

2ND ANNUAL RESEARCH DAY

BOOKLET



2023

Medical Research Unit
College of Medicine
King Saud bin Abdulaziz
University for Health Sciences
Riyadh



Riyadh

College Of Medicine

King Saud bin Abdulaziz University
for Health Sciences

Medical Research Unit

College of Medicine COM

2nd Annual Research Day

17th & 18th May 2023

2nd Annual Research Day Translational Research 17-18 May 2023

CALL FOR PAPERS Research Fields

- » Basic Medical Science
- » Medical Education
- » Clinical Medicine



Important dates:

Abstract
Submission
16 February

Acceptance
Notification
10 April

Research Day
18-17 May

16 March
Deadline

30 April
Final Program

Target Audience

Medical Students
Faculty Members
Joint Appointees



SCAN ME



REGISTER NOW

CLICK HERE



Table of Contents

Program Timetable.....	4
Fig. 1. Oral & Poster (Abstracts Registration).....	9
Fig. 2. Oral & Poster (Accepted Abstracts)	9
Fig. 3. Male & Female Participation.....	10
Fig. 4. Abstracts Registration (Members).....	10
Fig. 5. Abstracts Registration (Area).....	11
Oral Presentations Abstracts.....	12
Basic Medical Sciences.....	12
Clinical Medicine	18
Medical Education.....	26
Translational Research.....	32
Poster Presentations Bibliography List.....	38



KSAU-HS
KING SAUD BIN ABDULAZIZ
UNIVERSITY FOR HEALTH SCIENCES
COLLEGE OF MEDICINE - RIYADH
A University for the Nation's Health



2nd Annual Research Day 2023

17th May 2023- Day 1

7:30 - 8:30	Registration	
Opening Ceremony		
08:30 - 08:35	Greeting Audience	
08:35 - 08:45	Chairman of Scientific Committee	Dr. Awad Almuklass
08:45 - 08:50	Welcome Note Prof. Ahmed Al Rumayyan	
08:50 - 08:55	Welcome Note H.E. Prof. Bandar Al Knawy	
09:00 - 09:30	Translational Medical Education Research: Where is it on the roadmap of bridging the gap between research and practice?"	Dr. Nouf Alharbi
09:30 - 09:45	Coffee Break	
09:45 - 10:15	Basic Medical Science: the Legacy of the Past and Challenge of the Future!	Dr. Ali Alshehri
10:20 - 10:50	Inspiring Messages from the Research Journey	Prof. Majid Alfadhel
Session A "Basic Medical Sciences Research" Student / Faculty's Oral presentations		
11:00 - 11:15	Presentation 1: IL-35 and IL-37 are negatively correlated with high IgE production among children with asthma in Saudi Arabia	Co: Prof. Amre Nasr (Presenter) PI: Dr. Amir Abushouk Co: Hamad Alkhalaf, Moniraa Aldamegh, Shehana Bin Shigair, Nadin Mahabbat, Maumonah Hakami, Ahmad Saleh Abu-Jaffal
11:15 - 11:30	Presentation 2: MicroRNA-2 a Diagnostic and Prognostic biomarker in Liquid Biopsies of Oral Squamous Cell Carcinoma	PI: Dr. Nosheen Mahmood (Presenter) Co: Q. Jamal, R. Alqahtani, S. Mushtaq, S. Amir
11:30 - 13:00	Break and Poster Tour	



2nd Annual Research Day 2023

17th May 2023- Day 1

13:00 - 13:30	CAR-T Cells: Present and Future Applications	Prof. Ali Hajeer
Session A "Basic Medical Sciences Research" Student / Faculty's Oral presentations		
13:30 - 13:45	Presentation 3: The Correlation Between Fractional Exhaled Nitric Oxide (FeNO), Blood Eosinophil Count, Immunoglobulin E Levels, and Spirometric Values in Patients With Asthma	Co: Abdullah Alsubaie (Presenter) PI: Dr. Mohammed Al Ghobain Co: Walaa aljumah, Fahad Alrumayh, Khalid aldawsari, Asma Alqahtani, Sultan Alotaibi
13:45 - 14:00	Presentation 4: Anatomical Aberrancy & Variation of the Kidney: A middle-eastern population study	Co: Abdulrahman Alomar (Presenter) PI: Dr. Mohammed Shaheen Co: Abdulazeez Alsaleh, Bader Alhumaily, Abdulrahman Altheaby
14:00 - 14:15	Presentation 5: Nerve Conduction and Latency and its Association with Hand Function in Young Male Subjects	Co: Abdulmajeed Alassaf (Presenter) PI: Dr. Awad Almuklass Co: Rakan Alanazi, Thamiir Alrehaily, Turki Alnafisah
14:15 - 14:30	Presentation 6: The Incidence of Ipsilateral Testicular Pain Post Laparoscopic Donor Nephrectomy and Its Association with The Level of Gonadal Vein Ligation	Co: Jarallah Alghizzi (Presenter) PI: Dr. Mohammed Shaheen Co: M. Aldawsari, A. Alqhatani, N. aldawsari , T. Alashgar, G. Aboalsamh, K. Bin Saad
14:30 - 15:30	Coffee Break and Poster Tour	
Session B "Clinical Research" Student / Faculty's Oral presentations		
15:30 -15:45	Presentation 1: Congenital heart defect (CHD) is the most common birth defect. There is an increased number of non-cardiac surgeries in CHD children. The challenges of these surgeries	Co: Maryam Aljwier (Presenter) PI: Dr. Mohammed Alnamshan Co: Halah Alhwsawi, Mashaal Alenazi, Nouf Alsomali, Alanood Alrobian
15:45 - 16:00	Presentation 2: Can gaze preference in brain imaging predicts the outcome of supratentorial intracerebral hemorrhage?	Co: Mohammed A. Aldriweesh (Presenter) PI: Dr. Saeed Al Ghamdi Co: Abdulrazak Sakhakhni, Abdulaziz A. Aldbas, Osama Khogah, Edi A. Shafaay, Ghadeer L. Aljahdali, Mohammed Alshalhoub, Salwan Alsharif, Bashair AlHidri, Daniya A. Aljaafry



2nd Annual Research Day 2023

17th May 2023- Day 1

16:00 - 16:15	Presentation 3: Occurrence, Risk Factors, and Outcomes of Pulmonary Barotrauma in Critically Ill COVID-19 Patients: A retrospective cohort study	Co: Haifa Al Mejedea (Presenter) PI: Dr. Hasan Al-dorzi Co: Reema Nazer, Yara Alhusaini, Aminah Alhmdan, Ajwad Al Jawad
16:15 - 16:30	Presentation 4: Descriptive Characteristics of Multiple Myeloma Patients in King Abdulaziz Medical City- National Guard.	Co: Lama Alyabis (Presenter) PI: Dr. Sultan Alqahtani Co: Hissah Alyabis, Majd Alsoman, Nouf AlQurashi, Rose Almadi
16:30 - 16:45	Presentation 5: Non-obstructive azoospermia and pregnancy outcome	Co: Faisal Almutairi (Presenter) PI: Dr. Samaher Alfaraj Co: Saleh Almutairi, Sultan Alshehri, Meshal Almutairi, Abdulrahman Khinkar, Sahar Alshuwaier, Afaf Felemban
16:45 - 17:00	Presentation 6: Returning to Work After Traumatic Spine Fractures: Current Status in Saudi Arabia.	Co: Abdulrahman Alhabeeb (Presenter) PI: Dr. Faisal Konbaz Co: Sami AlEissa, Ghadah Alhamed, Thamer Saad Alhawaish, Moustafa Sami Alhamadah, Emad Masudi, Majed Abalkhail, Fahad AlHelal, Anouar Bourghli
17:00 - 17:15	Presentation 7: A Descriptive Study of the Types and Survival Patterns of Saudi Patients with Multiple Primary Solid Malignancies: A 30-Year Tertiary Care Center Experience	Co: Moustafa Alhamadh (Presenter) PI: Dr. Fouad Sabatin Co: Rakan B. Alanazi, Sultan T. Algarni, Ahmed Abdullah R. Alhantushi, Mohammed Qasim Alshehri, Yusra Sajid Chachar, Mohammad Alkaiyat
17:15 - 17:30	Presentation 8: The Diagnostic Utility of Central Vein Sign in Patients with Multiple Sclerosis	Co: Seham Alsalamah (Presenter) PI: Dr. Ahmad Abulaban Co: Salem AlSumai, Ali AlSubaie, Shaikha Alshehri, Muath AlQahtani, Mohammed Alajlan, Dr. Khaled Alsohaibani, Dr. Samiha Fallatah, Dr. Omar Aldibasi



2nd Annual Research Day 2023

18th May 2023 – Day 2

8:30 - 9:00	Poster Tour	
09:00 - 09:30	Clinical Trails, (How to get in Randomized Controlled clinical trials).	Prof. Ibrahim Al Alwan
Session C “Medical Education Research“ Student / Faculty's Oral presentations		
09:30 - 09:45	Presentation 1: Students' Engagement Using Polls in Virtual Sessions of Physiology, Pathology, and Pharmacology at King Saud bin Abdulaziz University for Health Sciences during COVID-19 Pandemic	Co: Dr. Saima Aamir (Presenter) PI: Dr. Mona Bawazeer Co: Fatmah Othman, Reem Alkahtani
09:45 - 10:00	Presentation 2: Developing Leadership Among Dental Residents, An Exploratory Study	PI: Hawazen Radhwan (Presenter) Co: Sami Al Nasser, Abdullah alzahem
10:00 - 10:15	Presentation 3: The Satisfaction of General Surgery Residents with Laparoscopic Surgical Training in Riyadh, Saudi Arabia, A Call for Simulation-Based Education	Co: Abdulrahman Alhabeeb (Presenter) PI: Dr. Fareeda Mukhtar Co: Dr. Mohammed Shaheen, Muhammad Zafar, Khaled Al-Kattan
10:15 - 10:30	Presentation 4: Saudi Otolaryngology-Head & Neck Surgery Workforce: Is There Any Need for More Otolaryngologists?	Co: Abdulaziz Alnasser (Presenter) PI: Naif Alotaibi Co: Mohammed Alshenaiber, Abdulrahman Alhawas
10:30 - 10:45	Presentation 5: The Satisfaction of Surgery Trainees with the Educational Environment in the Saudi General Surgery Training Program. What Matters to them?	Co: Moustafa Alhamadh (Presenter) PI: Dr. Mohammed Shaheen Co: Meshal Alothri, Rakan Aldusari, Abdulrahman Alhabeeb
10:45 - 11:00	Presentation 6: Cognitive Load Effect on Intraoperative Teaching	Co: Abdulrahman Alhabeeb (Presenter) PI: Dr. Mohammed Shaheen Co: Dr. Fareeda Mukhtar, Jawad Yousef Alhabeeb, Moustafa Sami Alhamadh, Meshal Ali Alothri, Rakan Saad Aldusari, Raghad Almurwif, Saleh Alnasser
11:00 - 12:45	Break and Poster Tour	



2nd Annual Research Day 2023

18th May 2023 – Day 2

12:45 - 13:15	Translational Research from Basic to Clinical Trial	Dr. Awad Almuklass
<p align="center">Session D “Translational Research” Students / Faculty's Oral presentations</p>		
13:15 - 13:45	Presentation 1: Spot the Fraud! (Is this Translational Science? or Pseudoscience?)	Dr. Mohammed Shaheen
13:45 - 14:10	Presentation 2: Translation into Practice: Using non native language in studying Medical / Health science in Saudi Arabia	Dr. Arwa Alshehri
14:10 - 14:25	Presentation 3: Assessment of Pre-Operative Vitamin D Serum Levels in Thyroid Cancer Patients	Co: Abdulaziz Alnasser (presenter) <small>PI: Dr. Mohammed Alesha Co: Abdulaziz Alsalem, Thamer Althunayan, Abdulaziz Alarafi</small>
14:25 - 14:40	Presentation 4: Single artery right kidney or multiple arteries left kidney as a choice for living-donor kidney transplant	Co: Ziyad Alshahrani (Presenter) <small>PI: Dr. Mohammed Shaheen Co: Nader Aljumaie, Samy Kashkoush, Abdulrahman Altheaby, Ghaleb Aboalsamh</small>
14:40 - 14:55	Presentation 5: Sodium-glucose cotransporter 2 (SGLT2) inhibitors in diabetic nephropathy: a tertiary center experience	Co: Faisal Almutairi (Presenter) <small>PI: Dr. Salih bin Salih Co: Dr. Mohammed Tawhari, Raed Aldahash, Mahdi Albogami, Ahmad Rokon, Faisal Alsomali, Khaled Alanazi, Abdulrahman Alshehri, Talal Almutairi, Abdulrahman Alharbi, Rayan Alghamdi, Ibrahim Tawhari</small>
14:55 - 15:10	Presentation 6: Hyperlipidemia and Hypertension Are Associated with Intracerebral Hemorrhage Incidence: A Retrospective Study	Co: Yousef A. Alawad (Presenter) <small>PI: Dr. Awad M. Almuklass Co: Abdulmalek S. Alanazi, Azzam A. Alamo, Faisal H. Alagedi, Yasser A. Alshehri, Emad Masuadi, Naser Alotaibi, Mahmoud Alkhateeb</small>
15:10 - 15:25	Presentation 7: Improved Quality of Life of Sickle Cell Disease Patients Post Allogeneic Stem Cell Transplant: Another Indication for Transplant	Co: Mohammad Albawardi (Presenter) <small>PI: Dr. Mohsen Alzahrani Co: Abdulaziz Alghamdi</small>
15:25 - 15:40	Coffee Break	
15:40 - 16:00	Announce winners, Certificates	
16:00 - 16:15	Conference Photo & Closing	

Fig. 1

COM 2nd Annual Reserach Day 2023 Oral & Poster (Abstracts Registration)

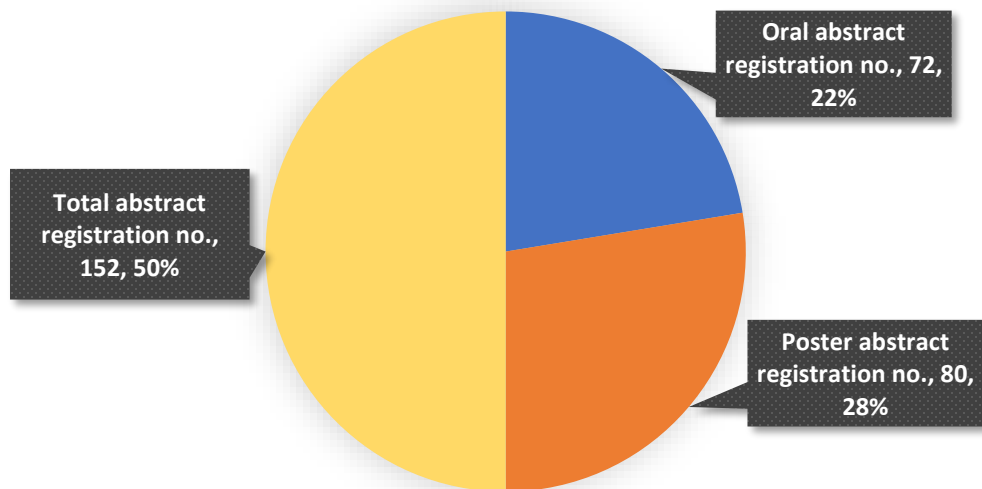


Fig. 2

COM 2nd Annual Reserach Day 2023 Oral & Poster (Accepted Abstracts)

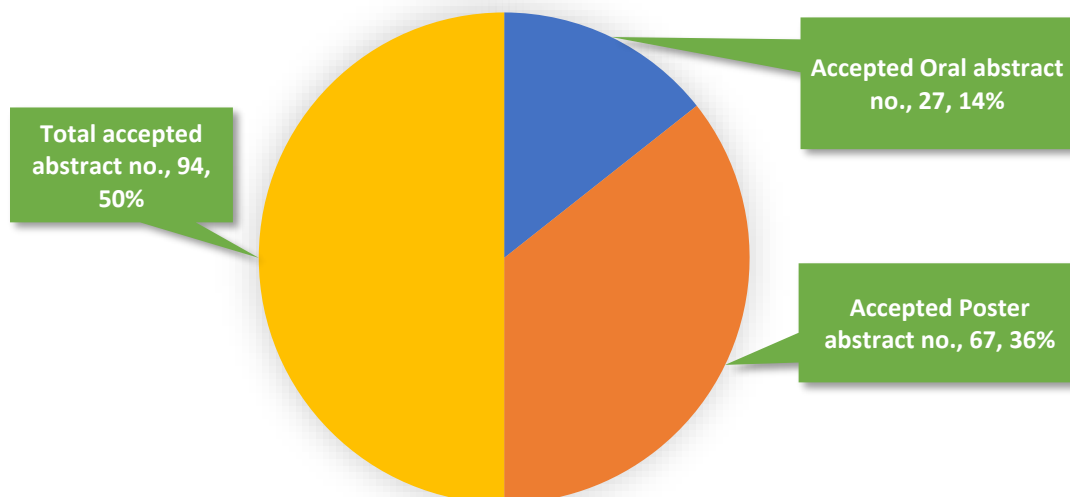


Fig. 3

COM 2nd Annual Reserach Day 2023 Male & Female Participation

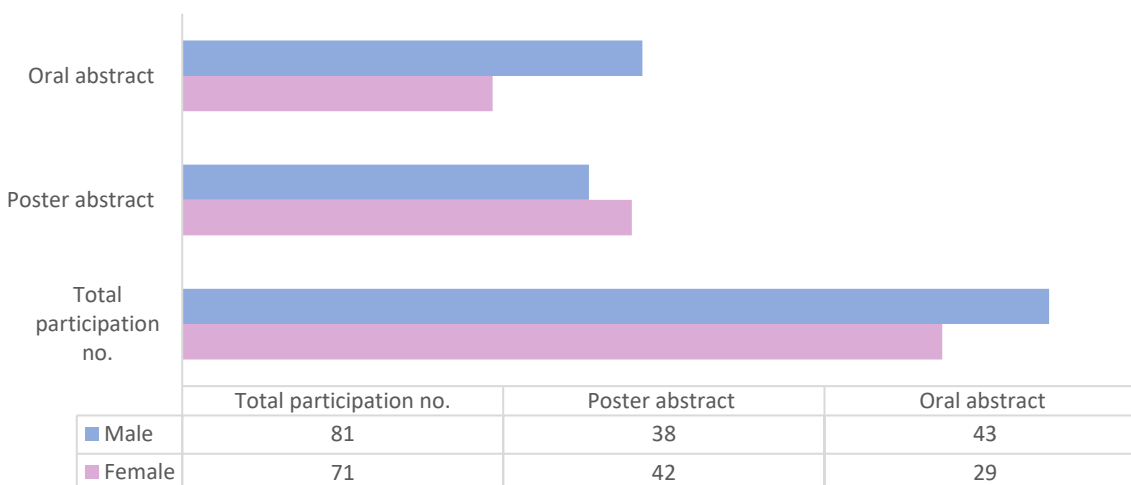


Fig. 4

COM 2nd Annual Reserach Day 2023 Abstracts Registration (Members)

