More thorough study of this issue and adequate implementation of regulations are needed to prevent further casualties

**Methods:** All patients aged  $\leq 14$  who were admitted following an ATV accident from 2004 to 2018 were included in this study. Demographics, hospital course and injury outcomes were extracted from King Abdulaziz medical city trauma registry. Each medical record was reviewed for short term complications and mechanism of injury.

**Results:** 165 patients were involved in ATV accidents and met our inclusion criteria. The mean age of the study population was 8 (5) years, and 79% (131/165) were boys. Over 50% (83/165) of the patients had lower limb injuries. Majority of the patients had fracture injuries 37% (61/165) followed by amputations 30% (50/165). 86% (43/50) of those who had limb amputation were aged between 1-5 year compared to those who had no limb amputation (P value  $<0.001$ ). Among those patients who had amputation, 67% (33/50) of the patients had a limb trapped in the chains as a mechanism of injury.

**Conclusion:** The majority of patients had lower extremity injuries and a substantial number of those had amputation. Our results suggest an urgent need for safety precaution implementation and public awareness about the severity of such injuries.

## 192. Exploring factors affecting Critical Care Response Team (CCRT) service at a tertiary hospital in Riyadh: A retrospective cohort study.

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3 College of Medicine, KSU, Riyadh, Saudi Arabia. 4 College of Medicine, Almaarefa University, Riyadh, Saudi Arabia

### Abstract:

**Aim:** The aim of the study is to explore factors affecting CCRT service in terms of patient disposition and mortality rate. **Methods:** This is a retrospective cohort study conducted at a tertiary hospital in Riyadh. All CCRT Event Data Collection Forms in the period between February 2018 to April 2019 were reviewed. Patients meeting our criteria were included. Outcome measures were patient disposition and mortality rate. Factors that were tested for effects on CCRT service were patient age, activation time, reasons for activation. Also patient disposition was tested for effect on mortality rate. All statistical analyses were done using SAS software 9.4. **Results:** Total of 1088 CCRT events were considered during the period of the study. Out of all deaths, mean age was  $70.90 \pm 16.67$  compared to the mean age of survivors  $61.21 \pm 20.65$  ( $P < 0.0001$ ). Also, older patients had higher chances for ICU transfer ( $P = 0.0399$ ). CCRT service was not affected by activation time as patient dispositions and mortality rates were almost the same for CCRT activations during and out of work hours. Majority of patients within each reason for activation were not transferred to ICU, except for low oxygen saturation (50.54% transferred to ICU) ( $P = < 0.0001$ ), decreased level of consciousness (49.40% transferred to ICU) ( $P = < 0.0001$ ). Patients not transferred to ICU had lower mortality rate (15.18%) than those transferred to ICU (55.41%) ( $P < 0.0001$ ). Among patients transferred to ICU and died, mean length of ICU stay was 13.6 days compared with survivors 9.5 days ( $P = 0.0068$ ). **Conclusion:** Increased vigilance and quick responses to CCRT calls for older patients, patients with low oxygen saturation and decreased level of consciousness must be considered as they were associated with more ICU transfers and mortalities. Increased vigilance is also needed for patients spending more time in ICUs as ICU stay was noted to be longer among mortalities.

## 193. Homozygous DNAJC-3 Mutation in a Saudi family: a Case Report and Review of the Literature.

Authors: Alwatban S<sup>1</sup>, Alfaraidi H<sup>2,3</sup>, Alfadhel M<sup>1,2,3</sup>, Polak M<sup>4</sup>, Alluhaydan M<sup>2</sup>, Almutair A<sup>1,2,3</sup>

1 COM, KSAUHS

2 Pediatrics MNGHA

3 KAIMRC

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### Abstract

**Introduction:** Monogenic diabetes results from a mutation in a single gene and typically affects the young. DNAJC3 acts as an endoplasmic reticulum stress inhibitor and is found abundantly in pancreatic tissue.

**Clinical Case:** We report a homozygous DNAJC3 mutation in two siblings of a consanguineous Saudi family. A three-year-old boy presented with short stature and thyroid nodule; lab findings confirmed hypothyroidism, with TSH 27.8 and FT4 6.7 (n: TSH:0.35-4.94 mIU/L, FT4:9.0-19 pmol/L). Subsequently, L-thyroxine was started. GH stimulation test was normal. He was severely short; 80.5 cm (< 1 percentile, -3.79 SD). The patient developed sensorineural hearing loss (SNHL) at six years. He had low intellectual function and weak school performance. GH treatment was postponed to age nine years due to a strong family history of DM. At that point, the patient developed progressive ataxic gait, for which he had a muscle biopsy that excluded mitochondrial disease and workup for multiple sclerosis that was also excluded. Brain and spine MRI showed prominent neurodegeneration in subcortical white matter. At age 11, the patient developed DM, four years after GH treatment initiation. DM autoimmune markers were negative. Lifestyle modification was initiated but soon required basal and bolus insulin therapy. Whole exome sequencing revealed homozygous DNAJC3 mutation, explaining his clinical presentation. At age 17, adult height was 141 cm (Z-score: -5.87). His older brother had a similar history discovered retrospectively but developed only mild ataxia.

**Conclusion:** We propose recognizing DNAJC3 mutation as a new novel MODY gene mutation. Physicians evaluating mitochondrial disease in patients with a constellation of SNHL, DM, hypothyroidism, neurodegeneration, and short stature should suspect DNAJC3 as one differential diagnosis. GH treatment must be initiated cautiously, with close monitoring due to its diabetogenic effect, especially in DNAJC3 mutation due to defective endoplasmic stress attenuation mechanism."

## 194. Identifying Predictors of Poor Outcome of Central Nervous System Tuberculosis Using the Modified Rankin Scale, a Multi-Center Study.

Mohammad Alghafees <sup>1</sup>, Abdulrahman Aladawi <sup>1</sup>, Ahmed Lary <sup>2</sup>

<sup>1</sup> College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

<sup>2</sup> Department of Neurosurgery, National Guard Hospital, Jeddah, Saudi Arabia.

### Abstract

**Background:** One of Tuberculosis' (TB) critical aspects is shown when the infection locates in the central nervous system (CNS), in which a different set of immune responses is induced. CNS TB has several forms, including intracranial tuberculoma, tuberculosis brain abscess, TB meningitis, and spinal TB. Treating CNS TB early can be lifesaving and prevents severe neurological complications that can occur. This study aimed to describe the characteristics and outcomes of CNS TB and identify the factors associated with poor outcomes.

**Methodology:** 140 cases were reported at three tertiary centers: King Abdulaziz Medical City in Jeddah, King Abdulaziz Medical City in Riyadh, and Alnoor Specialist Hospital in Mecca between 2009-2019. Patients' demographics, comorbidities, presenting symptoms, type of CNS TB, treatment options, and outcomes were obtained from medical records. Patients' outcomes were categorized as good or poor based on the Modified Rankin Scale for Neurological Disability. A score  $\geq 2$  was deemed as a poor outcome.

**Results:** The most common type of CNS TB was tuberculoma (36.7%), followed by spinal TB (31.5%) and tuberculosis meningitis (30.2%). 35% of the patients had a poor outcome. Having diabetes or cardiac disease was significantly associated with poor outcomes ( $p = 0.004$ ,  $p = 0.003$ ). Having cough was also associated with poor outcomes ( $p = 0.006$ ). A symptom duration of less than 1 week was associated with poor outcomes ( $p = 0.034$ ). A presenting Glasgow coma scale of 10 and less was associated with poor outcomes ( $p = 0.004$ ). Having a CNS TB in the brain was significantly associated with poor outcome ( $p = 0.002$ ). Use of Pyrazinamide was significantly associated with good outcome ( $p = 0.01$ ), where those who used it had lower rates poor outcome compared to those who did not use it (30.5% vs 59.1%).

**Conclusion:** Patients with CNS TB in Saudi Arabia have a high rate of poor posttreatment outcomes. Detected predictors should be addressed through meticulous strategies to decrease the high morbidity and mortality rates among CNS TB patients.



## 195. Patient satisfaction with virtual clinic during COVID19 pandemic in primary health care center, Riyadh, Saudi Arabia.