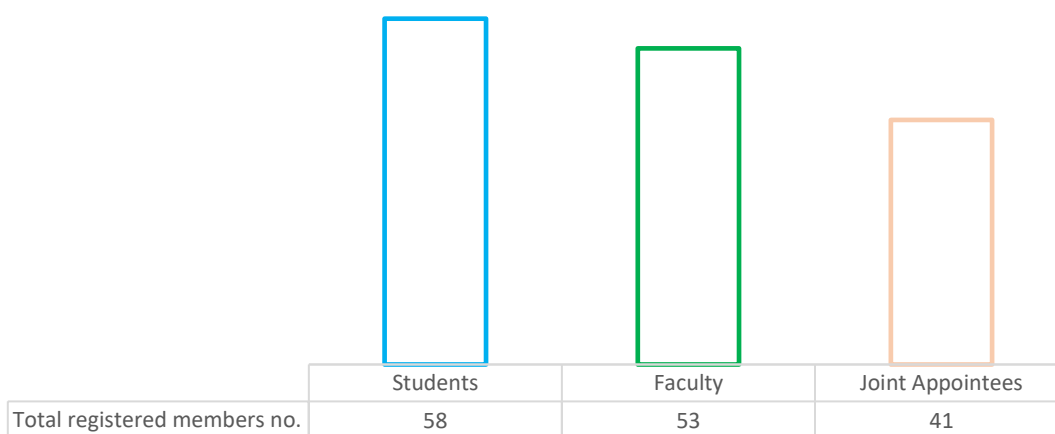
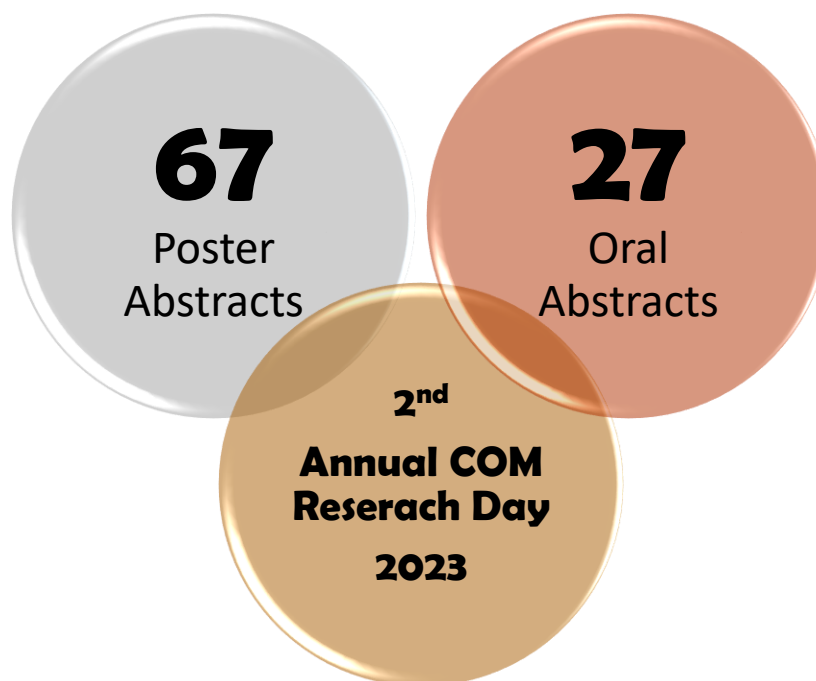
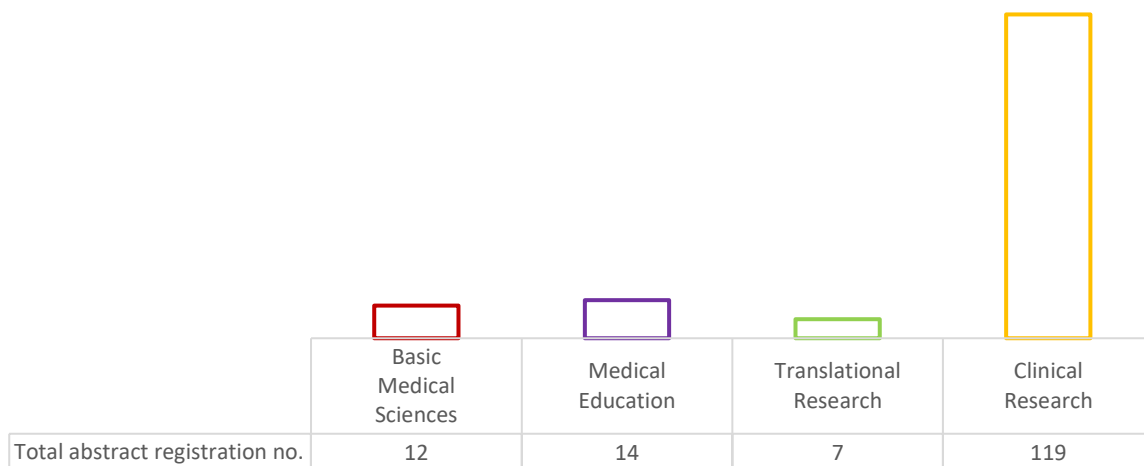


Fig. 5

COM 2nd Annual Reserach Day 2023 Abstracts Registration (Area)



College of Medicine 2nd Annual Research Day 2023

Oral Presentations Abstracts

Basic Medical Sciences

1. IL-35 and IL-37 are negatively correlated with high IgE production among children with asthma in Saudi Arabia

Presenter COI: Prof. Amre Nasr. College of Medicine, KSAU-HS, Riyadh
Amir Abushouk, Hamad Alkhalaf, Moniraa Aldamegh, Shehana Bin Shigair, Nadin Mahabbat, Maumonah Hakami, Ahmad Saleh Abu-Jaffal and Amre Nasr.

Background: Asthma is one of the most prevalent inflammatory disorders among children in Saudi Arabia. This study aimed to determine the correlation between the serum levels of vitamin D, immunoglobulin E (IgE), and cytokine (interferon-gamma (IFN- γ), interleukin (IL)-1 β , IL-4, IL-6, IL-10, IL-13, IL-35, and IL-37) in relation to the severity of disease in patients with asthma.

Methods: This case-control study was carried out at King Abdullah Specialist Children's Hospital, Saudi Arabia, and included 48 patients with asthma and 47 matched controls, aged 6-14 years. A validated questionnaire was administered to the participants, after which each patient with asthma underwent pulmonary function tests. The serum levels of vitamin D, IgE, IFN- γ , IL-1 β , IL-4, IL-6, IL-10, IL-13, IL-35, and IL-37 of each participant were also measured. **Results:** Patients with asthma demonstrated significantly higher IgE and cytokine (IL-1 β , IL-4, IL-6, IL-10, IL-13, IL-35, and IL-37) levels compared to the control group (p value < .001). The levels of IL-1 β , IL-4, IL-10, and IL-13 were consistently positively correlated with the serum levels of IgE among patients with asthma. However, the IgE levels in patients with asthma were consistently negatively correlated with IL-35 and IL-37. **Conclusion:** We found significantly higher levels of eosinophils, IgE, IL-1 β , IL-4, IL-6, IL-10, IL-13, IL-35, and IL-37 in patients with asthma compared to the controls, but no relationship between vitamin D and asthma.

Published: <https://pubmed.ncbi.nlm.nih.gov/33492183/>

2. MicroRNA-21 a Diagnostic and Prognostic biomarker in Liquid Biopsies of Oral Squamous Cell Carcinoma

Presenter PI: Dr. Nosheen Mahmood. College of Medicine, KSAU-HS, Riyadh
N Mahmood, Q Jamal, R Alqahtani, S Mushtaq, S Aamir.

Background: Unveiling of role of microRNAs in gene regulatory network has transformed research landscape. High-throughput analysis of circulating microRNAs (miRNAs) is a dynamic area of biomarker research. Oral cancer is leading cancer amongst Pakistani males and contributes to significant morbidity and mortality. MicroRNA 21 (miR-21), an oncomir is over-expressed in tissue biopsies of oral cancer, however, data on its expression in liquid biopsies is sparse. This study was designed to investigate if miR-21 was expressed in liquid biopsies of patients with oral cancer, and further explore its diagnostic and prognostic potential. **Methods:** After obtaining IRB approval, histologically confirmed cases of oral squamous cell carcinoma were recruited from Oncology Department of Ziauddin Hospital between 2013 and 2017. Controls were carefully selected after considering age, gender and socioeconomic condition. Informed written consent was obtained for all study participants. RNA was extracted and immediately reverse transcribed to cDNA. MiR-21 expression was evaluated via real time quantitative polymerase chain reaction using custom designed primers. **Results:** Mean age at presentation was 45.12 ± 12.42 . Majority (70%) of cases had a moderate differentiation, and nodal metastasis (96%). A significant over expression of miRNA 21 was observed in histologically confirmed cases as compared to controls. The increased expression of miRNA 21 was also reported to be associated with tumor size, metastasis and local invasion ($p < 0.05$). Circulating miR21 was up regulated in the non-survivor group ($n = 56$), 27.6 ± 5.8 vs. ($n = 44$) 30.8 ± 4.3 , $p < 0.005$. **Conclusion:** Expression of miR-21 in liquid biopsies of oral cancer patients makes it a promising diagnostic and prognostic marker. It allows segregation of subjects with poor outcome needing more aggressive treatment.

Published: <https://pubmed.ncbi.nlm.nih.gov/31489016/>

3. The Correlation Between Fractional Exhaled Nitric Oxide (FeNO), Blood Eosinophil Count, Immunoglobulin E Levels, and Spirometric Values in Patients With Asthma

Presenter COI: Abdullah Alsubaie. College of Medicine, KSAU-HS, Riyadh. KAIMRC, KAMC. PI: Mohammed Al Ghobain (M, Al Ghobain), Abdullah Alsubaie (A, Alsubaie) Walaa aljumah (W, Aljumah), Fahad Alrumayh (F, Alrumayh), Khalid aldawsari (K, Aldawsari), Asma Alqahtani (A, Alqahtani), Sultan Alotaibi (S, Alotaibi).

Background: In patients with asthma, fractional exhaled nitric oxide (FeNO) is a biomarker for eosinophilic airway inflammation. However, the correlation with the blood eosinophil count, immunoglobulin E (IgE), and spirometric values is not well established. We aimed to investigate the correlation between FeNO, blood eosinophils, IgE, and spirometric values in asthmatic patients. **Methods:** Data were extracted from the electronic medical records of adult asthmatic patients, and included the FeNO, blood eosinophil count, IgE, and spirometric values. The correlation between the markers was investigated using receiver operating characteristics (ROC) and the area under the curve (AUC). **Results:** A total of 135 adult patients (30% male) were analyzed. The mean FeNO was 36 ppb and almost half (48%) had a FeNO > 25 ppb. The mean blood eosinophil count was 377 cells/mm³, and 42% had a blood eosinophil count > 300 cells/mm³. There was a significant positive correlation between FeNO and the blood eosinophil count ($r = 0.42$, sensitivity 63%, specificity 77%, AUC 72%, $p < 0.0001$) as well as with the IgE ($r = 0.35$, sensitivity 78%, specificity 44%, AUC 68%, $p < 0.0007$). There was significant negative correlation between FeNO and FEV1% ($r = -0.18$, sensitivity 35%, specificity 85%, AUC 67%, $p = 0.027$). **Conclusion:** The blood eosinophil count, IgE, and spirometric values were correlated with the severity of the eosinophilic airway inflammation (high FeNO). Asthmatic patients with a higher FeNO level had a higher eosinophil count, higher IgE levels, and lower FEV1 values.

Published: <https://pubmed.ncbi.nlm.nih.gov/36968856/>

4. Anatomical Aberrancy & Variation of the Kidney: A middle-eastern population study

Presenter COI: Abdulrahman Alomar. College of Medicine, KSAU-HS, Riyadh.
 KAIMRC, KAMC.PI: Mohammed F Shaheen, Abdulrahman Alomar, Abdulazeez Alsaleh, Bader Alhumaily, Abdulrahman Altheaby.

Background: The spectrum of renal anatomy variation, including vasculature, location, and shape, is vast. These variations can have clinical implications, particularly in the field of transplantation surgery. No large-scale studies looking at this topic in our population have been conducted earlier. **Methods:** We conducted a retrospective review of all individuals who presented as potential kidney donors in King Abdulaziz Medical City – Riyadh, between 01/ 2009 and 03/2023. Participants who lacked renal contrasted-enhanced computed tomography reports were excluded. Data was obtained from the electronic medical records and certified radiologist reports. **Results:** From 2171 reviewed charts, 1457 met the inclusion criteria. The mean age was 34.5 ± 8.2 [range: 18-61] years with 77% males. Anthropometric properties of the cohort were 168.4 ± 8.4 cm of height and 75.1 ± 14 kg of weight. A total of (n=626; 43%) had normal kidney parenchyma with single artery and vein bilaterally. Average longitudinal length was 10.86 ± 0.91 cm and 10.64 ± 0.91 cm, for the left and right kidneys, respectively. Length of the primary renal artery before branching was 2.74 ± 1.01 cm and 3.41 ± 1.07 cm in the left and right kidney, respectively. Early branching renal arteries (≤ 1 cm in length) were observed in (n=74; 5%). In a third of the cohort (n= 454; 31%), extra non-dominant renal arteries ranging from two to four arteries were identified. A total of (n=135; 9%) had multiple renal veins. Abnormalities of the collecting system were observed in (n=28; 2%). Other uncommon abnormal renal findings were observed in 17%, including renal artery aneurysm, stenosis, cortical cysts, doubled IVC, pelvic kidney, and kidney fetal lobulation. Extra-renal findings were observed in (n=425; 29%) including fatty liver (n=119), hernias (n=86), hepatic hemangioma (n=83) prior surgery (n=62), cholelithiasis (n=14) and incidental adrenal mass (n=13). **Conclusion:** This is the first study to investigate prevalence of renal variations in the middle eastern population. Our findings are comparable to those found in other populations.

5. Nerve Conduction and Latency and its Association with Hand Function in Young Male Subjects

Presenter COI: Abdulmajeed Alassaf. College of Medicine, KSAU-HS, Riyadh.

PI: Awad Almuklass (A, Almuklass), Abdulmajeed Alassaf (A, Alassaf), Rakan Alanazi (R Alanazi), Thamir Alrehaily (T Alrehaily), Turki Alnafisah (T Alnafisah).

Background: Median and ulnar nerves have been suggested in the literature to be a significant part of hand function; however, there isn't enough data to determine that relation. This study aimed to investigate the correlation between hand function using Grooved pegboard test (GPT) and both nerve conduction velocity (NCV) and latency of the two nerves. **Methods:** The study used a cross-sectional study design. Using convenience sampling, the sample was taken in College of Medicine, KSAU-HS, from January to September 2021 in the college's physiology lab. GPT was used to assess hand function, and nerve conduction studies were done to assess Subjects' nerve conduction velocity (NCV) and latency for both ulnar and median nerves across both hands. Edinburgh handedness inventory (EDI) was used to determine the hand dominance. **Results:** The sample included 28 healthy young men with ages between 20- to 29-year-old with a mean of 21.46 ± 1.62 years old. Most were right hand (89.3%) with mean EDI score of 301.79 ± 209.71 out of 400. The mean GPT was 65.5 ± 6.35 s in the dominant hand and 74.96 ± 9.59 s in the nondominant hand. The dominant hand ulnar NCV had a correlation with GPT (R Square = 0.203 P-value=0.016 CI =95%); other variables had no correlation with GPT (P-value > 0.05), and no correlation was found in the nondominant hand results nor after combining the results from the two hands. **Conclusion:** The ulnar nerve conduction velocity in the dominant hand was the only variable that was found to have a correlation with GPT, which suggests there are other variables that play a bigger role in manual dexterity especially when given the results from the nondominant hand.

6. The Incidence of Ipsilateral Testicular Pain Post Laparoscopic Donor Nephrectomy and Its Association with The Level of Gonadal Vein Ligation

Presenter COI: Jarallah Alghizzi. College of Medicine, KSAU-HS, Riyadh, KAIMRC.

PI: Mohammed F. Shaheen (M F, Shaheen), Jarallah Alghizzi (J, Alghizzi), Mohammed Aldawsari (M, Aldawsari), Abdullah M Alqhatani (A, Alqhatani), Ghaleb Aboalsamh (G, Aboalsamh), (T, Alashgar), Khalid Bin Saad (K, Bin Saad).

Background: Laparoscopic donor nephrectomy is the gold-standard procedure for living related kidney donation. One of the underreported and not well understood complication is the development of post-operative testicular pain and swelling. Hypothesis in the literature have linked the incidence of the pain to either the level of gonadal vein ligation, dissection of the spermatic plexus, or inadvertent ligation of testicular artery branches. The aim of our study is to study the incidence of such complications in our population and study its association with the level of gonadal vein ligation. **Methods:** Cross-sectional review of all male patients who underwent laparoscopic living kidney donor nephrectomy from January 2019 to March 2023. Data were collected using a retrospective review of the medical and surgical records and a clinic-based researcher-administered questionnaire assessing postoperative experience with testicular pain, swelling, and genitourinary symptoms. Donors were divided into 3 groups based on the level of gonadal vein ligation. Ligation levels were at the level of renal vein insertion (group1), at the level of lower pole of the kidney (group2), or close to iliac artery bifurcation (group3). **Results:** A total of 282 donors were identified, 198 (70%) of them were males. The Mean age was 31 ± 7 years and the BMI was 25.3 ± 4.6 Kg/m². The incidence of postoperative testicular pain 40.4% and swelling 30.6%. The symptoms resolved within the first 3 months in 98.5% of cases. Compared to group3, group 1 had the lowest incidence of testicular pain (11% vs. 61%; $P < 0.01$) and swelling (0% vs 48%; $p < 0.01$). **Conclusion:** A lower level of gonadal vein ligation appear to be clearly associated with the experience of testicular pain and swelling after laparoscopic donor nephrectomy which can last for several months post operatively. A higher level of ligation would appear to protect against this complication.

Oral Presentations Abstracts

Clinical Medicine

7. Congenital heart defect (CHD) is the most common birth defect. There is an increased number of non-cardiac surgeries in CHD children. The challenges of these surgeries

Presenter COI: Maryam Aljwier. College of Medicine, KSAU-HS, KASCH, Riyadh.

PI: Mohammed Alnamshan (M, Alnamshan), Maryam Aljwier (M, Aljwier), Halah Alhwsawi (H, Alhwsawi), Mashael Alenazi (M, Alenazi), Nouf Alsomali (N, Alsomali), Alanood Alrobian (A, Alrobian).

Background: To estimate the prevalence of non-cardiac surgeries among children with CHD, aged 0 – 14 years at King Abdulaziz Medical City, Riyadh, Saudi Arabia. To identify mortality rate and complications related to non-cardiac surgeries in CHD children. To describe the association between the outcome of non-cardiac surgeries and the type of cardiac anomalies. **Methods:** A cross-sectional study at King Abdullah Specialist Children Hospital (KASCH) from Jan 2016 to Dec 2021 with total number of 45 cases. Descriptive statistics were used for elaborating patients' demographic characteristics and outcomes. Inferential statistics (Fisher's exact test, $P < 0.05$) were used to identify the association between the outcome of non-cardiac surgeries and the type of cardiac anomalies. **Results:** From 232 patients with CHDs, there were 45 patients underwent non cardiac surgeries. Most of the 45 patients had CHDs in terms of septation defects (62%). All of the 45 patients were intubated and underwent general anesthesia during the non-cardiac surgeries. The prevalence was 19% (95% CI: 14.69–24.86). Gastrointestinal surgeries and surgeries other than dental, ENT, and ophthalmology surgeries were the most frequent non-cardiac operations performed on the patients. the mortality rate was 2.2% ($p\text{-value} < 0.0001$). Although LOS, length of stay, in days, outcomes, and intubation periods in min, and complications were taken and compared for each type of CHDs, no significant association was observed ($P\text{ value} = > 0.05$). **Conclusion:** Our analysis revealed no difference between the types of cardiac defects and the outcomes of non-cardiac procedures.

8. Can gaze preference in brain imaging predicts the outcome of supratentorial intracerebral hemorrhage?

Presenter COI: Mohammed A. Aldriweesh. College of Medicine, KSAU-HS Riyadh ;KAMC, Riyadh; COM-JED, KFSH&RC-JED;KAIMRC, Riyadh.

PI: Saeed Al Ghamdi (S, Al Ghamdi), Mohammed A. Aldriweesh (M, Aldriweesh), Abdulrazak Sakhakhni, Abdulaziz A. Aldbas, Osama Khojah, Edi A. Shafaay, Ghadeer L. Aljahdali, Mohammed Alshalhoub, Salwan Alsharif, Bashair AlHidri, Daniya A. Aljaafry.

Background: Gaze deviation is a well-known finding in intracerebral hemorrhage (ICH), but its implications continue to be vague. This study aimed to determine whether gaze deviation on initial brain CT scans adds further prognostic value for outcome prediction in patients with supratentorial ICH. **Methods:** This multi-center retrospective cohort study utilized a non-probability consecutive sampling technique to include all patients diagnosed with ICH from May 2016 to June 2020 in King Abdulaziz Medical City, Jeddah, Saudi Arabia, and King Abdulaziz Medical City, Riyadh, Saudi Arabia. Initial brain CT scans were reviewed to assess the degree of gaze deviation. Patients were divided into two groups, one having a gaze deviation of $\geq 5^\circ$ and the other having deviation of $<5^\circ$. **Results:** Our cohort included 207 patients diagnosed with ICH; out of whom 20% had gaze deviation $<5^\circ$. Patients with gaze preference of $0-4^\circ$ had significantly higher mean age. As opposed to patients with $<5^\circ$ gaze preference, median ICH size, ICU admissions, surgical interventions, hydrocephalus, intraventricular extension, and mortality were significantly more common in patients with $5-15^\circ$ gaze preference. However, as it pertains to the ICH location, no significant difference was seen between the two groups. Gaze preference $\geq 5^\circ$ strongly predicted mortality based on multivariate logistic regression after adjusting for other variables. **Conclusion:** Gaze preference $\geq 5^\circ$ on initial brain CT scan is a sign that is associated with poor outcomes. Further studies should evaluate how this can be utilized clinically.

9. Occurrence, Risk Factors, and Outcomes of Pulmonary Barotrauma in Critically Ill COVID-19 Patients: A retrospective cohort study

Presenter COI: Reema Nazer. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;KAIMRC, Riyadh.

PI: Dr. Hasan Al-dorzi, Haifa Al Mejedea, Reema Nazer, Yara Alhusaini, Aminah Alhamdan, Ajyad Al Jawad.

Background: Pulmonary barotrauma has been frequently observed in COVID-19 with acute hypoxemic respiratory failure. This study evaluated the prevalence, risk factors, and outcomes of barotrauma in patients with COVID-19 requiring ICU admission. **Methods:** This retrospective cohort study included patients with confirmed COVID-19 who were admitted to the adult ICU between March and December 2020. We compared patients who had barotrauma with those who did not. Multivariable logistic regression analysis was performed to determine the predictors of barotrauma and hospital mortality. **Results:** Of 481 patients in the study cohort, 49 (10.2%, 95% confidence interval: 7.6-13.2%) developed barotrauma on a median of 4 days after ICU admission. Barotrauma manifested as pneumothorax (N=21), pneumomediastinum (N=25), and subcutaneous emphysema (N=25) with frequent overlap. Chronic comorbidities and inflammatory markers were similar in both patient groups. Barotrauma occurred in 4/132 patients (3.0%) who received non-invasive ventilation without intubation and in 43/280 patients (15.4%) who received invasive mechanical ventilation. Invasive mechanical ventilation was the only risk factor for barotrauma (odds ratio: 14.558, 95% confidence interval: 1.833-115.601). Patients with barotrauma had higher hospital mortality (69.4% versus 37.0%; $p < 0.0001$), and longer duration of mechanical ventilation and ICU stay. Barotrauma was an independent predictor of hospital mortality (odds ratio: 2.784, 95% confidence interval: 1.1310-5.918). **Conclusion:** Barotrauma was common in critically ill patients with COVID-19 with invasive mechanical ventilation being the most prominent risk factor. Barotrauma was associated with poorer clinical outcomes and was an independent predictor of hospital mortality.

Published: <https://doi.org/10.1155/2023/4675910>

10. Descriptive Characteristics of Multiple Myeloma Patients in King Abdulaziz Medical City- National Guard.

Presenter COI: Lama Alyabis. College of Medicine, KSAU-HS, Riyadh;KAIMRC, Riyadh.

PI: Sultan Alqahtani (S, Alqahtani), Hissah Alyabis (H, Alyabis), Lama Alyabis (L, Alyabis), Majd Alsoman (M, Alsaman), Nouf AlQurashi (N, AlQurashi), Rose Almadi (R, Almadi).

Background: Multiple Myeloma is a hematological malignancy characterized by the production of monoclonal immunoglobulin. It is the second most common hematological malignancy. Yet, no systematic reviews have been done to acquire an understanding of the resulting symptoms. The survival rate varies depending on age at diagnosis, comorbidities, and treatment. This study aims to assess the prevalence of clinical and laboratory characteristics among Multiple Myeloma patients. **Methods:** This is an observational study of Multiple Myeloma patients who were admitted to King Abdulaziz Medical City – National Guard between January 2015 to December 2020. Patient records were reviewed to derive clinical and laboratory characteristics. Descriptive data analysis and survival analysis were obtained using SPSS. **Results:** Our study included 151 patients, 95 of which were males, 56 were females, and the mean age of diagnosis with MM was 62.6 (SD= 13.4). Among 151 MM patients, the most common clinical signs were bone lesions and renal disease with a percentage of 66.90% and 46.40% respectively. Death rates throughout the time of study conduction were 19.2% accounting for 29 patients, and the median overall survival was 5.083 years with a 95% confidence level. Testing the association between survival rates and gender showed that death rates in females were significantly higher than in males (p-value= 0.023). **Conclusion:** There was a relation between survival and gender which suggest a protective factor favoring the male gender. Clinical and laboratory characteristics including bone marrow lesions, anemia, and renal disease were the initial presentation, thus a detailed history focused on symptoms should be taken when any of these symptoms are reported.

11. Non-obstructive azoospermia and pregnancy outcome

Presenter COI: Faisal Almutairi. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh.

PI: Samaher Alfaraj (S, Alfaraj), Faisal Almutairi (F, Almutairi), Saleh Almutairi (S, Almutairi), Sultan Alshehri (S, Alshehri), Meshal Almutairi (M, Almutairi), Abdulrahman Khinkar (A, Khinkar), Sahar Alshuwaier (S, Alshuwaier), Afaf Felemban (A, Felemban).

Background: Non-obstructive azoospermia (NOA) is a serious condition that is characterized by the absence of sperm in the ejaculate fluid due to testicular dysfunction. In this context, sperm retrieval (SR) techniques provide an opportunity for men with NOA to achieve biological fatherhood. However, the optimal technique for sperm retrieval remains a topic of debate. This study aimed to compare the pregnancy outcomes of couples with NOA who underwent TESA versus Micro-TESE. **Methods:** This retrospective chart review evaluated rates of clinical pregnancy, fetal demise, abortion, and live birth among NOA patients who presented at the in-vitro fertilization department at King Abdulaziz Medical City Riyadh (KAMC-RD) from January 2015 to December 2021. **Results:** In this study, 96 IVF cycles were conducted on 38 couples with azoospermia. Of the 96 IVF cycles, 59.4% (n=57) involved TESA, and 40.6% (n=39) involved micro-TESE. The micro-TESE group had higher FSH levels (12.1 [13.2] vs. 3.1 [5.1] unit, $P < .001$) and smaller testicular volume (13.3 [3.8] ml vs. 17 [6.2] ml, $P < .001$) compared to the TESA group. The results of the study showed no significant difference in clinical pregnancy outcomes, miscarriage percentage, and live birth rates between the TESA and micro-TESE groups. The clinical pregnancy rates were 40.3% and 38.4% for the TESA and micro-TESE groups, respectively ($P = .853$). Miscarriage rates were 10.5% and 2.5% for the TESA and Micro-TESE groups, respectively ($P = .141$), and live birth rates were 29.8% and 35.8% for the TESA and Micro-TESE groups, respectively ($P = .532$). **Conclusion:** In conclusion, the findings of this study suggest that both TESA and Micro-TESE demonstrate comparable efficacy regarding pregnancy outcomes in couples with NOA undergoing IVF treatment.

12. Returning to Work After Traumatic Spine Fractures: Current Status in Saudi Arabia.

Presenter COI: Abdulrahman Yousef Alhabeeb. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;KAIMRC, Riyadh;Department of Spine Surgery, King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia.

PI: Faisal Konbaz (F, Konbaz), Abdulrahman Yousef Alhabeeb (A, Alhabeeb)

Sami AlEissa (S, AlEissa), Ghadah Alhamed (G, Alhamed), Thamer Saad Alhowaish (T, Alhowaish), Moustafa Sami Alhamadah (M, Alhamadh), Emad Masudi (E, Masudi)

Majed Abalkhail (M, Abalkhail), Fahad AlHelal (F, AlHelal), Anouar Bourghli (A, Bourghli)

Background: The consequences of traumatic spine fracture (TSF) are inexorable and have a major burden on patients' social life and financial status. In this study, we aimed to investigate the return to work (RTW) after surgically treated TSFs, develop eventual predictors of delayed or failure to RTW, and assess narcotics use following such injuries.

Methods: This was a single-center retrospective cohort study that was done in a tertiary care center. TSF patients who required surgical intervention from 2016-2021 were enrolled. Demographic, operative, and complication data, as well as narcotics use, were recorded. RTW was modelled using multivariate logistic regression analysis. **Results:** Within the 173 patients with TSF, male patients accounted for 82.7%, and motor vehicles accident were the most common mechanism of injury (80.2%). Neurologically intact patients represented 59%. Only 38.15% returned to work after their injury. Majority of the patients didn't use narcotics more than 1 week after discharge (93.1%). High surgical blood loss, operation time, and hospital length of stay were significantly associated with not returning to work. In multivariant regression analysis, every increase of 100 ml of surgical blood loss was found to decrease the chance of RTW by 25% ($P=0.04$). Furthermore, every increase of one hour in operation time decreases the chance of RTW by 31% ($P=0.03$).

Conclusion: RTW is an important aspect that needs to be taken into consideration by healthcare providers. We found that age and high surgery time, blood loss, and hospital stay are significantly impacting patients' RTW after operated TSF.

13. A Descriptive Study of the Types and Survival Patterns of Saudi Patients with Multiple Primary Solid Malignancies: A 30-Year Tertiary Care Center Experience

Presenter COI: Moustafa Alhamadh. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh.

PI: Fouad Sabatin, Moustafa S. Alhamadh, Rakan B. Alanazi, Sultan T. Algarni, Ahmed Abdullah R. Alhuntushi, Mohammed Qasim Alshehri, Yusra Sajid Chachar, Mohammad Alkaiyat.

Background: Cancer survival has improved significantly, which reflects the achievements in screening, diagnosis, and treatment. As a consequence, multiple primary malignancies are diagnosed more frequently, with an incidence ranging from 0.52-11.7%. The types of malignancy that coexist and survival patterns vary notably in different countries and geographical areas. Due to the limited literature in Saudi Arabia, a baseline of prevalent malignancy combinations and their survival patterns would support early detection and disease management. **Methods:** This was a retrospective descriptive study conducted from 1993-2022 at King Abdulaziz Medical City, Department of Medical Oncology, Riyadh, Saudi Arabia. Patients with at least two biopsy-proven solid malignancies were included. Patients with hematological malignancies, missing data, or an uncertain or indecisive pathology report were excluded. **Results:** In total, 321 patients were analyzed. More than half (57.3%) of the patients were female. A third (33%) of the cases were synchronous, and 67% were metachronous. The most frequent site of the first primary malignancy was breast cancer, followed by colorectal, skin, and thyroid cancers. The most frequent site of the second primary malignancy was colorectal cancer, followed by thyroid, breast, and liver cancers. Only 4% of the cases had a third primary malignancy, with colorectal and appendiceal cancers being the most frequent. The most frequently observed histopathology in the synchronous and metachronous malignancies was adenocarcinoma. Breast-colorectal, breast-thyroid, and kidney-colorectal were the most frequently observed malignancy combinations. **Conclusion:** The current study offers a baseline of multiple primary malignancies in Saudi Arabia and provides supporting evidence that the pattern of multiple primary malignancies varies among different countries and ethnicities. The possibility of developing another primary malignancy should be considered when treating and monitoring cancer patients.

Published: <https://pubmed.ncbi.nlm.nih.gov/35877253/>

14. The Diagnostic Utility of Central Vein Sign in Patients with Multiple Sclerosis

Presenter COI: Seham Alsalamah. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;KAIMRC, Riyadh;Royal College of Surgeons in Ireland; King Khalid University. PI: Ahmad Abulaban (A, Abulaban), Seham Alsalamah (S, Alsalamah), Salem AlSumai (S, AlSumai), Ali AlSubaie (A, AlSubaie), Shaikha Alshehhi (S, Alshehhi), Muath AlQahtani (M, AlQahtani), Mohammed Alajlan (M, Alajlan), Khaled Alsohaibani (K, Alsohaibani), Samiha Fallatah (S, Fallatah), Omar Aldibasi (O, Aldibasi).

Background: Although the central vein sign (CVS) is proposed as a biomarker for differentiating between multiple sclerosis (MS) and non-specific white matter diseases (WMDs), its diagnostic value on susceptibility-weighted imaging (SWI) and gradient echo (GRE) sequences remains unknown. **Methods:** This retrospective case-control study reviewed brain MRI scans of 430 patients between January 2016 and August 2022 in King Abdulaziz Medical City, Riyadh. Investigators detected the occurrence of CVS while being blinded to patients' diagnoses. Sensitivity and specificity were assessed for different CVS lesion criteria. Cardiovascular risk factors were compared between MS and non-specific WMDs, and their impact on CVS was evaluated. **Results:** This study included 341 participants. A total of 5308 brain lesions were analyzed: 4490 in MS patients (n=226) and 818 in non-specific WMDs patients (n=115). In MS patients, CVS was detected in 1272 lesions (28.3%), most of which were in the deep white matter. The two CVS lesion criteria had a sensitivity of 80.6% and a specificity of 75.2% for distinguishing MS from non-specific WMDs. Age, hypertension, and dyslipidemia demonstrated statistical differences between MS and non-specific WMD patients ($p < 0.0001$), as well as diabetes ($p=0.0007$). Furthermore, the proportion of CVS was not influenced by any of these cardiovascular risk factors. **Conclusion:** The proposed CVS criteria yielded high diagnostic value in differentiating MS from other WMDs, and its implementation would enhance MS diagnosis in clinical practice and improve patients' prognosis and outcomes.

Oral Presentations Abstracts

Medical Education

1. Students' Engagement Using Polls in Virtual Sessions of Physiology, Pathology, and Pharmacology at King Saud bin Abdulaziz University for Health Sciences during COVID-19 Pandemic

Presenter COI: Dr. Saima Aamir. College of Medicine, KSAU-HS, Riyadh.

PI: Mona Abubakr Bawazeer (M, A Bawazeer), Saima Aamir (S, Aamir), Fatmah

Othman (F, Othman), Reem Alkahtani (R Alkahtani).

Background: Active involvement of students in classes using technology is associated with effective learning and understanding. This work intended to analyze the impact of interactive teaching on medical students' engagement, learning, performance, understanding and attendance in virtual classes of physiology, pathology, and pharmacology during SARS-CoV-2 pandemic. **Methods:** A descriptive cross-sectional study was carried out at college of medicine at King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) in Riyadh during January-April 2022. Third- and fourth-year medical students filled a self-reported questionnaire that assessed students' engagement, understanding, performance, and attendance during the sessions of three courses within the curriculum. Descriptive statistics were used to describe participants' responses for each item in the questionnaire. Chi-square test was used to compare the difference between the survey responses. p-value of <0.05 was considered statistically significant. **Results:** A total of 184/234 questionnaires were completed and returned, with an overall response rate of 78.6%. 55% of the students participated at least more than 5 times in polls during the class. 86.9% of the students agreed on enjoying participating in polls during the class, and 88.9% recommended utilization of the polls again. Participation in polls improved understanding of 88%, and performance of 63% of students. In addition, 48% agreed regarding attendance improvement in the class. Around 50% of both third- and fourth-year students agreed that polls improved the grades. **Conclusion:** This study showed that there is an impact of using interactive polls in virtual classes in medical students at KSAU-HS. It is recommended to continue using polls in all subjects in on-site sessions. This will be a great preface step toward switching the traditional teaching to the interactive teaching using flipped classroom strategy in the future. **Published:** <https://pubmed.ncbi.nlm.nih.gov/37085845/>

2. Developing Leadership Among Dental Residents, An Exploratory Study

Presenter COI: Hawazen Radhwan. College of Medicine, KSAU-HS, Riyadh.

PI: Hawazen Radhwan(H, Radhwan), Sami Al Nasser (S, Alnasser), Abdullah alzahem (A, Alzahem)

Background: Saudi Commission for Health Specialties adopted CanMEDS framework for all residency programs, including dental specialty. Senior residents should demonstrate readiness to make the transition to practice as a leader. That aligned with the vision of 2030, which requires leaders who make it possible to take charge of leading and improving the healthcare sector. It is imperative to understand the notion of medical education and its influence on the training of future physicians. The primary significance of this study is exploring the current leadership development and the integrated training into the Saudi Board Dental Residency Program that has yet to be systematically studied. **Methods:** This was a qualitative study employing the phenomenological approach. It took place at the Dental Center of PSMMC, Riyadh, Saudi Arabia. The study population included all senior dental residents. The sample size was determined by the theoretical saturation point using a purposeful sampling technique. Semi-structured 1:1 interviews were used for data collection. They were conducted in English by face to face and via Zoom, using a semi-structured interview guide. A Descript platform was used for recording transcription with ongoing data analysis using Nvivo computer software by QSR International. The text was coded inductively, and themes were generated. The data were interpreted within the themes and supported with relevant quotations. **Results:** Sixteen residents were required to serve the study purpose. Three themes emerged: awareness, educational experience, and factors that impacted leadership development. Limited awareness of participants about the leader role as a competency. Residents perceived the leadership concept but with a lack of consistency and structure under their educational experience within their training program. Summative reports were received as part of the assessment, whereas no integral protocol for formative feedback. Specialties, training centers, and coaching were identified as factors that impacted the leadership development. **Conclusion:** The residents struggled and varied in developing leadership skills relying on their learning environment. Residency programs may verify constructive alignment and equivalent “leader role” education for all specialties and training centers in Saudi Arabia. Dovetailing leadership coaching with daily teaching workflow and implementing faculty development initiatives to allow for appropriate feedback and assessment of these skills. There is a need for a randomized multicenter study to measure competency level and engagement are advised.

Published: <https://pubmed.ncbi.nlm.nih.gov/37102026/>

3. The Satisfaction of General Surgery Residents with Laparoscopic Surgical Training in Riyadh, Saudi Arabia, A Call for Simulation-Based Education

Presenter COI: Abdulrahman Alhabeeb. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;KAIMRC, Riyadh; College of Medicine, Alfaisal University, Riyadh, Saudi Arabia.

PI: Fareeda Mukhtar, Abdulrahman Alhabeeb (A, Alhabeeb), Mohammed F Shaheen (M, Shaheen), Muhammad Zafar (M, Zafar), Khaled Al-Kattan (K, Al-Kattan)

Background: Acquiring and mastering the Fundamentals of Laparoscopic Surgery (FLS) skills by the surgical trainees is becoming a pivotal goal of General Surgery (GS) training programs. Nonetheless, the laparoscopic proficiency of GS residents in the national training program remains understudied. **Methods:** An online survey was used to measure the residents' satisfaction of 10 training hospitals in Riyadh. The survey included demographics and Likert-based items to assess satisfaction and confidence. Residents had a choice to participate in FLS test at Alfaisal University. SPSS used to perform descriptive and comparative statistics. **Results:** Seventy responded to the online survey from an estimated reach of 205 residents. Of those, 50% were females; 53% were junior residents (defined as PGY1-2); and the mean age was 28 ± 3 years. Subjectively, 23% were satisfied with laparoscopic teaching, 44% with intraoperative guidance, while 62% were satisfied with the case volume. Participation in 5-15 cases/month was reported by 42%. Most trainees (68-72%) favorably evaluated their basic skills, such as handling the camera and use of endoscissors, while a minority (6-21%) favorably evaluated their advanced skills, such as intra/extracorporeal knotting and handling a bleeding vessel. Simulation-based laparoscopic training was the least reported method for practice (18%) while watching videos was the most (75%). Eleven residents participated in the FLS test. The mean overall completion time was 21 ± 8.4 minutes which is 2.8 times the standard FLS proficiency time. From a total of 55 tasks, 16 failures were encountered. **Conclusion:** Despite adequate exposure, residents weren't satisfied with their laparoscopic training which reflected objectively on their FLS test scores. Simulation-based training is clearly underutilized by trainees and training institutions alike, exhibiting a lost opportunity that should be utilized by educators.

4. Saudi Otolaryngology-Head & Neck Surgery Workforce: Is There Any Need for More Otolaryngologists?

Presenter COI: Abdulaziz Alnasser College of Medicine, KSAU-HS, Riyadh;KAIMRC, Riyadh;KFSHRC, Riyadh.

PI: Naif Alotaibi, Abdulaziz Alnasser, Mohammed Alshenaiber, Abdulelah Alhawas

Background: Many countries face shortages in the number of qualified otolaryngology-head & neck surgery (OHNS) to meet the present and future healthcare needs, and the demand for otolaryngologists is rising globally. Limited data is known regarding the OHNS workforce in Saudi Arabia (SA), and the need for more OHNS is a commonly debatable subject. To study the actual OHNS workforce available to identify future and to determine the healthcare standards in terms of OHNS practice. **Methods:** A retrospective chart review study targeting OHNS surgeons registered in the local health authorities was done. The number of OHNS in SA including region, gender, and nationality in the period of 2010 to 2021 were extracted from the authorities' database. The distributions and the number of OHNS workforce per 100000 of the population was calculated. **Results:** In 2021, there are 2138 OHNS; 1295 (60.57%) non-Saudi Vs. 843 (39.43%) Saudi. Most of the OHNS workforce are males 1758 (82.22%) Vs. 380 (17.78%) females. The number of OHNS workforce per 100000 of the population is 6.34. Additionally, the geographic distribution of OHNS workforce per 100000 in the 13 governmental provinces of SA ranged from 3.54 to 10.36 where Jizan was the lowest and Riyadh was the highest. The OHNS workforce has grown from 1448 in 2010 to 2138 in 2021, and the Saudi OHNS workforce has increased from 234 to 843. Hence, the increase in OHNS demand. The female OHNS workforce is approximately 4.3 times higher than in 2010. The trend of the non-Saudi workforce was fluctuating showing some rises and declines. **Conclusion:** The number of OHNS workforce has been increasing, and the Saudi proportion did not show any decline in the field reflecting the population demand. However, the non-Saudi workforce was not stable in numbers hindering healthcare demands and creating shortages in the field.

5. The Satisfaction of Surgery Trainees with the Educational Environment in the Saudi General Surgery Training Program. What Matters to them?

Presenter COI: Abdulrahman Alhabeeb. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;KAIMRC, Riyadh.

PI: Mohammed F Shaheen. (M, Shaheen), Abdulrahman Alhabeeb (A, ALhabeeb), Moustafa S Alhamadh (M, Alhamadh), Meshal Alothri (M, Alothri), Rakan Aldusari (R, Aldusari).

Background: Surgical residency training is prominently demanding and stressful. This can affect the residents' wellbeing, work-life balance and increase the rates of burnout. Unfortunately, the available studies in the past 15 years reveal low levels of satisfaction as well as operative experience. In this study, we aim to re-assess the levels of satisfaction and wellbeing of GS residents, rates of burn-out and provide an in-depth analysis of the residents' prospective through conducting interviews. **Methods:** A sequential explanatory mixed-methods study was conducted. Quantitative data were gathered through online-surveys sent to all GS training programs in Saudi Arabia. The validated abbreviated Maslach Burnout Inventory (aMBI) was used to assess burnout while satisfaction was assessed via 5-points Likert scale. Qualitative data obtained via virtual interviews. SPSS V27 and Dedoose were used for analysis. **Results:** After excluding incomplete responses, 47 responses were analyzed. The responses included 51% (n=24) males with mean age of 27.6 ± 1.94 years and junior residents comprised 55% (n=26) of participants. Almost half (49%) of the participants have considered switching off GS training. Based on aMBI scale, low personal accomplishment was noted in 55.2%, emotional exhaustion in 80.8%, depersonalization in 74.3%, reflecting moderate to high rates of burnout. Rates of dissatisfaction with research opportunities, academic environment, intra-operative teaching, mentorship, and case-volume were in 78.7%, 63.8%, 55.3%, 53.1%, and 36.1% of responses, respectively. Major themes linked to dissatisfaction that appeared through qualitative interviews were the lack of level appropriate hands-on operative exposure and subpar teaching efforts by faculty. Residents identified lack of incentives to teach, medicolegal restraints and presence of physicians in non-training positions as root causes that are negatively affecting their learning process. **Conclusion:** Dissatisfaction and burn-out is prevalent among national GS training programs. Sub-optimal educational delivery and low-quality hands-on operative exposure -rather than lack of exposure to cases- seem to be the culprit.