Alharbi K.<sup>1</sup>, Aldosari M.<sup>1,2</sup>, Alhassan A.<sup>1</sup>, Altamimi A.<sup>1</sup>, Alshallal K.<sup>1</sup>

<sup>1</sup> College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), Riyadh, Saudi Arabia.

<sup>2</sup> Department of Family and Community Medicine, King Abdulaziz Medical City, Riyadh, Saudi Arabia

### Abstract

**Background:** The novel coronavirus, officially known as COVID-19, was first reported in Wuhan, China in December of 2019. Since that time, medical services in Saudi Arabia have adapted to the situation by delivering medical care via virtual clinics. Therefore, the aim of the study is to assess patients' level of satisfaction with virtual clinics during COVID-19 pandemic in Saudi Arabia.

**Methods:** This is a cross-sectional study that was done among patients who experienced virtual clinics in primary healthcare centers in Riyadh, Saudi Arabia. It was conducted using an online validated questionnaire. The questionnaire has been completed by 439 participants, after obtaining their consent. The data extracted from the questionnaire included demographics, level of satisfaction and questions related to their experience with virtual clinics.

**Results:** 439 enrolled in this study with 46% female and 54% males. The participants were divided into three age groups: 18-39, 40-59, and ≥60 years. Overall level of patients' satisfaction with virtual clinic was 68.1%. Factors that had statistically significant effect on satisfaction were gender, age group and level of education (post-graduate and middle school) and being well-informed on use of telemedicine. Specific age groups that were significant are 18-39 and 40-59 years. 50.2% of the males found telemedicine to be very convenient, compared to only 36.1% in females. Family medicine clinics were the most commonly visited virtual clinic, whereas obstetrics and gynecology clinics were the least attended virtual clinics. The inability to meet the healthcare professional face-to-face was reported by 53.8% as the most important disadvantage.

**Conclusion:** This study shows a high level of satisfaction with virtual clinics in Saudi Arabia during COVID-19 pandemic despite this service being a relatively new healthcare service in Saudi Arabia. Our study demonstrated that satisfaction is linked to age, gender, education and type of clinic visited.

## 196. Predictors of morbidity and mortality post emergency abdominal surgery: A national study.

Altamimi Afnan, Hassanain Mazen, Nouh Thamer, Ateeq Khawlah, Aljiffry Murad, Nawawi Abrar, Al Saied Ghaith, Riaz Mohammed, Alanbar Huda, Altamimi Abdullah((Presenter)), Alsareii Saeed, Al-Mousa Mashael, Al-Shammari Abeer, Alnuqaydan Saleh, Ghzwany Amal

### Abstract

**Background/Aim:** Emergency surgeries have increased in Saudi Arabia. This study examines these surgeries and associated complications.

**Patients and methods:** This was a prospective multicenter cohort study of patients undergoing emergency intraperitoneal surgery from the eight health sectors of Saudi Arabia. Patients' data were collected over 14 days.

**Results:** In total, 283 patients were included (163 men [54.06%]). The majority of cases were open surgery (204 vs. 79). The 24 h and 30-day mortality rates for the cohort were 0.7 and 2.47%, respectively. Twenty-nine patients (10.24%) required re-intervention, while 19 (8.12%) needed critical care admission. The median length of hospital stay was 3 days. Multivariate analysis showed American Society of Anesthesiologist (ASA) classification score ( $P = 0.0003$ ), diagnosis ( $P < 0.0001$ ), stoma formation ( $P = 0.0123$ ), and anastomotic leak ( $P = 0.0015$ ) to correlate significantly with 30-day mortality.

**Conclusion:** American Society of Anesthesiologist score, diagnosis, stoma formation, and anastomotic leak are associated with 30-day mortality after emergency surgery in Saudi Arabia.

## 197. Safety and Readmission in Pediatric Ambulatory Surgery in a Tertiary Hospital.

Alghamdi A <sup>1</sup>, Alowairdhi M <sup>1</sup>, Alhussain M <sup>1</sup>, Alsumairi S <sup>1</sup>, Alrumyyan R <sup>1</sup>, Aljadaan S <sup>2</sup>

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2 Department of Pediatric Surgery, King Abdullah Specialist Children Hospital, Riyadh, Saudi Arabia.