6. Cognitive Load Effect on Intraoperative Teaching

Presenter COI: Abdulrahman Alhabeeb. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;Department of Hepatobiliary Sciences and Organ Transplant Center, King Abdulaziz Medical city, Ministry of the National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia.;KAIMRC, Riyadh.

PI: Mohammed Faisal Shaheen (M, Shaheen), Abdulrahman Yousef Alhabeeb (A, Alhabeeb), Fareeda Mukhtar (F, Mukhtar), Jawad Yousef Alhabeeb (J, Alhabeeb)

Moustafa Sami Alhamadh (M, Alhamadh), Meshal Ali Alothri (M, Alothri), Rakan Saad Aldusari (R, Aldusari), Raghad Almuniyif (R, Almuniyif), Saleh Alnasser (S, Anlasser).

Background: The operative room (OR) environment is inevitably subjected to cognitive distractors and stressors which increases surgeons' cognitive load (CL) and can affect performance. Surgical trainees are expected to function and learn during their participation in the OR. There is little research studying the effect of the OR environment on learners' CL and learning. **Methods:** A randomized controlled experimental study was conducted after obtaining institutional ethical review board approval. Through email invitations, undergraduate medical students were invited to participate in a simulation-based scenario to learn about the chest tube insertion procedure. Volunteering students were randomized into two groups. The control group (CG) participated in a stress-free simulation-based teaching session. The experimental group (EG) participated in simulation-based teaching session with realistic - OR like - environment. CL was assessed subjectively by a modified Leppink scale, and objectively through a heart rate monitor and a tactile response task (TRT) device. Knowledge retention was assessed by an administered exam 15 minutes after the end of the scenario. **Results:** A total of 61 participants were enrolled with a mean age of 21.3 ± 1.2 years. Students in their pre-clinical years comprised 56% and females constituted 54% of the cohort. The CG and the EG had 30 and 31 participants, respectively. The EG had higher Extraneous-CL scores attributed to the environmental noise ($p < 0.01$) and instructions ($p = 0.05$). They also had higher rates of TRT skips (19% vs 5.3%; $p < 0.01$) and acceleration of heart rate during the procedure ($p < 0.01$). The CG had higher exam scores (67.5% vs 57.4%; $p = 0.02$). Participants who had prior surgical skills training and OR exposure had better Germaine-CL scores ($p = 0.01$) and exam scores ($p = 0.03$) compared to their counterparts in the same group. Reported familiarity with the anatomy, disease pathophysiology and study of related topics in class did not impose statistical differences in any measured parameter. **Conclusion:** The study suggests that the OR environment strains trainee through increasing their extraneous cognitive load which may affect their ability to learn and retain new information. This effect is potentially mitigated by skill-based training rather than theoretical knowledge. These initial findings merit further study.

Oral Presentations Abstracts

Translational Research

1. Translation into Practice: Using non-native language in studying Medical/Health science in Saudi Arabia

Presenter PI: Dr. Arwa Alshehri.

Abstract: Challenges facing international students who come to study in the United States and other foreign countries in English have been explored in literature. It shows that, in addition to all the challenges associated with coming to a new country, non-native English speakers (NNES) face the additional challenge of having to learn their content in English. In the KSA most if not all medical and health colleges teach in English. Do we know the challenges facing our Saudi Health Science students in their teaching and learning environments? This paper shares the findings of a research project done on this important topic during my postgraduate journey in the United States and proposes a theoretical framework on how to tackle the subject in our university of KSAU-HS Based on my experience and previous research, the most significant challenges common to NNES are the lack of self-confidence in using the English language, avoidance of communication, the speed of discourse, and difficulty in laboratory courses. Is this the case in our environment? **Keywords:** English language learners, bilingual learners, general chemistry, chemistry education research, science education

2. Assessment of Pre-Operative Vitamin D Serum Levels in Thyroid Cancer Patients

Presenter COI: Abdulaziz Alnasser. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;KAIMRC, Riyadh.

PI: Mohammed Alessa, Abdulaziz Alsalem, Abdulaziz Alnasser, Thamer Althunayan, Abdulaziz Alaraifi.

Background: Vitamin D (VIT-D) has been reported to be associated with various cancer types, but the association between VIT-D and thyroid cancer (TC) remains ambiguous and controversial. We aim to investigate the association between VIT-D levels and TC and the role of VIT-D supplementation in TC incidence. **Methods:** This retrospective case-control study was conducted on patients who underwent thyroidectomy at King Abdulaziz Medical City between January 2016 and January 2022. Pre-operative VIT-D serum levels were evaluated along with the histopathology of their resected thyroid nodule (TN). Multivariable conditional logistic regression was computed to estimate the association between serum 25(OH)D level and TC. **Results:** 633 patients were included and divided into 325 cases (malignant TN) and 308 controls (benign TN). The mean age was 46.83 (± 13.8) years, with female dominance (83.7% vs. 16.3%). The TC group had a significantly higher serum 25(OH)D level than the controls (51.12 vs. 46.17, p-value 0.037). However, there was no significant difference between the two groups on serum 25(OH)D level once categorized into (deficient, inadequate, normal, and high). Patients on VIT-D supplements had a lower incidence of thyroid cancer (45.5%) than those not on VIT-D supplements (57.5%), with a significant p-value (0.003). Significant variables were included in multivariable regression models. Patients on VIT-D supplements were 37% less likely to have thyroid cancer than those not on VIT-D supplements (OR=0.634; 95% CI=0.460 – 0.873). **Conclusion:** There is no significant correlation between VIT-D insufficiency and TC. However, patients on VIT-D supplements are less likely to have TC than those not on VIT-D supplements, and further studies with a prospective design are necessary to further define this factor's role.

3. Single artery right kidney or multiple arteries left kidney as a choice for living-donor kidney transplant

Presenter COI: Ziyad Alshahrani. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh.
 PI: Mohammed Shaheen (M, Shaheen), Ziyad Alshahrani (Z, Alshahrani), Nader Aljumaie (N, Aljumaie), Samy Kashkoush (S, Kashkoush), Abdulrahman Altheaby (A, Altheaby), Ghaleb Aboalsamh (G, Aboalsamh).

Background: When considering a living donor kidney allograft, a left kidney with a single artery and vein is always preferred. However, in cases where anatomic variability is present, the choice becomes less obvious. Hence, we aim to review our center's data comparing the recipient outcomes when utilizing right donor kidneys (RK) versus left donor kidneys with multiple arteries (LKMA) compared to the standard anatomy left donor kidneys with single artery (LKSA). **Methods:** A Retrospective review of all kidney transplant recipients who underwent living donor kidney transplantation at King Abdulaziz Medical City, Riyadh – Saudi Arabia, and their living donors, from January 2016 to December 2021 allowing for a minimum of 12 months of follow-up. Donors' renal anatomy were evaluated utilizing computed tomography angiography. Reasons of choosing LKMA or RK were collected from transplant committee documentation. Recipients' operative records were reviewed with attention to the method of arterial and venous anastomosis as well as the warm (WIT) and cold (CIT) ischemia times. Subsequent graft function was evaluated using creatinine levels reviewed at 24-48 hours, 1 week, 1 month, 6 months and 12 months post-transplant. Allograft Doppler Ultrasound was reviewed to evaluate resistive indices (RI) and waveforms. Post-operative delayed graft function and acute rejection was extrapolated if present. **Results:** A total of 425 kidney transplant recipients and their donors were included. The mean age of the recipients and donors were 43.9 ± 17.1 and 31.4 ± 7.9 years, respectively. Males constituted 63.8% of the recipients and 78.3% of the donors. Recipients who received LKSA, RK, or LKMA were 316, 56 and 53, respectively. The most common reason for favoring RK were the presence of multiple arteries in the left kidney (85%); while the most common reasons for favoring LKMA were multiple artery right kidney (43%) and a short renal vein (37%). There was no statistical difference in age of donors or recipients, warm ischemia times or creatinine in the early postop period. Patient who received RK had a longer cold ischemia time ($p=0.03$) and 7.1% rate of DGF. Patient who received LKMA had higher RI's in the first postoperative dopplers ($p=0.01$) and a had a higher proportion for repeated imaging to evaluate the allograft ($p=0.04$), however none had DGF. Although 75% of LKMA had complete arterial perfusion established to the allograft, long-term creatinine level and eGFR was statistically different between groups at 6-months ($p=0.01$) and 12-months ($p=0.03$) favoring RK over LKMA. **Conclusion:** This is a single center comparing the outcomes of utilizing right kidney allografts versus left kidney allograft with non-standard arterial anatomy. Although results seem comparable, long-term allograft function seem to favor utilizing right kidney allograft when feasible.

4. Sodium-glucose cotransporter 2 (SGLT2) inhibitors in diabetic nephropathy: a tertiary center experience

Presenter COI: Faisal Almutairi. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;KAIMRC, Riyadh;King Khalid University.

PI: Salih bin Salih (S, Salih), Mohammed Tawhari (M, Tawhari), Raed Aldahash (R, Aldahash), Faisal Almutairi (F, Almutairi), Mahdi Albogami (M, Albogami), Ahmad Rokon (A, Rokon), Faisal Alsomali (F, Alsomali), Khaled Alanazi (K, Alanazi), Abdulrahman Alshehri (A, Alshehri), Talal Almutairi (T, Almutairi), Abdulrahman Alharbi (A, Alharbi), Rayan Alghamdi (R, Alghamdi), Ibrahim Tawhari (I, Tawhari).

Background: The current study aimed to assess the real-world effect of dapagliflozin, a sodium-glucose cotransport (SGLT2) inhibitor on Saudi patients with type 2 diabetes mellitus (DM). **Methods:** We conducted a retrospective chart review study at King Abdul-Aziz Medical City (KAMC), a tertiary care center in Riyadh, Saudi Arabia. We included all the patients who visited KAMC over 1 year (from August 1, 2021, to July 31, 2022) who had been on dapagliflozin, for at least 3 months. We collected various clinical and laboratory data to assess the effect of SGLT2 inhibitors on Saudi patients with type 2 DM. **Results:** We included 184 participants with a mean age of 61.32 ± 9.37 years. Dapagliflozin 10 mg per day significantly reduced hemoglobin A1C (HbA1C) from a mean of $9.00 \pm 1.7\%$ to $8.40 \pm 1.4\%$ ($P < 0.001$). Also, dapagliflozin significantly reduced the albumin-creatinine ratio (ACR) from a median of 93.10 mg/g [IQR 51.05-172.15] to 64.90 mg/g [IQR 33.45-110.76] ($P < 0.001$). Following dapagliflozin initiation, the estimated glomerular filtration rate (eGFR) improved from a mean of 69.83 ± 26.66 mL/min to 71.68 ± 28.91 mL/min and mean arterial pressure (MAP) declined from a mean of 90.03 ± 10.32 mmHg to 89.06 ± 10.39 mmHg, both were not statistically significant. Dapagliflozin use did not increase the rate of urinary tract infections (UTIs), limb amputations or ketoacidosis, and the number of hospitalizations was reduced. **Conclusion:** The present study demonstrated the beneficial effect of SGLT2 inhibitors among Saudi patients with type 2 DM, both for diabetic control and lowering proteinuria. Also, the study shows that treatment with SGLT2 inhibitors was safe and did not result in statistically significant harm namely UTIs, amputations and ketoacidosis.

5. Hyperlipidemia and Hypertension Are Associated with Intracerebral Hemorrhage

Incidence: A Retrospective Study

Presenter COI: Yousef Alawad. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh;KAIMRC, Riyadh;Public Health Institute, United Arab Emirates University, Al Ain, ARE.

PI: Awad M. Almuklass (A, Almuklass), Yousef A. Alawad (Y, Alawad), Abdulmalek S. Alanazi (A, Alanazi), Azzam A. Alamro (A, Alamro), Faisal H. Alagedi (F, Alagedi), Yasser A. Alshehri (Y, Alshehri), Emad Masuadi (E, Masuadi), Naser Alotaibi (N, Alotabi), Mahmoud Alkhateeb (M, Alkhateeb).

Background: Stroke places a huge burden on the socioeconomic systems. Hemorrhagic stroke (HS) is the second most common type of stroke and the second leading cause of disability and death. The updated data on the prevalence of intracerebral hemorrhage (ICH) stroke and related physiological risk factors in Saudi Arabia were limited. The aim of this study was to identify the prevalence of ICH stroke and the related physiological risk factors.

Methods: This was a retrospective, hospital-based, and chart review study that utilized the BESTCare system at King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia. Patients who attended the neurology department (inpatient/outpatient) between 2015 and 2020 were studied. The statistical tool JMP (JMP Inc., Cary, NC, USA) was used for data entry and analysis. **Results:** Patient data (N = 1,870, 58.6 ± 13.87 years old) were screened for comorbidities, hypertension (66.1%), diabetes mellitus (DM) (57.7%), hyperlipidemia (28.4%), and history of an old stroke (22.3%). Ischemic stroke (IS) was more dominant than ICH stroke with ratios of 94.5% (n = 1767) versus 5.5% (n = 103), respectively. The prevalence of ICH stroke among the patients (n = 103) was 10.6%, 20.3%, 24.2%, and 28.1% in the age groups of <40, 41-50, 51-60, and 61-70 years old, respectively. There was a significant gender effect on the distribution of both IS and ICH (p = 0.003). ICH strokes were more prevalent in males than in females. Body mass index (BMI) has no significant effect on the prevalence of IS and ICH stroke (p = 0.081). ICH stroke was significantly associated with DM (p = 0.032), hypertension (p = 0.01), and hyperlipidemia (p = 0.002). Regression analyses show that only hypertension (positive association) and hyperlipidemia (negative association) were significantly associated with the incidence of ICH stroke. **Conclusion:** IS was more prevalent than ICH stroke. ICH strokes were more prevalent in males than in females. Also, hypertension was the most common factor leading to ICH stroke, unlike hyperlipidemia, which was revealed to be protective against ICH stroke.

Published: <https://pubmed.ncbi.nlm.nih.gov/36733545/>

6. Improved Quality of Life of Sick Cell Disease Patients Post Allogeneic Stem Cell Transplant: Another Indication for Transplant

Presenter COI: Mohammad Albawardi. College of Medicine, KSAU-HS, Riyadh;KAMC, Riyadh.

PI: Mohsen Alzahrani (M, Alzahrani), Mohammad Albawardi (M, Albawardi), Abdulaziz Alghamdi (A, Alghamdi).

Background: Sick Cell Disease (SCD) is one of the most frequently inherited diseases globally. Its severity ranges from mild to moderate to severe disease with multiple complications, including pulmonary hypertension, stroke, recurrent vaso-occlusive crisis, end-organs damage, and an increased risk of mortality. Allogeneic hematopoietic cell transplantation (HCT) is potentially a curative option for patients with SCD. Our object is to assess the quality of life of adolescent and adult SCD patients receiving HCT pre-and post-transplant. **Methods:** An analytical cross-sectional study was conducted. SCD patients with at least one-year follow-up after HCT was interviewed to assess their quality of life before and after the transplantation. This study was conducted at the Transplant Center of King Abdulaziz Medical City (KAMC), Riyadh. The participants were identified through non-probability consecutive sampling. We used the FACT-G questionnaire to assess the domains of the quality of life. **Results:** In total, 31 patients were included in the survey. The median age of the respondents was 32 ± 6.3 years and half were male 16 (51.6%). The most frequent indication for the stem cell transplantation (58%) was vaso-occlusive crisis (VOC). The mean FACT-G score pre-transplantation was 55.2 ± 18.17 and post-transplantation 91 ± 14.58 . The mean number of annual ER visits was significantly reduced in the post-transplantation period from 27.3 to 6.6 (P-value = .006). More than half of the respondents (51.6%) experienced no severe complications after the transplantation. The majority of the respondents (93.5%) reported an improved quality of life after the transplantation. **Conclusion:** HCT resulted in a significant improvement in the quality of life of adult SCD patients, with an improvement in the majority of the domains of the FACT- score. Other outcomes not measured by the FACT-G, such as frequency of ER visits and hospital admissions, reduced significantly post-transplant, which reflect an improvement in the QoL and a reduction in the cost of therapy of SCD patients.

Poster Presentations Bibliography List

1. Alharbi KG, Aldosari MN, Alhassan AM, Alshallal KA, Altamimi AM, Altulaihi BA. Patient satisfaction with virtual clinic during Coronavirus disease (COVID-19) pandemic in primary healthcare, Riyadh, Saudi Arabia. *Journal of Family & Community Medicine*. 2021 Jan;28(1):48.
2. Masud N, Alenezi SE, Alsayari OS, Alghaith DM, Alshehri RA, Albarrak DA, Al-Nasser S. Social accountability in medical education; student's perspective. In *Frontiers in Education* 2022 (p. 316). Frontiers.
3. Saeed Alqahtani, Nouf Ababtain, Reem Albuhairan, Shahad Aljebeli, Taima Almazroa, Winnie Philip. Prevalence and awareness of dietary supplements Use among Saudi adult females attending fitness centers in Riyadh, Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
4. N, Mahmood. R, Alqahtani. S, Aamir. Z, Anjum. Visualizing Breast Cancer Research Trend in Saudi Arabia: A Bibliometric Analysis. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
5. Jawdat DM, Aljarallah GS, Albakr MA, Alajlan RM, Almesfir RF, Alqubaibi NF, Albalawi MM, Alshehri AA, Aljohani SM, Jawdat D, Albakr M. Diagnostic Efficacy of RealStar SARS-CoV-2 Reverse Transcription-Polymerase Chain Reaction (RT-PCR) in Comparison to GeneXpert System for the Detection of COVID-19. *Cureus*. 2023 Feb 18;15(2).
6. Atlal Abdusanad, Seham S. Alsalamah, Lama A. Alharbi, Manal H. Almasary, Amnah S. Alharthi. Awareness of Cervical Cancer Screening and Early Prevention among Saudi Women. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
7. Aljizeeri A, Alfurayh MA, Alduhaimi GS, Alhussin GI, Alabdulkareem ME, Sharahili AA, Alturaymi MA, Ahmed A, Alyousif SM, Alfari MA, Alsaileek A. Challenges of Telemedicine Implementation in Patients with Cardiovascular Diseases: Insight from a Single Center during COVID-19 Lockdown. *Saudi Journal of Health Systems Research*. 2023 Mar 14;3(1):1-5.