### Abstract

**Background:** Ambulatory surgery has been used significantly in pediatric surgery. Advantages of ambulatory surgery include lower costs, improved productivity from the provider, and enhanced convenience for the patients. Therefore, it is important that patients and decision makers obtain more information regarding the value and outcome afforded by ambulatory surgery in comparison inpatient-based surgical care.

**Methods:** A cross-sectional study conducted in King Abdullah Specialist Children's Hospital (KASCH), Riyadh, Kingdom of Saudi Arabia using BESTCare data base. All cases admitted under pediatric ambulatory surgery unit during from June 2015 to May 2018 were included. We reviewed 462 medical charts in which certain variables were recorded Such as age, gender, ASA class, complications, and readmission within one month of the surgery. SPSS was used for data analysis. Association between exposure variables (age, ASA class, gender, duration of surgery, type of anesthesia) and the outcome variable (e.g., rate of readmission and complications) was measured using Chi-square test for categorical variables, T-test and ANOVA for numerical and categorical variables, and Logistic regression for multiple variables to control confounding variables.

**Results:** Approximately, 3.5% of the cases that were performed under ambulatory setting had readmission, 10.6% of the patients had complications and 0% mortality rate. All the variables had no significant association either with the readmission or complications ( $p > 0.05$ ). The only variable that had association with the complications was the duration of surgery in minutes (OR 1.006, 95% CI, 1.000–1.012,  $P = 0.035$ ), which means longer surgeries will have higher risk of complications.

**Conclusion:** Among pediatric patients undergoing ambulatory surgery, mortality rate is 0% with low complication and readmission rates. Also, the longer the surgery the higher the risk of having complications.

## 198. The Consequence of Pseudoscientific Claims of Camel Urine Therapies on Patients with Cancer.

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1 College of Medicine, KSAU-HS

2 Department of Oncology

3 Department of HPB and Transplant, KAMC

### Abstract

**Introduction:** Practices of Complementary and Alternative Medicine (CAM) are becoming increasingly popular, potentially due to the adoption of the scientific language when claiming benefits. The use of urine therapy is a CAM practice that finds its roots in the ancient teaching of Ayurvedic medicine and was evidently practiced in the Islamic history. Nonetheless, the theory and practices of Ayurveda are regarded as pseudoscientific. In the recent times, several studies with poor rigor suggested the camel urine harbors anti-cancer properties and this resulted in amplified media attention. As a result, notable number of patients diagnosed with cancer have chosen to use camel urine as their therapy, refusing suggested standard of care medical therapy. Unfortunately, the outcomes are seldom reported. **Methods/Results:** The objective of this study is two-fold. First, provide a critical review of all published and indexed literature claiming anti-cancer benefits of camel urine. Second, to provide a case series of 5 patients who were diagnosed with cancer and continued to follow up in King Abdulaziz Medical City in Riyadh in the period of 2018 – 2020. Those patients chose to opt-out or delay standard of medical care treatment in favor of initiating camel urine therapy. All patients re-presented to clinic or the emergency room with significant disease progression and debility. Three of the five patients are still alive today.

**Conclusion:** With the increasing accessibility of medical literature to patients, some patients are swayed away from high-quality evidence and standard medical practices to low-quality evidence and pseudoscientific practices. To scientists, it easily becomes evident that claims suggesting the use of camel urine as a cancer drug are blatantly misleading, yet it is unfair to expect people with no scientific background to arrive at similar conclusions. It is through the sense of societal responsibility and patient advocacy that we provide clarification regarding camel urine therapies as cancer treatment while also reporting evidence of harm. We encourage the scientific community to engage in science communication on similar topics that reflect badly on both patients and science.

## 199. Viruses Causing Aseptic Meningitis: A Tertiary Medical Center Experience with a Multiplex PCR assay.

Aldriweesh MA<sup>1</sup>, Shafaay EA<sup>1</sup>, Alwatban SM<sup>1</sup>, Alkethami OM<sup>1</sup>, Aljuraishi FN<sup>1</sup>, Bosaeed M<sup>1,2</sup>, Alharbi NK<sup>1,3</sup>

1 COM-R, KSAU-HS

2 KAMC-RYD, MNGHA

3 KAIMRC, Riyadh, MNGHA

### Abstract

**Background:** CNS infection is associated with high rates of morbidity and mortality, and despite advancements in molecular testing, aseptic meningitis remains challenging to diagnose. Aseptic meningitis cases are often underreported worldwide, which impacts the quality of patient care. Therefore, we aimed to assess the results of BioFire® FilmArray® Meningitis/Encephalitis (ME) PCR Panel, clinical characteristics, and etiologies of aseptic meningitis patients.

**Methods:** From January 2018 to January 2020, all pediatric and adult patients in a large tertiary medical center who underwent lumbar puncture, CSF testing by a ME multiplex PCR panel, and who fit the aseptic meningitis definition were retrospectively reviewed.

**Results:** Data were reviewed from 1,607 patients; 240 met the inclusion criteria (54.6% males; 68.8% <4 years of age). The rate of detected viral causes of aseptic meningitis was 40.4%; therefore, 59.6% of the patients remained with unidentified etiology. Among the identified viral meningitis, enterovirus and HHV-6 were the most common (25% and 7.9%, respectively). The median length of hospital stay was six days, and it was longer in patients with unidentifiable aseptic meningitis ( $p < 0.0001$ ).

**Conclusion:** Aseptic meningitis is common among suspected meningitis patients, although most cases remained of unknown etiology. The most common identified viruses were enterovirus followed by HHV-6; and predominance in males and the pediatric age group. These results highlight that further research is needed to identify other etiologies and possible additional viral pathogens for aseptic meningitis in the current diagnostic methods."

## 200. Morbidity Patterns of Non-Traffic Unintentional Injuries Among the Pediatric Age Group Attending the Emergency Department at King Abdul-Aziz Medical City, Riyadh, Saudi Arabia.

AlAteeq, Mohammed, Alsulayhim, Abdullah, AlHargan, Fahad, AlSamaani, Ibrahim, Alyousef, Mohammed, AlDossari, Abdulrahman

### Abstract

**Objectives:** The aim of this study is to measure the magnitude and describe morbidity pattern, management, and outcome of non-traffic unintentional injuries among a pediatric age group at a tertiary hospital in Riyadh, Saudi Arabia.

### Materials and Methods

This is a retrospective descriptive cross-sectional study conducted at Emergency Department (ED) of King Abdul-Aziz Medical City, Riyadh, Saudi Arabia, including all pediatric patients aged 0 to 14 years who had non-traffic unintentional injuries and admitted to the ED from January 1, 2016, to December 31, 2017. The number of children included for the specified period was 491 patients.

**Results:** A total of 491 patients were included over the study period; the majority were males (64%). The most common injury types were fractures, dislocations, and subluxations (47.3%) followed by penetration injuries (21%) and burn injuries (17.5%). The most involved body site was the upper limbs (45.2%) followed by head and neck (24.2%) and lower limbs (17.3%). Fall was the leading mechanism of injuries (47.7%) followed by hot liquids and chemical exposure (14.5%). Most of the cases resulted in no significant disabilities (40%), 21.6% resulted in short-term disability, 24.2% had long-term disability, and 12.8% had permanent disabilities. There were six cases (1.2%) of mortality.

**Conclusions:** Non-traffic unintentional pediatric injuries are common with significant morbidity and complications, and most of them are preventable. More efforts are needed to increase public awareness and to implement preventive measures at households and public places."