8. Ahmed Alrumayyan, Abdullah Alzahem, Alaa Althubaiti, Duaa Baarmah, Salma Alqahtani, Nada Alrawdhan. Teaching Professionalism in Neurology Residency Program in Saudi Arabia; The Effect of Case-Based Learning. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
9. Alanazi A, Alhawas H, Aldossari M, Almutairi D, Almatroudi D, Alenazi A, Almadhi L, Albalawi M. Awareness of Medical Students toward Circadian Rhythm and Sleep Disorder Based on Biomedical Diagnosis. Biomed Res Int. 2022 Aug 18;2022:8645183.doi: 10.1155/2022/8645183.
10. Azouf Alsulaiman, Sara Alabdulkareem. Interest in Rhinoplasty and Awareness About its Postoperative Complications Among Female High School Students in Riyadh, Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
11. Reema A Alsogair (R, Alsogair), Haifa A Altoub (H, Altoub), Meznah A Alsanad (M, Alsanad), Malak I Alshukr (M, Alshukr), Bashayer T Alobaid (B, Alobaid), Mubarak A Abdalla (M, Abdalla), Abdulla A AlSayyari (A, AlSayyari). The Relationship Between High C-Reactive Protein (CRP) Concentrations to Erythropoietin Resistance, Hospital Admission Rate, Control of Mineral Metabolism, and Comorbidity in Hemodialysis Patients. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
12. Alzahrani A, Alshehri A, Alsheikh K, Alzahrani F, Alshaya RA, Ababtain I. Simultaneous Surgical Management of Acute Tibial Shaft Fracture and Post-traumatic Ankle Arthritis. Cureus. 2022 Dec 27;14(12).
13. Kazzaz, Y. M.1; Alkhathaami, R. A.2; Alghanna, R.2; Alonazi, N. M.2; Alrubaiaan, A. A.2; Alkadeeb, N. A.2; Babakr, R. M.3. OP062 [End of Life Care » Organ donation]: THE INCIDENCE OF MISSED ORGAN DONATION OPPORTUNITIES IN PEDIATRIC INTENSIVE CARE UNIT (PICU) IN SAUDI ARABIA. Pediatric Critical Care Medicine 23(Supplement 1 11S);, November 2022. | DOI: 10.1097/01.pcc.0000899928.11949.70
14. Ihab Sulaiman, Fay Alotaibi, Wed Alotaibi. Unique Tissue Mitral Valve Replacement with Lateral Thoracotomy which Survived More Than Expected: A Case Report. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
15. Ihab Sulaiman, Fay Alotaibi, Wed Alotaibi. Unique Tissue Mitral Valve Replacement with Lateral Thoracotomy which Survived More Than Expected: A Case Report. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

16. Majed Aleissa, Jude Abanmi (J,Abanmi), Deamah Alabdulkareem (D, Alabdulkareem), Nahlaa Alkhwaiter (N, Alkhwaiter), Norah Alhadlq (N, Alhadlq), Maha Alhamdan (M, Alhamdan), Basel Dahlawi (B, Dahlawi). Characteristics and Outcomes of Non-accidental Visceral Injuries among Children: 5 Years Experience of a National Data. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
17. Alhamadh MS, Alanazi RB, Alhowaish TS, Alhabeeb AY, Algarni ST, Wadaan OM, Suliman I, Al-Ghamdi MG. Refractory Salmonella Prosthetic Valve Endocarditis Complicated by Splenic Infarction and Aortic Pseudoaneurysm in a Patient with Double Prosthetic Valves: A Case Report. *Diagnostics*. 2022 Aug 16;12(8):1982.
18. H. Alshammari, S. Alotaibi, M. Alshahwan. Reassessment of the need of asthma patients for biologic treatment in a tertiary care hospital. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
19. Khubrani RM, Alghamdi AS, Alsubaie AA, Alenazi T, Almutairi A, Alsunaydi F. Rate of Cardiovascular Implantable Electronic Device-Related Infection at a Tertiary Hospital in Saudi Arabia: A Retrospective Cohort Study. *Cureus*. 2022 Jul 20;14(7).
20. Abdulrahman Alfuraih (A, Alfuraih), Elham Alsalahi (A, Alsalahi), Ghalia Alfuraih (G, Alfuraih), Shahad Alrefaie (S, Alrefaie), Sarah Alotaibi (S, Alotaibi), Faten Alenezi (F, Alenezi). Burnout among Radiology Technologists in Riyadh, Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
21. AlShieban S, Masuadi E, Alghamdi R, Alshalfan A, Alessa S, Alqarni AK, Alotaibe Z, Bamefleh H, Alghamdi Sr R. Pathological Features and Clinical Characteristics of Kikuchi-Fujimoto Disease: A Tertiary Hospital Experience in Riyadh, Saudi Arabia. *Cureus*. 2023 Jan 12;15(1).
22. Mouath Alturaymi. Steroid Use and Mental disorders, prevalence, King Abdulaziz Medical City, Riyadh, Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
23. Rayan Alkhodair, Mohammed Aljasser, Ghida Saleh Altammami, Sarah Khalid Alswayed. Dermatological conditions in the intensive care unit in Riyadh, Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

24. Abdulrahman Alotaibi (A, Alotaibi), Danah Abdullah Albarrak (D, Albarrak), Roaa Faisal Alotaibi (R, Alotaibi), Sara Hussain Alramadhan (S, Alramadhan), Alhanouf Ibrahim Bin Muhanna (A, Muhanna), Abdulrahman Mohammed Aldehan (A, Aldehan), Mohammed Hussain Alramadan (M, Alramadan), Nahaa Eid Alsubaie (N, Alsubaie). Mental health and the association between Electronic Cigarette Use and Asthma among the general population in Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

25. Alothman AS, Alhajress GI, Elshaer A, Hamri SB, Alothman A. Nail gun penetrating renal injury: a case report. *Cureus*. 2022 Feb 28;14(2).

26. Alruzouq N, Almarshad S, Almarshad K, BinSheeha T, Alghamdi D, Kabbani MS, Almarshad SA, Bin-Sheeha T. Red Blood Cell Distribution Width as a Predictive Biomarker for Postoperative Infections in Children Who Underwent Cardiac Surgery: A Single-Center Retrospective Study. *Cureus*. 2023 Jan 22;15(1).

27. Alanazi RB, Alhamadh MS, Alqarni ST, Alanazi KH, Alheijani Sr B. Recurrent Adipsic Hyponatremia in a Fully Independent Non-psychiatric Patient With Multiple Congenital Anomalies: A Case Report. *Cureus*. 2022 Apr 8;14(4).

28. Mahdi Albander, Naseem Abusharifa, Razan Alomar, Reema Alsogair, Rahaf Alghannam, Deem Alkalid, Aljohrah Alanazi. Biliary vs non-biliary Risk Factors of Development of Acute Necrotizing Pancreatitis as a Sequel of Acute Pancreatitis Episode in a Tertiary Care Center. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

29. Mahdi Albander, Naseem Abusharifa, Razan Alomar, Reema Alsogair, Rahaf Alghannam, Deem Alkalid, Aljohrah Alanazi. Efficacy and Safety of the Utilization of Dipeptidyl Peptidase IV Inhibitors in Diabetic Patients with Chronic Kidney Disease: a meta-analysis of randomized clinical trials. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

30. Lena Alotaibi and Amal Alqasimi. Hypomyelinating leukodystrophies one of the white matter disorders caused by a lack of myelin deposition in the central nervous system (CNS). Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

31. Majid Alfadhel, Reema Alduaiji, Laila Alqahtani, Reema Alqadiri, Lena Alotaibi, Mostafa Abolfotouh. Opinion of Geneticist Regarding Performing Preimplantation Genetic Testing for Monogenic Disorder (PGT-M) for Variants of Unknown Significance. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
32. AlKhalaf H, Philip W, AlSelaimy A, AlEnazi B, AlHarthi E, AlHarbi N. Clinical, epidemiological, and operational characteristics of gastroenteritis in Saudi children: An experience of a single tertiary pediatric center. International Journal of Medicine in Developing Countries. 2022 May 24;6(7):909-15.
33. Abdulmohsin Altuwaijri, Ahmed Alageel, Sara Alrebaieel, Abdulaziz Alkewaibeen1, Alaa Alsowayegh, Abdulrahman Al-Rasheed, Duaa Baarmah. Leukodystrophy-like phenotype Anti-myelin oligodendrocyte glycoprotein (anti-MOG) Encephalitis: Case Report and literature review. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
34. Abdulrhman A almazrou, Abdulrahman Mohammed Aladawi, Sarah Khalid Alswayed, Renad Youssuf AlSuhaibani, Jana K Abukhaled, Nadeef Jafar Alqahtani, Noura Ali Alzubidi. Knowledge and attitude to eye disorders among pediatricians in Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
35. Alhamadh MS, Alhowaish TS, Alhabeeb AY, Alanazi RB, Boudal A, Al Khathlan K, Alrashid A. Isolated Cardiac Sarcoidosis Presenting as Torsades de Pointes in a Patient With Non-ischemic Cardiomyopathy: A Case Report. Cureus. 2022 Sep 12;14(9).
36. Alhamadh MS, Alanazi RB, Wadaan OM, Alhabeeb AY, Alkaiyat M, Aljarbou OZ, Sabatin F. Thrombocytosis as a paraneoplastic syndrome in metastatic malignant peritoneal mesothelioma of biphasic morphology mimicking ovarian adenocarcinoma: A case report. Clinical Case Reports. 2023 Mar;11(3):e6974.
37. Ghadeer L. Aljahdali, Modi A. Alamer, Yara E. Alhamad, Norah A. Alkeneetir, Eman F. Alzahrani, Naila A. Shaheen, Mohammed H. Arabi, Afaf A. Felemban, Monira H. Alzahrani. The Impact of Chronic Endometritis on Infertility, Does Treatment Increase IVF Success Rates?. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

38. Ghadeer L. Aljahdali, Haya Aljurayfani, Yumna Alsetary, Norah Alkeneetir, Modi Alamer, Yara Alhamad, Mohammed A. Aldriweesh, Monira Alzahrani, Raad Madkhali, Abdulaziz Alosaimi, Haitham Arabi, Afaf Felemban. A Comparison between MRI/CT and Pathology in Ovarian Cyst Diagnosis: Tertiary Center Experience. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
39. Ghadeer Aljahdali, Haya Aljurayfani, Jawaher Alsahabi, Raad Madkhali, Abdulrahman Alqahtani, Afaf Felemban. Sclerotherapy of Ovarian Endometrioma Effect on Anti-Mullerian Hormone and Ovarian Reserve: A Case Report. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
40. El-Boubbou K, Lemine OM, Ali R, Huwaizi SM, Al-Humaid S, AlKushi A. Evaluating magnetic and thermal effects of various Polymerylated magnetic iron oxide nanoparticles for combined chemo-hyperthermia. New Journal of Chemistry. 2022;46(12):5489-504.
41. Najla Al-rasheed, Renad Aljohani, Haneen Khair, Noof Al-Harbi, Nahlah Al-Otaibi, Shahad Al-Edrees, Aamir Omair. Complications of Percutaneous Radiologic Gastrostomy (PRG) among patients in a Tertiary Care Hospital in Riyadh, Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
42. Aly Farouk Mahmoud, Nawaf Dekheelallah AlJehani, Abdurhman saif alsaif, Khalid ayed Almutairi, Abdullah Mohammed Alqahtani, Eid Dhahawi E Alanazi. Factors associated with Emergency Department visits or readmission of late preterm infants, Neonatal Intensive Care Department, National Guard Health Affairs, Riyadh. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
43. Asma Alanazi, Haya Alfozan, Yaser Mohammed, Mohammed Alassiri, Razan Almulhem, Shamayel Almulhem, Nahlah Nawaf, Norah Alshethri, Abdullah Alharbi, Abdullah Alqahtani, Faisal Almashouf, Omar Aldayhani. Assess the Knowledge and Attitude Towards Multiple Sclerosis (MS) and Its Effects on Pregnancy Among Women with Multiple Sclerosis in Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
44. Khalid Aldihan (K, Aldihan), Nayef Alotaiby (N, Alotaiby), Musa Alrashedi (M, Alrashedi), Faisal Aldihan (F, Aldihan). iStent injection is one of glaucoma minimal invasive surgeries that is effective and safe when combined with Phacoemulsification. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

45. Badr Alkhateeb, Mouath Alturaymi, Omer Almadhi, Yazeed Alageel, Majed bin Dayel , Mohammed Alsubayyil. The association between prolonged use of oral corticosteroids and mental disorders, Do steroids have a role in developing a mental disorder?. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

46. Al Tamimi AR, Bahashwan RS, Almousa SA, Aldalaan A, Almusallam MH, Alawad NK, Alangari AF, AL TAMIMI AR. Obesity and Kidney Transplant Candidates: An Outcome Analysis Based on Body Mass Index. Cureus. 2023 Feb 5;15(2).

47. Shatha alfreihi (S, Alfreihi), Jumanah Salah Alraddadi (J, Alraddadi), Sarah Khalid Alswayed (S, Alswayed), Maha Almuneef (M, Almuneef), Sarah Salem Aldharman (S, Aldharman). The Clinical Presentation and Ocular Findings of Child Abuse Cases in a Tertiary Center in Saudi Arabia: A Descriptive Retrospective study. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

48. Awad M. Almklass, PhD (A, Almklass), Hesham A. Almenief (H, Almeneif), Ahad A. Alnemari (A, Alnemari), Faris S. Alsalamah (F, Alsalamah), Rafeef S. Alwahaibi (R, Alwahaibi). Multiple Sclerosis Lower and Upper Motor Function Impairment and Subtypes Comparison Overtime: A Narrative Review. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

49. Atham S, Khayat F, Asiri D, Yaqoub N, Alfraih S, Chachar YS, Jamil SF, Alfraih SI. A Comparison Between the Complications of Laparoscopic and Open Gastrostomy Tube Insertions: A Single-Center Study From Riyadh, Saudi Arabia. Cureus. 2022 Nov 28;14(11).

50. Mohammad Almahdi (A, Mohammed), Fahad Alwadi (A, Fahad), Osama Alrodiman (A, Osama), Majed Pharaon (P, Majed). Sinonasal non-intestinal type adenocarcinoma (n-ITAC), an uncommon head & neck tumor. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

51. Gamal Gmati (G, Gmati), Seham Alsalamah (S, Alsalamah), Eman Balhamer (E, Balhamer), Faris Alsalamah (F, Alsalamah), Nahlah Alghasham (N, Alghasham). Do Persistent Mutations Predispose to Therapy Related-Chronic Myeloid Leukemia? A Case Report of New-Onset CML in a JAK-2 Positive Patient. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

52. Mohammed F Shaheen, Faisal Almalki, Amjad Alsamti, Badr Alsaikhan. An unusual hernia post kidney transplantation led to intermittent ureteric obstruction. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
53. Mahzari MM, Alserehi AH, Almutairi SA, Alanazi KH, Alharbi MA, Mohamud M. Hypothyroidism and the risk of coronary artery disease in Saudi patients. Journal of Family & Community Medicine. 2022 Jan;29(1):34.
54. Wazzan Aljuhani (W, Aljuhani), Ziad Aljaafri (Z, Aljaafri), Abdullah Alanazi (A, Alanazi), Khalid Alhadlaq (K, Alhadlaq), Yazeed Alhoshan (Y, Alhoshan). Patient-related Risk Factors of Prosthetic Joint Infections Following Total Hip and Knee Arthroplasty at King Abdulaziz Medical City, a 10-year Retrospective Study. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
55. Awad Almuklass (A, Almuklass), Ghidaa Gosty (G, Gosty), Eman Alotaibi (E, Alotaibi), Bushra Alharbi (B, Alharbi), Reem Alshayea (R, AlShayea), Mashal Abaalkhail (M, Abaalkhail), Ahmed AbaAlkhail (A, AbaAlkhail). Demographic and clinical predictors of severity in patients with multiple sclerosis: a retrospective cross-sectional study. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
56. Awad Almuklass (A, Almuklass), Faisal Khalid N Alfakeeh (F, Alfakeeh), Yazeed Mohammed A Alghamdi (Y, Alghamdi), Bassam Fawaz S Alharbi (B, Alharbi), Abdulaziz Falah M Alotaibi (A, Alotaibi), Khalid Abdulrahman M Alsaleh (K, Alsaleh), Abdullah Mohammed A Alshubaili (A, Alshubaili), Ryan Hussam A Mcrabi (R, Mcrabi), Farhan Kassar Alenazi (F, Alenazi). HbA1C Levels and Risk Factors Prevalence in Stroke Patients: a Retrospective Study in a Tertiary Care Center in Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
57. Abdulaziz Alnasser, Abdurhman Alsaif, Ali H. Alassiri, Mazyad M Alenezi, Jaber Alshammari. Juvenile Ossifying Fibroma in Anterior Ethmoidal Sinus in B-cell Acute Lymphoblastic Leukemia and MHC Class II Deficiency Patient: Case Report. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

58. Riyadh Ali Alhedaithy (R, Alhedaithy), Abdulaziz Ali Alnasser (A, Alnasser), Mohammed Abdulaziz Alfurayh (M, Alfurayh), Ahmed Ali Sharahili (A, Sharahili), Abdulaziz Mohammed Bin Akrish (A, Bin Akrish), Mohammed Abdullah Asiri (M, Asiri), Mohammad Jihad Almahdi (M, Almahdi). Endoscopic Endonasal Management of Cerebrospinal Fluid Rhinorrhea in Riyadh, Saudi Arabia: A Tertiary Center Experience. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

59. Abdulrahman Alomar, Abdulrahman AlKabli, Bader Alhoumaily, Azzam Alturki, Faisal Alqahtani, Sultan Alhabdan. The Histopathological Findings of Sleeve Gastrectomy Specimen: Data from Three Regional Centers in KSA. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

60. Wazzan ALjuhani, Abdulrahman Yousef Alhabeeb (A, Alhabeeb), Ahmed Idrees (A, Edges), Thamer Saad Alhowaish (T, Alhowaish), Moustafa Alhamadh (M, Alhamadh), Abdullah Alanazi (A, Alanazi), Emad Masudi (E, Masudi). Outcome of Surgical Management of Dermatofibrosarcoma Protuberance: A Single-Institution Multidisciplinary Approach. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

61. Faisal Salem Alqahtani, Bassam E. Al Rajhi, Ibrahim A. Omer, Reema A. Abualnaja, Alqassem Y. Hakami. Medical Students' Attitudes and Motives Towards Conducting Medical Research in A Multi-Campus Medical College. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

62. Sadeem Khallaf (S, Khallaf), Heythem Alzamel (H, Alzamel), Halah Alshabraqi (H, Alshabraqi), Rafeef Aljarwan (R, Aljarwan), Norah Alhassoun (N, Alhassoun), Najla Saleh (N, Saleh). Criteria of day surgery discharge post elective laparoscopic cholecystectomy among adult patients. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

63. Muhammad Talal Alrifai (M, Alrifai), Mohammed Abdualziz Alfurayh (M, Alfurayh), Abdulaziz Mohammed Bin Akrish (A, Bin Akrish), Nawaf Khalid Alawad (N, Alawad), Ahmad Ali Sharahili (A, Sharahili), Awad Saad Alharbi (A, Alharbi). Neuroimaging findings among Saudi patients with NF-1: A 7 year MRI-based tertiary multi-center study at NGHHA, Saudi Arabia. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.

64. Ftoon Olayan Alenazi, Sadeem Aleid, Lama bin Saeed, Ghadah Almaziad, Renad Alshalan, Fahad Aleidan. Incidence and predictors of portal vein thrombosis and mortality in patients with liver cirrhosis: a retrospective matched case-control tow-center study. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
65. Mohammed F. Shaheen (M, Shaheen), Amjad M. Alsamti (A, AlSamti), Ghaleb Aboalsamh (G, Aboalsamh), Alaa Alsahli (A, AlSahli), Sulaiman AlSegair (S, AlSegair), Abdulrahman Altheaby (A, Altheaby), Khalid bin Saad (K, Bin Saad). Toward One-day Admission for Living Kidney Donation. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
66. Majid Alfadhel (M, Alfadhel), Nawaf Alawad (N, Alawad), Abdullah Alangari (A, Alangari), Abdulaziz Allhybi (A, Allhybi), Nazish Masud (N, Masud), Faisal Almuzaini (F, Almuzaini), Mohammed Alshamari (M, Alshamari), Muhammad Umair (M, Umair). Preimplantation genetic diagnosis: Assessment of acceptance rates toward its use at a single tertiary center. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.
67. Hasan Aldorzi (H, Aldorzi), Nazish Masud (N, Masud), Razan Almulhem (R, Almulhem), Raghad Almutairi (R, Almutairi), Eman Balahmar (E, Balahmar), Danah Aleesa (D, Aleesa), Dareen ashgar (D, Ashgar). Outcomes of patients with Status Epilepticus admitted to intensive care unit at a tertiary hospital in Riyadh, Saudi Arabia: a cross-sectional study. Abstract In: College of Medicine, KSAU-HS, Riyadh; 2nd Annual Research Day. May 2023.



Endoscopic Endonasal Management of Cerebrospinal Fluid Rhinorrhea in Riyadh, Saudi Arabia: A Preliminary Report of A Tertiary Center Experience



Abdulaziz Ali Alnasser^{2,3}, Mohammed Abdulaziz Alfurayh^{2,3}, Ahmed Ali Sharahili^{2,3}, Abdulaziz Mohammed Bin Akrish^{2,3}, Mohammed Abdullah Asiri^{1,3,4}, Mohammad Jihad Almahdi^{1,2,3,4}, Riyadh Ali Alhedaithy^{1,2,3,4}

1. King Abdulaziz Medical City, Ministry of the National Guard Health affairs, Riyadh, Saudi Arabia
2. College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia
3. King Abdullah International Medical research Center, Riyadh, Saudi Arabia
4. Division of Otolaryngology, Head and Neck Surgery, Department of Surgery.

Abstract

Background: Cerebrospinal fluid (CSF) rhinorrhea is a condition that occurs when the CSF leaks through an osseous defect at the base of the skull.

Methods: A retrospective chart review was done for patients who presented with CSF rhinorrhea at King Abdulaziz Medical City, Riyadh, Saudi Arabia

Results: 32 patients were included. 23 The majority were female (71.87%). History of previous nasal surgery was the most common risk factor. Clear Rhinorrhea was the most common initial presentation among our patients while the most common defect site was the ethmoidal sinus. The most common technique used was endoscopic surgical repair with overlay middle turbinate graft.

Conclusion: Most of the patients underwent surgical repair through EEA and had a successful surgery with minimal complications

Methods and Materials

- The study was conducted in King Abdulaziz Medical City, Riyadh, SA.
- A retrospective chart review was carried out with the aim of finding all patients who were presented with CSF rhinorrhea during Jan 2016 – April 2022.
- The data included Saudi patients aged ≥ 18 , and with ≥ 6 months follow up period post clinical diagnosis/surgical intervention.
- The data excluded patients with known congenital skull base defects and those who were managed in other centers.
- Descriptive tables were created for baseline demographics, etiology, clinical presentation, radiological site, type of management used, and post-operative complications using Microsoft Excel 2021
- IRB approval was obtained from King Abdullah International Research Center.

Discussion

- Spontaneous CSF rhinorrhea happened primarily in patients who were female, middle aged, and obese, similarly found in other studies.
- Clear rhinorrhea and headache were by far the most common initial presentation.
- Positive history of previous nasal surgery and intracranial hypertension were the commonest risk factors found in our report.
- The most common defect site was the ethmoidal sinus with equal distribution in the right and left cribriform plate.
- Most of the patients underwent EER and had a successful surgery with minimal complications most of which was epistaxis.
- The patient who was treated by the combined approach was the only to have seizure and to have recurrence.

Introduction

CSF rhinorrhea is a condition that occurs when the underlying dura mater, subarachnoid mater, and sinonasal mucosa are disrupted, resulting in an active CSF leak and flow of clear fluid from the nose. It is considered a rare clinical phenomenon with many etiologies, which can either be acquired, congenital, or spontaneous. Worldwide, the most common cause of acquired CSF rhinorrhea is accidental skull trauma, followed by iatrogenic trauma as a complication of previous surgery and malignancy.

Also, accurate identification of the site of CSF leakage site is essential for a successful surgical repair, and knowledge of management complications and chances of recurrence would yield better outcomes in terms of prevention.

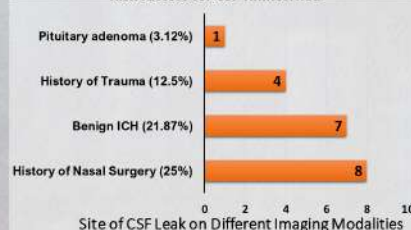
Very limited number of studies were published about CSF rhinorrhea in Saudi Arabia (SA). Thus, in order to solidify the current understanding and establish further knowledge about this rare condition from our population, we aimed to investigate more about risk factors and management outcomes

Results

Table 1: Clinical characteristics of the study group

Variables	Overall (n = 32)
Age (Mean \pm SD)	42.81 (± 0.45)
Gender (N%)	
- Male	9 (28.12%)
- Female	23 (71.87%)
BMI (Mean \pm SD)	34.33 (± 8.71)
DM (N%)	8 (25%)
HTN (N%)	6 (18.75%)
DLP (N%)	4 (12.5%)
Others	6 (18.75%)

Risk factors for CSF Rhinorrhea



Site of CSF Leak on Different Imaging Modalities

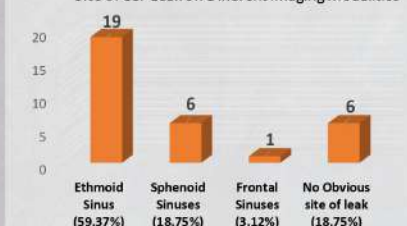


Table 2: Type of management and grafts used.

Type of management used :	Overall (n = 32)
• Endonasal endoscopic nasal approach (N%)	26 (81.25%)
• Conservative (N%)	5 (15.62%)
• Combined (N%)	1 (3.12%)
Type of Graft :	Overall (n = 28)
Middle Turbinate (N%)	19 (73.07%)
Inferior Turbinate (N%)	7 (26.92%)
Septal graft (N%)	1 (3.84%)
Nasal Floor Graft (N%)	1 (3.84%)

Conclusion

This is a preliminary report of our center experience in managing this condition. With the addition of more patients, further subgroup analysis will be done to determine the association and contribution of each variable to the management outcomes.

References



Presenter Details

Name : Ahmed Ali B Sharahili
Batch number : 16
Email: Sharahili380@ksau-hs.edu.sa
Phone optional :



Mental health and the association between Electronic Cigarette Use and Asthma among the general population in Saudi Arabia



Abdulrahman alotaibi¹; Danah Abdullah Albarrak²; Roaa Faisal Alotaibi³; Sara Hussain Alramadhan³; Alhanouf Ibrahim Bin Muhanna^{2*}; Abdulrahman Mohammed Aldehan¹; Mohammed Hussain Alramadan⁴; Nahaa Eid Alsubaie⁵; Khalid A. Bin Abdulrahman¹.
1College of Medicine, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia., 2College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia., 3Department of Medicine, College of Medicine, AlMaarefa University Ad Diriyah 13713, Saudi Arabia. , 4Qatif Central Hospital, Pulmonary and internal medicine department at ministry of health /College of medicine , 5Department of Mathematics, Alkhurmah University College, Taif University, Taif 21974, Saudi Arabia

Abstract

With the rising use of electronic cigarettes (EC) globally, it raises some public health concerns including their association to mental health, specially in asthmatics as they have a greater possibility of EC use compared to the general population¹. This study investigated mental health and the association between EC and asthma among the population of Saudi Arabia. The data was collected by using an electronic questionnaire. The prevalence of EC was significantly higher among patients with current and former asthma (43%). Additionally, they displayed more moderate and severe anxiety (68.3, 58.8%, respectively) and a higher percentage of depression (67.7%). In conclusion the increased incidence of e-cigarette usage among asthmatics was associated with worse mental health status. Identifying this aspect will help to lower the disease's morbidity and mortality rates significantly.

Methods and Materials

Study Design, Setting, participants:

This is a cross-sectional self-reported questionnaire-based study among the adult (>18 years) general population of Saudi Arabia in 2022.

Data Collection Tool and Process:

Data was collected using a validated electronic self-reported questionnaire:

- Demographic variables
- Asthma status and the level of control was measured by using an asthma control questionnaire (ACQ).
- EC use was measured by self-reported current and former e-cigarette use.
- Mental health status was assessed by, a Patient Health Questionnaire with a 9-item depression scale (PHQ-9) and 7-item Generalized Anxiety Disorder scale (GAD-7).

Discussion

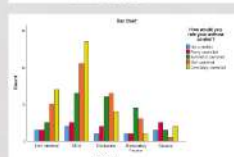
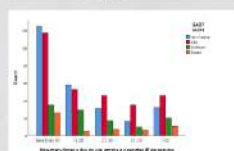
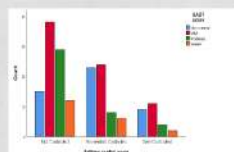
The result of this cross-sectional study among the Saudi population, found that poorer mental health status accounted for the association between EC and asthma status. Moreover, status of asthma control was directly related to mental health functioning especially in the aspect of general anxiety status. EC can mainly affect asthmatics in two ways (1) asthma control status (2) mental health status^{8,9}. A recent study found that EC smokers were at higher risk for developing illnesses due to the downstream metabolites derived from nicotine, with potential impact on the emotional and cognitive processing circuits of the brain⁹⁻¹¹. Additionally, psychological well-being was linked to a decreased risk of smoking and vice versa¹². In our study, well-controlled asthma had the lowest percentage of severe GAD score. Whereas somewhat-controlled asthma had the highest percentage of mild GAD score. A recent study, revealed that EC was linked to the frequency of asthma episodes during the previous 12 months¹³. Even passive EC exposure was linked to an increased risk of asthma attacks¹⁴.

Introduction

Although the global prevalence of tobacco smoking has decreased over the past three decades, the use of new emerging tobacco products has increased¹. A recent article published by the Global Tobacco Control Branch examined the data from 14 countries from 2015-2018 to determine the global prevalence of EC, It reported increased prevalence of EC, with the highest reported in Russia 14.2 and Romania 11.3%². Whereas in Saudi Arabia, the prevalence of people who tried EC was reported to be 26.3% in 2022³. Asthma is one of the most common chronic illnesses in Saudi Arabia, affecting more than 2 million Saudis, with an increasing prevalence⁴. Many researchers and medical professionals have strongly supported switching asthmatic smokers to EC, to reduce healthcare burden of treating asthma exacerbations^{5,6}. However, EC aerosols are poorly understood and complicated combinations of inert and reactive chemicals, it is difficult to determine the prolonged effect⁷. To our knowledge, this is the first study to investigate mental health and the association between asthma and EC use among the Saudi population.

Results

Out of 2293 respondents, 50.8% were males; lived in the central region of Saudi Arabia (25.1%); (46.6%) of participants were between the ages of 18 and 25, and half of the sample size was not maintaining a healthy BMI. Most respondents were students (39.9%) and had completed university-level education, Bachelor's degree (64.6%). Those with current asthma were more likely to be female (63.2%), underweight (69.6%), and had lower educational attainment than those with former asthma and those who never had asthma. More individuals with asthma reported using EC (43%) and having more moderate and severe anxiety (68.3% and 58.8%, respectively), as well as a higher percentage of depression (67.7%) than participants without asthma.



Conclusion

The prevalence of EC has increased among the general Saudi population with higher rates observed among asthmatics. Additionally, a significant association was found between EC and mental health status as higher rates of moderate, severe anxiety and severe depression reported by asthmatics. With the promotion of EC as a method for smoking cessation and the significant association found in the literature, further longitudinal studies should investigate the causal correlation of EC use on mental health

References



References

Presenter Details

Name: Alhanouf Ibrahim Bin Muhanna
Batch number: 19
Email: 23hanofy@gmail.com
421210013@ksau-hs.edu.sa
Phone optional:

Nada Alrawdhan¹; Ahmed Alrumayyan¹; Abdullah Alzahem¹; Alaa Althubaiti¹; Salma Alqahtani²; Duaa Baarmah³

¹ King Saud bin Abdulaziz University for Health Sciences.

² King Faisal Specialist Hospital & Research Center.

³ King Abdullah bin Abdulaziz University Hospital

Abstract

There is a lack of consensus on what is considered medical professionalism; thus, it is hard to determine which teaching methods are best to integrate professionalism into the residency programs. This study aims to measure the effectiveness of teaching professionalism using case-based learning (CBL) in neurology residency programs. A pre-and post-test Penn State College of Medicine Professionalism Questionnaire was distributed to all neurology residents at two hospitals to measure the change in neurology residents' knowledge of professionalism before and after the CBL sessions. Significant improvements were observed in accountability, altruism, duty, honor and integrity. The findings suggested that CBL is an effective teaching method to improve the knowledge of professionalism.

Methods and Materials

This quantitative pretest-posttest quasi-experimental crossover study was conducted in the neurology department at two hospitals located in Riyadh, King Abdulaziz Medical City (KAMC) and King Faisal Specialist Hospital & Research Center (KFSHRC). The Penn State College of Medicine Survey of Professionalism (PSCOMSP) was distributed to 58 neurology residents to measure the change in residents' knowledge of professionalism before and after the case-based learning sessions. The survey measured six attitudes of professionalism as outlined by American Board of Internal Medicine (ABIM): Accountability, altruism, duty, excellence, integrity, and respect.

Discussion

The residents showed improvement in the majority of ABIM professionalism elements after the CBL sessions. Prior work that evaluates the change in professionalism across a curriculum or during a specific course showed increase in professionalism scores in altruism, accountability, duty honor and integrity.⁹ Moreover, a change in professionalism attitudes during a course was in favor of altruism.¹⁰

This increase in professionalism scores was probably due to intentionally teaching the students and residents the attributes of professionalism. Therefore, when CBL intended to cover the attributes of professionalism, it improves the residents' knowledge of professionalism. Contrary, a study that assessed the attitudes of medical students toward professionalism at one medical school across the study years showed no difference among various classes.¹¹ Hence, teaching professionalism must explicitly incorporate the attributes of professionalism in any curriculum or training program.¹²

Introduction

Professionalism is defined as the means by which individual doctors fulfill the medical profession's contract with society.¹ It is a vocation or calling and implies service to others with particular ethical principles and attributes.² Being a Professional is one of the core roles in the CanMEDS and SaudiMEDS frameworks because it involves being committed to being professional and demonstrating professional behaviors.^{3,4} Most of disciplinary actions taken against medical students, residents, fellows, and physicians are due to a lack of professionalism.⁵ This emphasizes the fact that translating the professional role into a teaching component and integrating it into a training program is not simple.⁶ Therefore, situated learning theory was found to be more effective in teaching professionalism.⁷ In addition, the case-based approach was found to help attain professionalism by recognizing and discussing the unprofessional behaviors.⁸

Results

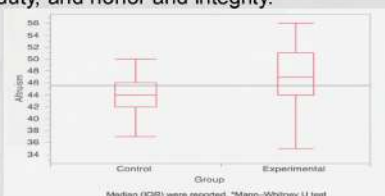


No significant differences across baseline characteristics were observed.

Professional Elements	Experimental		*p-value	Control		*p-value
	Pre score	Post score		Pre score	Post score	
Accountability	42(4)	47(6)	0.002 Effect size 0.59	44(4)	45(8.25)	0.58
Altruism	46(9)	47(7)	0.44	44(4)	48(5)	0.0008 Effect size 0.64
Duty	46(6)	50(7)	0.018 Effect size 0.46	48(5)	49(8.25)	0.39
Honor and integrity	46(5)	45(6)	0.60	45(5)	47(6.25)	0.018 Effect size 0.45

Median (IQR) were reported. *Wilcoxon signed-rank test.

When comparing pre-and post-test scores, groups showed statistically significant improvements in accountability, altruism, duty, and honor and integrity.



When comparing experimental and control groups post-test scores, experimental group showed statistically significant improvement in altruism (P -value = 0.03, size = 0.4)

Conclusion

This study reported a statistically significant increase in accountability, altruism, duty, honor and integrity, with no significant decrease in other professionalism elements after the CBL sessions. Therefore, utilizing CBL for teaching professionalism in residency programs helps improve residents' knowledge of professionalism.

References



Presenter Details

Nada Alrawdhan
MME-Batch 15
Email: rawdhan@ksau-hs.edu.sa

Elham Alsalahi¹; Ghalia Alfuraih²; Shahad Alrefaie¹; Sarah Alotaibi³; Faten Alenezi⁴
Dr Abdulrahman Alfuraih⁵

¹ King Saud Ibn Abdulaziz University, ²Majmaah University, ³King Saud Medical City, ⁴National Guards Hospital, ⁵King Saud University

Abstract

Background: Healthcare professionals are at risk of burnout due to chronic stress, high patient load, and on-call demands.

Methods: A cross-sectional survey was conducted to evaluate radiology technologists and technicians in three tertiary care centres in Riyadh, Saudi Arabia. The Maslach Burnout Inventory (MBI) was used to measure burnout.

Results: Burnout is high among radiology technologists and technicians, 82% have high or moderate levels of emotional exhaustion, 38% have high or moderate levels of depersonalization, and 24% have low levels of personal accomplishment. Burnout is associated with increasing educational levels, overtime coverage, low job satisfaction, and exposure to COVID-19 positive patients. However, training students is associated with a significant increase in personal accomplishment.

Conclusion: Burnout is a major problem among radiology technologists and technicians in Saudi Arabia.

Interventions to reduce burnout are needed to improve the quality of care they provide to patients.

Methods and Materials

- A cross sectional survey that included radiology technologists and technicians in three tertiary care centres in Riyadh, Saudi Arabia.
- Using the MBI to evaluate work related burnout by measuring three aspects:
 - Emotional exhaustion
 - Depersonalization
 - Sense of personal accomplishment
- Data was analysed using SPSS 25.

Discussion

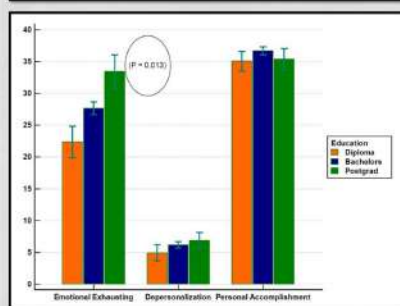
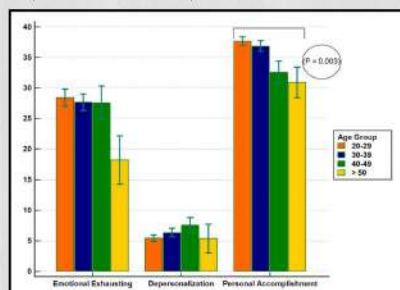
- Interactions with patients are a major stressor, in addition to on-calls, overtime hours, high loads of patients and Compassion fatigue.¹
- Sonographers are prone to neck/back strain and carpal tunnel syndrome due to repetitive wrist flexion/extension.⁵
- The personal accomplishment feelings decreases with increasing age as young workers may be more enthusiastic about practicing and experiencing new cases.
- Age is associated with lower levels of emotional exhaustion and higher job satisfaction as workers develop coping skills and burned-out workers tend to leave their jobs.⁶

Introduction

- Chronic stress, high patients load, and on-call demands are some challenges faced regularly by health care professionals.¹
- The outcome of not addressing these issues is a syndrome known as "Occupational Burnout".
- Burnout is estimated to affect 94% of radiographers and 98% of sonographers as reported in Australia.²
- Burnout is associated with higher doctor-doctor conflicts and work/family conflicts.^{3, 4}
- The literature exploring the extent of burnout in our region is insufficient.
- We aim to evaluate local levels of burnout and recognize associated factors.

Results

- 82% of had high or moderate burnout scores for emotional exhaustion and 38% for depersonalization. And 24% had low sense of personal accomplishment.
- Burnout levels increased with increasing educational levels, overtime coverage and in respondents who reported lack of job satisfaction.
- Training students had a significant positive impact on a worker's sense of personal accomplishment.



Conclusion

- The majority of radiology technologists and technicians reported high levels of burnout.
- Actions should be taken to lessen the burden of stress on the workers in order to maintain a healthy productive environment and optimize the quality of patients care.

References



Presenter Details

Name: Elham Alsalahi and Shahad Alrefaie
Batch number: 16 and 17
Email: Alsalahi002@Ksau-hs.edu.sa
412210011@Ksau-hs.edu.sa
Phone: 050 620 1670



The Relationship Between High C-Reactive Protein (CRP) Concentrations to Erythropoietin Resistance, Hospital Admission Rate, Control of Mineral Metabolism, and Comorbidity in Hemodialysis Patients.



¹Reema Alsogair, ¹Haifa Altoub, ¹Meznah Alsanad, ¹Malak Alshukr, ¹Bashayer Alobaid, ²Mubarak Abdalla, ^{1,2}Abdulla Alsayyari

¹College of Medicine, King Saud bin Abdulaziz University for health Sciences, Riyadh, Saudi Arabia, ²Dialysis Center, King Abdulaziz Medical City, Riyadh, Saudi Arabia.

Abstract

Background

End-stage renal disease patients undergoing hemodialysis are prone to develop inflammation that is detected by high serum C-reactive protein levels. This review highlights the association between CRP and erythropoietin resistance index, hospital admission rate, control of mineral metabolism, and comorbidities.

Methods

All stable 209 hemodialysis patients who have been on dialysis for over 6 months in this cross-sectional chart review study were studied. The association between CRP and other variables were reported using Chi-square test for categorical variables, independent sample t-test for continuous variables, and multivariate regression analysis.

Results

Based on chi-square test, it was found that the prevalence of a high level of CRP concentrations was more common among patients with Diabetes Mellitus ($p=0.008$) and those who were using antihypertensive medications ($p=0.044$) while the prevalence of high level of CRP concentration was less common among those who were underweight ($p=0.031$). In the multivariate regression model, negative Hepatitis C virus serum was associated with high-level of CRP concentrations ($p=0.006$).

Conclusion

There is an association between CRP levels with BMI, Diabetes Mellitus, the use of antihypertensive medications, negative or undetectable Hepatitis C virus test results.

Methods and Materials

- A quantitative cross-sectional study was conducted in King Abdulaziz Medical City and Dialysis Centers of King Abdullah Dialysis Program from January to March 2020.
- The study included 209 patients that were selected in a non-randomized consecutive sampling technique.
- The data were analyzed using SPSS and p-value of <0.05 was considered as statistically significant.
- The CRP cut-off point was more than $200\mu\text{g/ml}$.

Discussion

- In relation to Kt/v, which with higher values indicates the efficacy of the dialysis session, this study showed that the association between high CRP levels and low values of Kt/v is statistically significant, and lower values of the latter are associated with high morbidity and mortality rates 8,9.
- Patients with a history of hospitalization in the previous 12 months had higher CRP levels, with infections being the most common cause; similarly, CRP levels were higher in permcath access; many studies suggested that PC use has increased the risk of hospital admissions and infections, which might contribute to infections being the commonest cause of hospitalizations 10,11,12,13.
- Hepatitis c virus (HCV) positive patients were found to have a negative correlation. This might be explained by the fact that hepatitis C viral load will diminish the production of CRP levels by damaging the hepatocytes 14,15.
- Although not reaching a statistically significant level, there was an association between high CRP levels and high erythropoietin resistance index (ERI), supporting other studies which confirmed that high ERI was associated with cardiovascular mortality 16,17,18.

Introduction

- Chronic kidney disease (CKD) is either abnormal kidney function or structure that persists for more than 3 months, and it is confirmed by glomerular filtration rate (GFR) that is below $60\text{ mL/min/1.73 m}^2$ or by markers of kidney damage.
- When the GFR drops below 15 that is the stage when hemodialysis is indicated and labeled as an end-stage renal disease (ESRD) 1.
- End-stage renal disease patients undergoing hemodialysis are prone to develop inflammation that is detected by high serum C-reactive protein levels 3.
- A level of CRP ($\geq 200\mu\text{g/ml}$) is indicative of a poor prognosis based on certain factors 1,4.
- This review highlights the association between CRP and erythropoietin resistance index, hospital admission rate, control of mineral metabolism, and comorbidities.

Results

- HCV negative was the only independent significant risk factors associated with high CRP concentration where HCV negative patients were 5 times more likely to be more associated with high levels of CRP concentrations ($p=0.006$).

Table1: Level of CRP and the Baseline Characteristics of the Patients.