## 201. Unusual presentation of crohn's disease: distal transverse colon mass manifest as abdominal pain.

Abdulrahman Aljuraishi<sup>1</sup>, Nahar Alseliem<sup>2</sup>, Sultanah bin ghesayan<sup>2</sup>, Salahaldin Binnafisah<sup>2</sup>, Sarah Marie<sup>2</sup>

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### **Abstract:**

Crohn's disease is an inflammatory chronic disease which affect the gastrointestinal tract from the mouth to the anus, but it usually affects the colon and terminal ileum. The most common presentation of Crohn's disease is a young patient with chronic diarrhea, anorexia, fatigue, rectal bleeding, abdominal pain, perianal lesion, and weight loss. However, it is unusual for Crohn's disease patients to develop benign large colon mass as the first manifestation of this disease. In this case-report, a 42-female patient presented with chronic abdominal pain for 2 months with no prior history of IBD. Computed tomography (CT) findings showed a transverse colon mass invading the stomach. After taking biopsy it showed reactive colonic mucosa with focal inflammatory exudate and negative for dysplasia and malignancy. She underwent extended left hemicolectomy with lymphatic dissection and wedge resection of the stomach with colo-colic anastomosis.



## 202. Using Dundee Ready Educational Environment Measure to Evaluate Educational Environments in KSAU-HS.

Zawawi A, Ban Owaiwid L, Alonazi F, Alsogami L, Alageel N, Alassafi M, Philip W

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2 Linah Nasser Ban Owaiwid\*, COM, KSAU-HS, Saudi Arabia

3 Fouz Hkeem Alonazi, COM, KSAU-HS, Saudi Arabia

4 Lamees Suliman Alsogami, COM, KSAU-HS, Saudi Arabia

5 Norah Abdulrahman Alageel, COM, KSAU-HS, Saudi Arabia

6 Maha Thabit Alassafi, COM, KSAU-HS, Saudi Arabia

7 Winnie Philip, CAMS, KSAU-HS, Saudi Arabia

### Abstract

**Background:** The educational environment is no doubt a crucial factor that reflects the quality of the curricula in medical schools. The present study aimed to compare the perception of the learning environment among KSAUHS pre-clinical medical students based on their stream, gender and batch using DREEM (Dundee Ready Educational Environment Measure) questionnaire.

**Methods:** This study was a cross-sectional study conducted at college of medicine, King Saud bin Abdulaziz University for Health Sciences (KSAUHS). Data were collected from all pre-clinical high school entry(stream1) and postgraduate entry(stream2) medical students at 3rd and 4th year (academic years 2018/2019.) The DREEM questioner was distributed to all participants at the same time using non-probability, convenient sampling technique. The Median (Inter-quartile range) (IQR) were calculated for continuous variables, and frequency and percentage for categorical variables. Association of score with categorical variable was tested using Mann Whitney U test and Spearman Correlation was used for score with age. P-value <0.05 considered to be significant. SPSS software was used for data analysis.

**Results:** DREEM's total score was 110/200 and there was no statistically significant difference between genders and batches. The only statically significant difference was within streams; stream2 total DREEM score and students' perception of learning were lower than stream1.

**Conclusion:** The areas of improvement and research is seen by comparing various batches, genders, streams, and ages of preclinical medical students, through the application of DREEM inventory that offers insights into the learning environments' strengths and weaknesses. It is necessary to conduct further research that involves the perception of students in clinical years."

## 203. Venous Thromboembolism in critically ill patients with severe COVID-19: A Retrospective Study in a Tertiary-Care Hospital in Saudi Arabia.

Alqirnas M<sup>1</sup> Alghamdi A<sup>1</sup> Alotaibi M<sup>1</sup> Albogami M<sup>1</sup> Alhafi M<sup>1</sup> Alwadani S<sup>2</sup> Hegazy M.M.<sup>2</sup>  
Elsharkawi A<sup>2</sup> Al-dorzi HM<sup>1,2,3</sup>

1 COM-R KSAU-HS

2 ICU KAMC-R

3 KAIMRC

### Abstract

**Background:** Severe COVID-19 is characterized by a hyper-inflammatory state that may induce hemostatic derangements and hypercoagulability. We studied the occurrence, risk factors and outcomes of venous thromboembolism (VTE) in critically ill patients with COVID-19.

**Methods:** This was a retrospective cohort study of patients with COVID-19 who were admitted to the intensive care unit of KAMC-R between 1/3 to 31/7/2020. When VTE was suspected by the treating team, limb Doppler ultrasound was performed to rule out deep vein thrombosis (DVT) and chest angiography for pulmonary embolism (PE). The characteristics and laboratory findings of patients with VTE were compared to those who were not diagnosed to have VTE. Receiver operating characteristic (ROC) curve analysis was done to determine if D-Dimer on ICU admission was accurate for discriminating VTE from non VTE cases.