Factor	High N(%) ⁽ⁿ⁼¹⁰⁴⁾	Normal N(%) ⁽ⁿ⁼³⁸⁾	P-value [§]
Age group			
≤50 years	52 (20.1%)	12 (31.6%)	0.098
51 – 70 years	37 (28.4%)	16 (42.1%)	
≥70 years	15 (44.4%)	10 (26.2%)	
Gender			
Male	42 (51.2%)	16 (42.1%)	0.311
Female	19 (48.8%)	22 (57.9%)	
BMI level			
Underweight (< 18.5 kg/m ²)	09 (35.4%)	07 (18.4%)	0.031 **
Normal (18.5 – 24.9 kg/m ²)	39 (36.3%)	13 (34.2%)	
Overweight (25 – 29.9 kg/m ²)	45 (28.1%)	11 (28.9%)	
Obese (≥30 kg/m ²)	48 (30.3%)	07 (18.4%)	
Causes of CKD			
Not DM	51 (78.4%)	15 (39.5%)	0.008 **
DM	124 (80.6%)	23 (60.5%)	
HCV positive			
No	154 (36.2%)	30 (79.5%)	<0.001 **
Yes	36 (33.3%)	08 (21.1%)	

Table2: Clinical and Laboratory Characteristics in Relation to CRP Level.

Variables	Overall Mean \pm SD	High Mean \pm SD	Normal Mean \pm SD	P-value
Carlson comorbidity index	6.70 ± 2.89	6.92 ± 2.86	5.75 ± 3.05	0.063
Calculated Erythropoietin Index	20.5 ± 30.4	18.4 ± 11.7	26.9 ± 51.4	0.070
Kt/V	1.22 ± 0.28	1.19 ± 0.28	1.32 ± 0.28	0.009 **

Conclusion

- In conclusion, there was an association between CRP levels with BMI, diabetics, the use of antihypertensive medications, negative or undetectable HCV test results.
- These data suggest that patients meeting these characteristics are in an inflammatory state and more prone to develop complications; thus, implementing CPR testing in this population might be useful.
- Other reviews showing causations are needed to further elucidate.

References



Presenter Details

Name: Malak Alshukr, Meznah Alsanad
Batch number: 16
Email:
Alshukr051@ksau-hs.edu.sa
Alsanad007@ksau-hs.edu.sa

Faisal Almalki¹, Amjad Alsamti², Mohammed Aldawsari², Badr Alsaikhan^{1,3}, Mohammed F Shaheen^{1,2}

¹College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.
Department of Surgery, ²Division of Kidney Transplant, King Abdullah Specialist Children Hospital, Riyadh, Saudi Arabia.
Department of Surgery, ³Division of Urology, King Abdullah Specialist Children Hospital, Riyadh, Saudi Arabia.

Abstract

- Supravesical hernia is a rare type of hernia and typically causes intestinal obstruction, with only a few cases reported in the literature [7].
- In this reported case, we report an unusual manifestation of supravesical hernia which developed years post kidney transplant as a herniating dome of the bladder at the site of the incision and intermittently obstructed the implanted ureter and resulted in episodic hydronephrosis.
- The hydronephrosis significantly improved in the 3-month follow-up imaging. The patient continues to have satisfactory graft function with no recurrence.

Methods and Materials

A 53-year-old man who underwent a living donor kidney transplantation in the right iliac fossa in 1996, presented to clinic for regular follow-up with a well-functioning graft. He complained of an increasing inguinal bugle that becomes more prominent as the day progresses, and regresses at night. Upon further imaging investigations, moderate to severe hydronephrosis was noted along with herniation of the bladder and part of the transplanted ureter within the supravesical space. The patient underwent surgical repair in June 2022. Intraoperative findings revealed a sliding supravesical hernia with an elongated and redundant bladder dome, which seems to be leading to intermittent ureteric obstruction. The hydronephrosis significantly improved in the 3-month follow-up imaging.

Discussion

- Only few cases reported supravesical hernias leading to hollow viscus obstruction in the medical literature.
- This reported case would be the first case to report allograft ureteric obstruction in a supravesical hernia in patient who underwent kidney transplantation.
- Given the nature of the kidney transplant incision, patients maybe prone to supravesical incisional hernias particularly if the fascial incision doesn't leave several centimeters of intact rectus sheath medially.
- The surgical repair constituted of approximating the anterior rectus sheath to pubic tubercle and the reflecting edge of the inguinal ligament to re-establish of the inguinal floor, followed by the application of light Polypropylene Mesh in Lichtenstein-like fashion of repair.

Introduction

A common surgical condition in all ages and both sexes is ventral abdominal wall hernia [3]. Ventral hernia can be classified based on etiology into two main categories, congenital and acquired hernias. Previous surgery resulting in an incisional hernia, trauma, and repetitive stress on naturally weak regions of the abdominal wall are common causes of acquired ventral hernias. Umbilicus, semilunar line, ostomy sites, bilateral inguinal regions, and esophageal hiatus are all naturally occurring weak areas in the abdominal wall [4].

Of all abdominal wall hernias, incisional and para-umbilical hernias are the most common types and make up to 85% of all ventral abdominal hernias [3]. Most of the incisional hernias are associated with open abdominal surgeries compared to total laparoscopic approach [5].

A distinct entity is supravesical hernia which occurs in the supravesical fossa between the urachus remnants and the left or right umbilical artery. Depending on the location of protrusion, it is classified into internal and external supravesical hernia [6].

Results



Figure 1. Intraoperative picture showing Light Polypropylene Mesh in Lichtenstein-like fashion of repair.



Figure 2.
A) Hydronephrosis on preoperative coronal (CT) scan.
B) Significant improvement of hydronephrosis on a 10-month postoperative coronal (CT) scan.

Conclusion

The case illustrates a rare hernia as a late complication of the kidney transplant incision leading to ureteric obstruction and a successful attempt at operative repair.

References

Presenter Details

Name: Faisal Jamal Almalki
Batch number: 16
Email: AlmalkiF014@ksau-hs.edu.sa



SCAN ME

Jude Abanmi ¹; Deamah Alabdulkareem ²; Nahlaa Alkhawiter³; Nourah Alhadlq⁴; Maha AlHamdan⁵; Basel Dahlawi⁶; Majed Al-Eissa MD,^{1,2,3,4}

King Saud bin Abdul-Aziz University for Health Sciences, National Guard Health Affairs

Abstract

Background: The US Department of Health and Human Services reported 1550 to 1750 cases of child mortality secondary to maltreatment annually. 1175 children were physically assaulted in 2015, based on a recent local study.

Objective: The aim is to describe the patients' characteristics, outcomes, nature and severity of non-accidental visceral injuries among children presented to the 52 child protection centres across Saudi Arabia.

Methods: Retrospective cross-sectional (2017-2021). 30 cases included using non-probability consecutive sampling.

Result: A sharp increase in NAVI cases over the 5-year period was reported.

Discussion: There were variable findings in this study vs international studies about the victims' average age as well as gender predominance. However, this study had similar findings with other studies about the most affected organ.

Conclusion: A concerning increase in the number of cases over the years was documented, specifically after 2020. This can help in prevention/intervention strategies to reduce the incidence of NAVI.

Methods and Materials

- **Study design:** Retrospective cross-sectional
- **Study technique:** non-probability consecutive sampling
- **Sample size:** All recorded cases from 2017-2021 were collected (30 cases of NAVI)
- **Duration:** 2017 to 2021.
- **Study setting:** National Family Safety Program (NFSP)
- **Software for analysis:** SPSS
- **Inclusion criteria:**
 - Age < 18 years old
 - Evidence of NAVI
- **Collected variables are:**
 1. Demographical data of the victim and perpetrators such as gender, age, level of education, employment and health status .
 2. The affected organs.
 3. Outcome of the NAVI.

Discussion

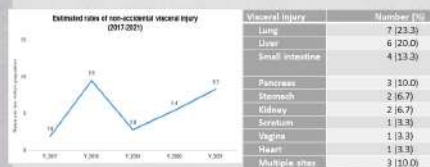
- A slight female predominance was noted, while other types of non-accidental injuries such as skeletal injuries occurred more in males.
- Lung and liver were the most affected organs, accounting for 23% and 20% of cases respectively, with liver injuries being consistent with other previous studies.
- The majority of NAVI cases required hospitalization, and a 23% of cases had a deteriorated medical status as well as the international records. However, the mortality rate due to NAVI in Saudi Arabia was lower compared to international records.
- The majority of perpetrators were males less than 30 years old which is constant with international data.
- 50% of perpetrators were one or both parents, while the other half were siblings, this differs from studies in the UK and the USA that found parents to be mostly the offenders.
- Some studies suggested that child abuse is more common in perpetrators with limited education, while others suggested it is more commonly with highly educated perpetrators. Our study found that 54% of the perpetrators had a high school education, and only one perpetrator had a higher education level.

Introduction

Non-accidental visceral injuries (NAVI) refer to purposely inflicted injuries on a child that results in damaging the victim's internal organs. Physical child abuse in many cases results in NAVI, which is the leading cause of morbidity and mortality, affecting 2% to 3% of children. A recent study in Saudi Arabia with a sample of 2043 cases discovered that 1175 of the children were physically abused in 2015. Furthermore, the number of proven child abuse cases has increased in 2009 compared to prior years, according to the National Family Safety Program Registry (NFSPR). The true prevalence of abusive visceral injuries is difficult to be accurately determined due to two main factors. First, the caregiver often gives a misleading or incomplete history. Second, visceral traumas frequently occur without any external signs or clear evidence of injury unless the child was properly and thoroughly examined. Based on our findings, there is no research on visceral injuries resulting from non-accidental events. Thereby, this research shall identify the clinical characteristics of these cases (demographics and patterns of injuries) as well as their outcomes (morbidity, mortality, hospitalization, and dispositions).

Results

Victims data	Number (%)
Age	
Mean (year)	6.5±4.7
Gender	
Male	12 (40.0)
Female	18 (60.0)
Living arrangement	
Both parents	24 (80.0)
Single parent	6 (20.0)
Health status before abuse	
Healthy	24 (80.0)
Chronic illness	2 (6.7)
Unknown	4 (13.3)
Previous history of abuse	
Yes	7 (23.3)
No	14 (46.7)
Unknown	9 (30.0)
Alleged perpetrator known	
Yes	24 (80.0)
No	6 (20.0)
Admission	
Ward	14 (46.7)
ER/Clinic	8 (26.7)
ICU	7 (23.3)
Mortuary	1 (3.3)
Victim's final health status	
Well	15 (50.0)
Deteriorated	7 (23.3)
Unknown	6 (20.0)
Dead	2 (6.7)



Perpetrators data	Number (%)
Relation to victim	
Both parents	2 (6.7)
Father	5 (20.8)
Mother	5 (20.8)
Sibling	6 (25.0)
Other	6 (25.0)
Age group (year)	
<18	8 (33.3)
19-30	7 (29.1)
31-40	6 (25.0)
41-50	3 (12.5)
Gender	
Male	15 (62.5)
Female	9 (37.5)
Marital status	
Married	10 (41.6)
Single	10 (41.6)
Divorced	3 (12.5)
Separated	1 (4.2)
Level of education	
Elementary	3 (12.5)
Intermediate	4 (16.7)
High school	13 (54.2)
Higher education	1 (4.2)
Health condition	
Healthy	20 (83.3)
Chronic illness	2 (8.3)
Addict	2 (8.3)

Conclusion

- Some these injuries can go unnoticed due to lack of external manifestation
- Family members might be a factor in the problem which makes it a further challenge.
- Importance of providing physicians with this data to be able to identify and treat those injuries properly.
- We recommend identifying certain modalities that can help better detection of the patterns of injuries.

References

1. Roatan JB, Patrick DA, Bonard DD, Hendrickson RL, Verroos T, Srinivas AK, Kanar JM. Visceral injuries in nonaccidental trauma: spectrum of injury and outcomes. *Am J Surg*. 2005 Dec; 190(427-9):1016-1019. [PubMed: 16355600]
2. Children's Bureau. Administration for Children & Families. Child maltreatment (2018). Accessed November 18, 2021: <https://www.acf.hhs.gov/ncj/210841/child-maltreatment-2018>
3. Al-Eissa MA, Alabdulkareem D, Sayed M, Saleheen M, Ruyssen D, Ghomrad M. Determining child maltreatment incidence in Saudi Arabia using the ICAT-CH: a pilot study. *Child Abuse Negl*. 2015 Apr; 42:174-82. [PubMed: 25404048]
4. Kulkarni PC, Raptopoulos YD, Brill PA. Occult non-skeletal trauma in the battered child syndrome. *Radiology*. 1981 Nov; 141(593-4):1145-1146. [PubMed: 7231266]
5. Ng CS, Hall CM, Shaw DG. The range of visceral manifestations of non-accidental injury. *Arch Dis Child*. 1997 Aug; 77(723):167-74. doi: 10.1136/adc.77.2.167. PMID: 9303362; PMCID: PMC117290.
6. Swift CJ, Taylor GA, Cichlerberger MR. Visceral injury in battered children: a changing perspective. *Radiology*. 1989 Dec; 173(3):659-61. doi: 10.1148/radiology.173.3.659. PMID: 2813769.
7. Al-Hassani C, Ramoona M, Alsal O, Sharobah MR, Alsowayh K. Child physical and sexual abuse in Dammam, Saudi Arabia: A descriptive case-series analysis study. *Egyptian Journal of Forensic Sciences*. 2012 Mar; 12(1):35-51.

Presenter Details

- Deamah Alabdulkareem
- Batch 18
- alabdulkareem10007@ksau-hs.edu.sa
- 966553282916



Two-Year Outcomes of Combined Deep Sclerectomy and Phacoemulsification verses iStent implantation and Phacoemulsification in Open Angle Glaucoma.



Khalid Aldihan, MD¹; Nayef Alotaiby, MD¹; Faisal Aldihan²; MusaAlrashedi¹

¹Ophthalmology Department, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia, ²College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

Abstract

Background: iStent injection is often combined with phacoemulsification for treating patients with cataract and glaucoma. **Methods:** A retrospective comparison was done on eyes that underwent combined phacoemulsification and deep sclerectomy surgery or combined phacoemulsification and iStent injection from 2017 to 2022. The primary outcome measures were changes in intraocular pressure (IOP) and medication burden. **Results:** 101 eyes were included in the current study. At 2 years postoperatively, the mean IOP was 14.9 ± 4.46 mmHg for the DS group and 15.2 ± 3.5 mmHg for the iStent group. Moreover, the mean reduction in the medication burden was similar between groups (1.3 ± 1.7 medications). **Conclusion:** Phacoemulsification combined with either deep sclerectomy or iStent injection is effective and safe for treating patients with cataracts and open angle glaucoma.

Methods and Materials

This retrospective study was conducted at the King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia. This study included all eyes that underwent phacoemulsification combined with deep sclerectomy (DS group) or iStent injection (iStent group) from 2017 to 2022. Eyes diagnosed with open-angle glaucoma (both primary and secondary) with at least six months of postoperative follow-up were included.

Traumatic glaucoma, primary angle closure glaucoma, and other types of glaucoma were excluded. Eyes with a previous history of glaucoma surgery were also excluded. Eyes with severe glaucoma where IOP was not controlled with anti-glaucoma medications were excluded from enrollment.

Postoperative data were collected on 8 follow-up assessment visits to monitor the change in glaucoma indices. Data analyses were limited to three main follow-up time points at 6 months, 12 months, and 24 months or last follow-up assessment visit (between 6 and 24 months).

Discussion

The DS Group had a lower IOP mean over the duration of the 2 year follow up compared to the iStent group (14.9 mmHg vs. 15.2 mmHg, respectively). These results were expected as previous studies have document low postoperative IOP for the majority of patients after filtration and bleb-dependent surgeries such as deep sclerectomy.^{11,22} However, comparison of the mean reduction in IOP, indicated no significant differences between groups at all follow up visits in the current study. Although not statistically significant, the difference in the mean IOP reduction between groups increased over the duration of follow-up in the current study. This can be explained by the progressive increase in anti-glaucoma medication use postoperatively in the DS Group compared to the iStent group.²³⁻²⁵

Both procedures resulted in a similar decrease in the burden of medication from approximately three medications pre-op to 1.9 medications in the DS Group and 1.4 medications in the iStent group at 2 years postoperatively. There was a significant difference in the mean reduction of the burden of medication between groups at 6 months postoperatively and not at any other postoperative visit. This outcome is likely due to the need for further interventions in the DS Group in the early postoperative period compared to the iStent group. Additionally, filtering surgeries tend to have low IOP measurements in the early postoperative period.^{11,22} The decrease in the burden of medications may result in better patient compliance.^{5,6}

Introduction

Glaucoma is a major cause of irreversible blindness worldwide. It is considered the second most common cause of blindness.¹ Globally, there are estimated to be 111.8 million people with glaucoma by 2040. The primary goal of glaucoma treatment is to lower the intraocular pressure (IOP) to limit and delay damage to the optic disc. Medical treatment associated with multiple limitations, including severe ocular surface damage and IOP fluctuation. Additionally, drop instillation is usually needed more than once daily resulting in poor patient compliance that can lead to treatment failure.^{5,6}

Currently, ab-externo filtering procedures are considered the gold standard for severe progressive disease. Deep sclerectomy enhances aqueous outflow by dissecting the juxtacanalicular meshwork on the inner wall of Schlemms canal.¹⁰⁻¹²

Over the past decade minimally invasive glaucoma surgeries (MIGS) have been increasingly used as a surgical option due to their safety profile, lower disruption to the ocular tissue, and compatibility with concurrent cataract surgery compared to the traditional incisional glaucoma surgeries.^{3,4,12,13} Some MIGS procedures such as the iStent reduce IOP by enhancing outflow into Schlemms canal and the collector channels.¹² The iStent is micro-bypass device consisting of an injector preloaded with two titanium stents.

This study compared the outcomes of phacoemulsification combined with either the iStent device or deep sclerectomy in patients with open angle glaucoma and cataracts.

Results



Figure 1: Mean IOP over time for DS group and iStent group

At 24 months postoperatively, the difference in IOP reduction between the two groups groups was not statistically significant ($P = 0.062$)

Medication Dependence:

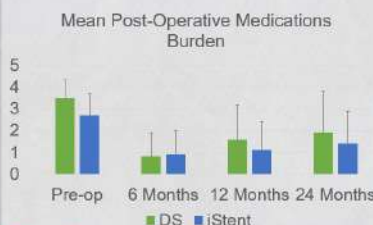


Figure 2: Mean medication burden over time for DS group and iStent group

There was no statistically significant difference in the decrease in medication use between groups at 2 years postoperatively ($P = 0.74$)

Table 1: Comparison of the mean reduction in IOP and medication use

	DS group Mean±SD	iStent group Mean±SD	P value
Mean IOP Reduction			
Month 6	3.4±8.1	2.7±4.7	0.225
Month 12	3.3±7.3	1.5±5.1	0.121
Month 24	5.3±7.6	1.1±4.9	0.062
Mean Reduction of Medications			
Month 6	2.7±1.3	1.8±1.4	0.001*
Month 12	2.0±1.7	1.4±1.5	0.126
Month 24	1.3±1.7	1.3±1.7	0.743

Conclusion

Phacoemulsification combined with either DS or iStent for managing patients with primary open angle glaucoma and cataracts resulted in comparable postoperative IOP reduction and decreased medication burden. Both combined procedures had a high safety profile and low rates of complications. More patients in DS group required further revision procedures. Phacoemulsification combined with iStent injection may be a valid option for patients with severe primary open angle glaucoma that is controlled with medications to achieve better IOP control and quality of life.

References



Presenter Details

Faisal Abdulaziz Aldihan
Batch 16
Email:
Aldihan470@ksau-hs.edu.sa
Faldihan@gmail.com

Osama A. Alrodman¹; Fahad Alwadi²; Mohammed Almahd²; Majed Pharaon³

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

²Otolaryngology, Ministry of National Health Affairs, Riyadh, Saudi Arabia

³Department of Pathology and Laboratory Medicine, Ministry of National Guard, Riyadh, Saudi Arabia

Abstract

Introduction: Sinonasal non-intestinal type adenocarcinoma (n-ITAC), an uncommon head & neck tumor located in the nasal cavity and paranasal sinuses.

Case presentation: 43-year-old male complaining intermittent epistaxis 8-months duration. As a result, CT and a biopsy was taken and confirmed the diagnosis of n-ITAC. The patient underwent subtotal endoscopic septectomy without any complications. The patient is now well and discussing cosmetic options for rhinoplasty.

Discussion: The patient is frequently exposed to wood dust making them highly susceptible to n-ITAC. Biopsy revealed findings consisted with a more malignant subtype of n-ITAC, which is very rare.

Conclusion: low-grade n-ITAC has a good prognosis if resected early. However, it follows aesthetic concerns.

Methods and Materials

- 43-year-old male presented with intermittent unilateral epistaxis with blood clots, nasal obstruction and headache for 8-months duration. The patient is frequently exposed to wood and dust given his maintenance work.
- Endoscopic assessment anterior septal crustations and right nasal mass occupying the whole nasal cavity.
- On CT mild mucosal hyperatrophy of inferior nasal turbinates along with non-enhancing soft tissue mass in the right anterior nasal cavity (fig 1).
- Nasal Endoscopic examination with mass excision for biopsy revealed n-ITAC diagnosis with pathological stage of pT1 NX.
- Immunohistochemistry positive for CK7, S100 and Ki-76.
- Mitotic figures are counted at 3 per 10 high power fields (fig 3).