**Results:** 310 patients with severe COVID-19 pneumonia were admitted to the ICU in the study period: age  $60.0 \pm 15.1$  years, 75.5% males, BMI  $30.5 \pm 8.2$  kg/m<sup>2</sup>, hypertension in 56.1%, 6.5% on prior anticoagulation for different reasons. Limb Doppler ultrasound was performed for 49 (15.8%) patients and Chest angiography for 62 (20%). VTE was diagnosed in 11.6% (95% confidence interval, 8.5-15.7%) on a median of 17 days after hospital admission (interquartile range: 5-25). There were 17 (5.5%) cases of DVT and 20 (6.5%) cases of acute PE. Compared to patients without VTE, patients diagnosed with VTE had similar age, BMI, and chronic comorbidities. The laboratory findings were also similar except for having higher D-Dimer ( $9.8 \pm 11.1$  versus  $4.5 \pm 7.6$  mg/L,  $p=0.01$ ) on ICU admission. On ROC curve analysis, D-Dimer had low accuracy for discriminating patients with VTE versus no VTE (area under the ROC curve, 0.68; 95% confidence interval, 0.58-0.77). Patients with VTE had lower hospital mortality (27.8% versus 50.4%,  $p=0.01$ ) but longer stay in the ICU and hospital ( $35.1 \pm 24.1$  versus  $21.1 \pm 14.5$  days,  $p=0.001$ ).

**Conclusions:** In our study, VTE was common in critically ill patients with COVID-19. D-Dimer had low accuracy to predict VTE. VTE was associated with lower mortality, which is possibly related to the use of anticoagulation."

## 204. Non-Immunological Factors Affecting Long Term Outcome of Deceased Kidney Donor Transplantation.

AlEnazi S., Prof. AlSayyari, Almutairi. G, Alshehri M., Sheikho M., AlaskaB.,

### Abstract

**Objective:** To investigate the patient and graft survival among recipients of deceased kidney transplants at KAMC and the impact of donor and recipient's factors on these.

**Methods:** All the deceased kidney transplants done at KAMC, Riyadh between January 2004 and December 2015 were included. Data collected on the donors were provided by SCOT and the recipients' details were taken from BESTCARE.

The immunosuppressive regimen used were prednisolone and tacrolimus. The patient and graft survival and impact on these of the donor recipients' characteristics were analyzed using Kaplan-Meier methods as well as calculating the significance of various parameters using the independent t-test.

**Results:** A total of 207 deceased donor transplants were carried out. The prevalence of male gender amongst the donors and recipients was 90.8 % and 58.7% respectively. The median graft and patient survival were  $7.5 \pm 3.4$  and  $7.95 \pm 3.2$  years respectively.

The mean graft survival was not affected by the sex of the donor or recipient. However, the median graft survival was longer when no graft biopsy was done compared to when it was done ( $p=0.027$ ) and when the biopsy diagnosis of CNI nephrotoxicity compared to ATN or AMR ( $p= 0.0047$ )

The median graft survival was significantly longer in recipients of kidneys from donors who died as a result of trauma compared to those whose donors died from CVA ( $p= 0.029$ )

When we compare the median graft survival in recipients of grafts from donors who developed AKI during their ICU stay to those who did no, we find a significant difference ( $p=0.0062$ )

The median graft survival in recipients of donors with an age below the 50th percentile was 8.23 yrs. compared to those whose donors were aged above the 50th percentile ( $p=0.0026$ )

DM and HT in the recipient did not affect graft or patient survival and graft survival and SCr at one-year post-transplant ( $p=0.01$ )

The mean BP at the harvesting of the kidneys did not affect the graft survival

**Conclusion:** The graft survival was affected by the donor's age, whether a graft biopsy was done, cause of brain death and development of AKI in the donor, but not by donor's or recipient's sex, posttransplant DM or hypertension or donor's BP at harvesting.