Discussion

- High level of suspicion is necessary to minimize diagnostic delays.
- Individuals with low-grade n-ITAC commonly demonstrate persistent epistaxis, which is easily misdiagnosed as simple nasal dryness.
- A similar case reported by Wilkerson et al (2019) in a patient with ALL that developed n-ITAC as a result of radiation exposure, which raises suspicion on undiscovered relationship between ALL radiation exposure & sinonasal n-ITAC^[5].
- The exact etiology of low-grade n-ITAC remains elusive. Nonetheless, the regular exposure to wood and dust in our patient puts him at a greater risk than others^[6].
- The distinction between low-grade and high-grade n-ITAC is crucial, as they both have distinct clinical behavior and prognosis.
- Mitotic figures are believed to be extremely rare in low grade n-ITAC and more prevalent in the more malignant high-grade n-ITAC subtype^[7].

Introduction

- Paranasal sinuses and nasal cavity cancers are relatively uncommon pathologies, accounting for 1% of all cancers and 3% of Head & Neck Cancers^[1].
- Low-grade n-ITAC represents an uncommon subtype of sinonasal adenocarcinomas, they occur mostly in the nasal cavity, ethmoid sinuses and maxillary sinuses.
- It is presumed that n-ITAC tumors are of seromucinous gland origin and has the potential of arising anywhere in the sinonasal tract.
- Clinical presentation primarily involves nasal obstruction and epistaxis lasting 2 months to 5 years^[2]. Overall, patients tend to have a favorable prognosis with a 5-year survival rate reaching up to 85%^{[3][4]}.
- Given that n-ITAC is potentially curable disease, long-term survival can be achieved if diagnosed early with adequate intervention. We therefore report on a rare case of sinonasal n-ITAC further adding to the limited number of cases in the literature.

Results

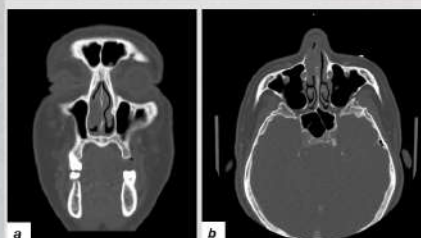


Figure 1 a-b: Preoperative Computed Tomography (CT) scan of paranasal sinuses with contrast.

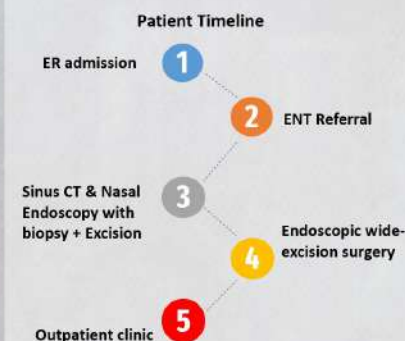


Figure 2: patient timeline of events from admission to follow-up

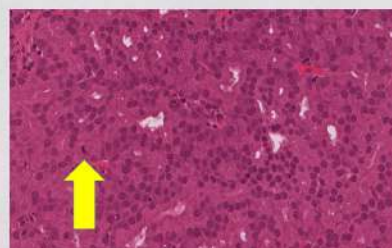


Figure 3: Compact glands with bland, monotonous, round nuclei. Arrow indicates a mitotic figure (H&E*, original magnification x400) *Hematoxylin and Eosin.

Conclusion

This case report demonstrates the need of keeping a high clinical index of suspicion for a sinonasal cancer when a patient presents with a history of chronic, unilateral epistaxis and exposure to dust and wood. The prognosis for low-grade n-ITAC is excellent, with full recovery following total surgical excision. Yet, this may be at the expense of aesthetic concerns.

References



SCAN ME

Presenter Details

Name: Osama Alrodman
Batch number:16
Email: alrodman@outlook.com
Alrodman001-ksau-hs.edu.sa
[linkedin.com/in/osamaalrodman/](https://www.linkedin.com/in/osamaalrodman/)



Incidence And Predictors of Portal Vein Thrombosis And Mortality In Patients With Liver Cirrhosis: A Retrospective Matched Case-Control Two Centres Study.



Ftoon Alenezi¹; Sadeem Aleid¹; Lama Binsaeed¹; Ghada Almaziad¹; Renad Alshalan¹; Fahad Aleidan^{1,2}

1- Professor, Basic Medical Science Department, College of Medicine, King Saud Bin Abdulaziz University For Health Sciences, Riyadh, Saudi Arabia.

2- King Abdulaziz Medical City, Riyadh, Saudi Arabia

3- College of Medicine, King Saud Bin Abdulaziz University For Health Sciences, Riyadh, Saudi Arabia.

Abstract

BACKGROUND: Splanchnic vein thrombosis is an uncommon event and occurs more frequently in patients with liver diseases. It encompasses the thrombotic involvement of portal, mesenteric, splenic veins, and in Budd-Chiari syndrome (BCS). **AIM:** The aim of this study was to assess the Incidence, predictors of portal vein thrombosis (PVT) and mortality in patients with liver cirrhosis at King Abdulaziz Medical City in Riyadh and Jeddah, Saudi Arabia. **METHODS:** In this study, patients data were collected retrospectively and all variables were applied to different measurements such as CTP score and MELD to assess the relations between multiple variables. Univariate and multivariate Cox regression were used for predictors associated with PVT and death in cirrhotic patients. **RESULTS:** The study population consisted of 550 patients with liver cirrhosis in total; 275 patients (50%) were cases of liver cirrhosis with PVT, while 275 patients (50%) without PVT were considered as the control group. Regarding their age, sex, BMI, concurrent illnesses, and bleeding, there were no discernible variations between the case and control groups. Nonetheless, there were considerably more deaths in the case group 60 (21.8%) than in the control group 34 (12.4%). **CONCLUSION:** The study findings concluded that liver cirrhosis patients with PVT have significantly increased mortality and comorbidity rates such as hepatocellular carcinoma, hepatitis C virus and hypercoagulability disorders.

Methods and Materials

- This retrospective matched case-control study was conducted at King Abdulaziz Medical City (KAMC) in Riyadh and Jeddah, Saudi Arabia.
- All patients (N=550) with liver cirrhosis throughout the time frame of January 2016 to December 2021 were included. Incidence, mortality, and predictors of visceral thrombosis in cirrhotic patients have also been recorded in addition to demographic data.
- A total of 275 patients (203 patients) and Jeddah (72 patients) were enrolled.
- The study participants were included in the study according to the inclusion criteria which involves adult patients 18 years and above, thrombosis is objectively confirmed using ultrasound (US) or computed tomography (CT) scan, anticoagulation received for at least three months, and events were documented in patient's electronic chart by the medical record number (MRN).
- Data was collected from hospital records at (KAMC), Riyadh and Jeddah, using BestCare system.

Discussion

CTP ≥ 9 increases the risk by 1.80 folds.

Similarly, some studies had proven that advanced CTP B and C score were linked with PVT development in patients with liver cirrhosis.

MELD ≥ 14 was associated with increased risk of 2.50 folds. Similar study stated that the readmission of cirrhotic patients noticeably increased by 1.05 to 1.2 times due to high MELD score.

Systemic infections was associated with 2.15 folds risk. Additionally, in a study done to analyze inflammatory biomarkers found a correlation with IL-6 levels being 2.5 higher in cirrhotic patients with PVT.

Hepatocellular carcinoma (HCC) is one of the independent risk factors we found with 1.76 folds risk of PVT in cirrhotic patients. This statement was supported by a study done by Violi et al that reported 35% of HCC among PVT patients.

A significant predictor we found associated with mortality was Low serum albumin level ≤ 24 , which showed a 4.32 folds risk increase. In a study done by Lopez-Gomez et al, it recognized that high albumin levels was a protective factor against PVT.

Introduction

Portal vein thrombosis (PVT) is a complete or partial occlusion of the trunk of the portal vein or in either left or right intrahepatic branches. The clinical presentation of patients with PVT varies, ranging from asymptomatic findings during incidental imaging to nonspecific signs and symptoms like mild to moderate abdominal pain, nausea, vomiting, anorexia, constipation, or diarrhea. Under certain circumstances, such as mesenteric thrombosis and intestinal ischemia, patients may present with severe abdominal pain, hypotension, and occasionally death. Moreover, there are many risk factors favouring the occurrence of PVT including liver cirrhosis and solid tumor since they account for 25% of all cases.

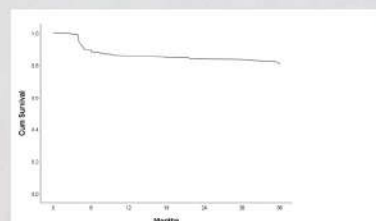
PVT is a serious condition that can result in a variety of complications as well as a high risk of mortality in Saudi Arabia, there are lack of investigations regarding visceral vein thrombosis. Furthermore, Wu, Schuster, and Tadros (2019) reported that the clinical management of some types of visceral thrombosis is still considered vague. In order to better understand this illness, this research work conducts a retrospective matched case-control study to estimate the incidence, mortality, and predictors of PVT in Saudi Arabia.

Results

- There were no significant differences found between the cases and control groups regarding their age, sex, BMI, concurrent illnesses, and bleeding. However, the number of deaths was significantly higher in cases than in control group (60 (21.8%) vs. 34 (12.4%), $P < 0.003$).

Variables	Univariate HR (95% CI)	P value	Multivariate HR (95% CI)	P value
CTP ≥ 9 *	3.07 (2.15-4.40)	<.001	1.80 (1.49-3.71)	.002
MELD ≥ 14 *	4.40 (3.10-7.49)	<.001	2.50 (1.61-4.15)	.001
HCV	1.80 (1.22-2.44)	<.001	1.31 (1.59-2.62)	.475
Systemic infections	2.20 (1.35-3.78)	<.001	2.15 (1.56-2.97)	.002
Hypercoagulability disorder	2.18 (1.60-2.76)	<.001	1.96 (1.24-3.06)	.004
Hepatocellular carcinoma	2.10 (1.49-2.81)	<.001	1.76 (1.25-2.74)	.003
Serum albumin level ≤ 26 mg/L*	2.68 (2.09-3.44)	<.001	1.80 (1.21-2.69)	.004

Variables	Univariate HR (95% CI)	P value	Multivariate HR (95% CI)	P value
CTP ≥ 11 *	4.10 (2.63-6.26)	.032	2.06 (1.28-3.99)	.005
MELD ≥ 16 *	5.65 (3.40-9.40)	<.001	2.65 (1.44-4.91)	.001
Hepatocellular carcinoma	2.46 (1.48-4.10)	<.001	2.00 (1.05-3.80)	.035
Hypercoagulability disorder	1.77 (1.01-2.85)	.041	1.36 (1.58-2.97)	.144
PVT	4.68 (3.03-7.02)	<.001	1.90 (1.10-4.56)	.007
HCV	1.78 (1.21-2.59)	.040	1.05 (1.64-3.84)	.188
Systemic infection	2.52 (1.44-4.38)	.001	1.98 (1.05-3.80)	.038
Low serum albumin level ≤ 24 *	6.82 (4.83-12.84)	<.001	4.32 (2.07-9.00)	<.001



Conclusion

The study findings concluded that CTP ≥ 9 , MELD ≥ 14 , Systemic infections, Hypercoagulability disorder, Hepatocellular carcinoma, and low serum albumin level are predictors associated with PVT in liver cirrhosis patients in addition to increased mortality and comorbidity rate.

References



Presenter Details

Name: Ftoon Alenezi
Batch 18
Email: Alenazi146@ksau-hs.edu.sa
Phone : 0552775972



Diagnostic Efficacy of RealStar SARS-CoV-2 Reverse Transcription-Polymerase Chain Reaction (RT-PCR) in Comparison to GeneXpert System for the Detection of COVID-19



Dunia M Jawdat ^{1,2}, Gadah S Aljarallah ², Maha A Albakr ², Reema M Alajlan ², Reem F Almesfir ², Nada F Alqudaibi ², Ali A Al-shehri ³, Maram M Albalawi ⁴, Sameera M Aljohani ^{1,2,3}.

1. King Abdullah International Medical Research Center, Ministry of National Guard Health Affairs (MNGHA), Riyadh, Saudi Arabia.
2. College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.
3. Molecular Microbiology lab, Department of Pathology and Laboratory Medicine, King Abdulaziz Medical City, Ministry of National Guard Health Affairs (MNGHA), Riyadh, Saudi Arabia.
4. Department of Biostatistics and Bioinformatics, King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

Abstract

Background: The coronavirus disease 2019 (COVID-19) pandemic has become a major health concern due to the rapid transmission of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). To address the growing demand on healthcare systems to control this pandemic, more effective diagnostic methods need to be applied.

Methods: In this study, we aimed to compare the efficacy of RealStar® SARS-CoV-2 reverse transcription-polymerase chain reaction (RT-PCR) versus the GeneXpert® system. A retrospective cross-sectional study was conducted in the central lab of King Abdulaziz Medical City (KAMC) in Riyadh, Saudi Arabia. Data from all nasopharyngeal swabs (NPS) (150,000) submitted for SARS-CoV-2 analysis from July 2020 to July 2021 were reviewed retrospectively.

Results: The diagnostic performance of the RealStar® and GeneXpert® assays in detecting SARS-CoV-2 was evaluated using ROC curve analysis, which showed AUCs of 0.597 and 0.637, respectively.

Conclusion: Based on the AUC of ROC, there is no significant difference in the performance characteristics between the RealStar® RT-PCR and GeneXpert® in detecting COVID-19.

Methods and Materials

A retrospective cross-sectional study was conducted in the central lab of King Abdulaziz Medical City (KAMC) in Riyadh, Saudi Arabia. Data from all nasopharyngeal swabs (NPS) (150,000) submitted for SARS-CoV-2 analysis from July 2020 to July 2021 were reviewed retrospectively. Furthermore, all NPS (n=384) that were analyzed on both the RealStar® SARS-CoV-2 RT-PCR and GeneXpert® systems for confirmatory purposes were included in the study. Acute respiratory illness (ARI) screening forms of the selected samples were reviewed from the electronic database, and they were analyzed and compared at one point in time; therefore, a cross-sectional study was found to be the best suitable study design. Using the statistical analysis software, the receiver operating characteristic (ROC) curve was obtained to compare the sensitivity (Sn), specificity (Sp), positive predictive value (PPV), and negative predictive value (NPV). The test was considered significant if the area under the curve (AUC) value was >0.5.

Discussion

The purpose of this study was to compare the performances of RealStar® and GeneXpert® in detecting COVID-19. The findings showed many similarities between RealStar® and GeneXpert® in detecting COVID-19. Both had similar sensitivity; however, RealStar® had slightly higher specificity than GeneXpert®.

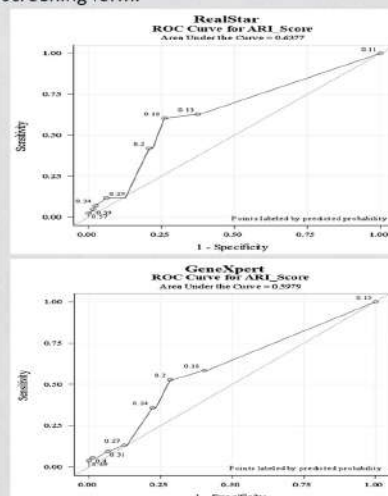
In summary, this study showed comparable performance between the two kits that we used for testing. Additionally, the advantage of RealStar® over GeneXpert® lies in its ability to process a larger number of samples simultaneously, making it the best option for mass-scale testing, whereas GeneXpert® can be lifesaving in emergencies [8]. Therefore, because GeneXpert® has a higher sensitivity, it could be used to rule out COVID-19, meaning it could be employed as the first-line method in detecting COVID-19, whereas RealStar® could be used to confirm COVID-19.

Introduction

Coronaviridae is a family of the most common large, enveloped, and single-stranded RNA respiratory viruses [1]. A few types of coronaviruses have contributed to multiple health outbreaks around the world [2,3]. For example, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which was first reported in late December 2019, has caused highly contagious viral illnesses leading to a pandemic known as coronavirus disease 2019 (COVID-19) [4,5]. The World Health Organization (WHO) has stated that hundreds of thousands of COVID-19 cases have been confirmed in Saudi Arabia, illustrating its local significance [6]. This contagious viral illness has not only had tragic effects on Saudi Arabia but also on the whole world, causing millions of fatalities worldwide [7]. The different coronavirus-related outbreaks have led to the development of many diagnostic tests to determine the spread of the virus [5]. As a response to the initial outbreak, detection tests were important to enhance containment and mitigation strategies and avoid uncontrolled viral spread [5]. Due to the lack of comparative analyses related to this topic in the literature, we conducted a retrospective cross-sectional study to assess the performance and diagnostic efficacy of RealStar® SARS-CoV-2 RT-PCR compared to those of the GeneXpert® system as a diagnostic method for COVID-19 based on nasopharyngeal swabs (NPS) sent to King Abdulaziz Medical Lab, Riyadh, Saudi Arabia. This comparative study will attempt to assess the efficacies of the two tests, aiming to provide more insights into the diagnostic process.

Results

The diagnostic performance of the RealStar® and GeneXpert® assays in detecting SARS-CoV-2 was evaluated using ROC curve analysis, which showed AUCs of 0.597 and 0.637, respectively. In addition, 35% of the total results fell into a substantial agreement of 0.76 (95% CI: 0.6626-0.8732). The majority of the NPS were reported negative by both RealStar® (246, 80.66%) and GeneXpert® (226, 74.10%). Most samples (210, 68.85%) were obtained from asymptomatic patients, scoring less than 4 (ARI <4) based on the ARI screening form.



	RealStar® (n=289)	GeneXpert® (n=279)
True positive	26 (28.89%)	28 (30.43%)
False positive	17 (8.54%)	25 (13.37%)
True negative	182 (91.46%)	162 (86.63%)
False negative	64 (71.11%)	64 (69.57%)
Sensitivity	28.89%	30.43%
Specificity	91.46%	86.63%
Positive predictive value	60.47%	52.83%
Negative predictive value	73.98%	71.68%

Conclusion

According to the AUC of ROC, the findings of this study indicate that there is no significant difference between the performance characteristics of RealStar® and GeneXpert® in detecting COVID-19. Moreover, these two kits could be used interchangeably.

References



Presenter Details

Name: Gadah Sultan Aljarallah
Batch number : 17
Email: GhadaAljarallah@outlook.com
Phone optional : -

Azouf Alsulaiman¹; Sarah Alrashid¹; Sara Alabdulkareem²; Raneem Najjar¹; Abdullah Arafat³; Yazeed AlGhonaim³
¹College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia, ²College of Medicine, King Saud University Medical City, Riyadh, Saudi Arabia, ³Otolaryngology department, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Saudi Arabia.

Abstract

Background: Rhinoplasty and revision rhinoplasty are facial cosmetic operations that have potentially profound psychological implications for an individual. As with any surgery, rhinoplasty carries risks, and the aim of this study was to explore female high school students' interest in rhinoplasty and their awareness about its postoperative complications in Riyadh, Saudi Arabia.

Methods: We employed a cross-sectional design for the study, which included 413 female high school students, 14 to 17 years old. Participants signed a consent form and data was collected through an online survey. A validated questionnaire tested for reliability was used.

Results: A total of 413 female high school students responded to our survey, and 135 completed questionnaires were received. Among the students, 74.3% would not consider undergoing rhinoplasty, and the most common reason was satisfaction with their nose (69.4%). The total mean knowledge score was 6.01 (SD 3.27) out of 12 points, with 61.7% classified as having poor knowledge levels, and the rest (38.3%) were considered as having good awareness.

Conclusions: The number of teenagers wanting rhinoplasty is increasing, and questions about their knowledge level, attitude and perspective about the procedure should be important considerations for the surgeon.

Methods and Materials

A cross-sectional study design was conducted.

Our study included 413 female high school students ages 14 to 17 years old who responded to the survey.

The participants' data was collected through an online survey distributed via social platforms to high school girls in all areas of Riyadh, Saudi Arabia.

The level of knowledge and interest in rhinoplasty were compared with the socio-demographic characteristics by using the chi-squared test.

Discussion

Our results showed that almost half of the participants were happy with the shape of their nose and were not contemplating surgery. However, more than half of the female high school students in Kerman, Iran stated that they would like to undergo rhinoplasty.

Over half of our sample population had less than average knowledge about the possible postoperative complications of rhinoplastic surgery.

A number of studies suggested that psychological disturbances or poor general mental health can urge people toward rhinoplasty.

In fact, a Norwegian study revealed that an interest in rhinoplasty was more likely in young women presenting with body dysmorphic disorder.

This subject is an important one, and further studies should be done in Saudi Arabia to assess the psychological aspects of an interest in rhinoplasty.

Introduction

-Derangements in the nose, whether from surgery or trauma have numerous implications for the emotional well-being of the individual.

-In recent years, the number of rhinoplasty operations has increased in Saudi Arabia and currently represents 30% of all cosmetic surgery procedures.

-Although severe complications are rare, there are many short- and long-term complications that could lead to aesthetic dissatisfaction, patient disappointment, and even functional problems.

-The aim of this study was to explore female high school students' interest in rhinoplasty and their awareness about its postoperative complications in Riyadh, Saudi Arabia.

Results

A total of 413 female high school students responded to our survey and 135 completed questionnaires were received.

Nearly half of the students [48.7%] were happy about the current form of their nose. The proportion of students who were not interested in rhinoplasty was 74.3%, and the most common reason was satisfaction with their nose [69.4%].

Regarding knowledge about rhinoplasty complications, students were aware that the most common complication of rhinoplasty was dissatisfaction with the new nose [70.5%].

Table 1: Students' attitude toward rhinoplasty and their knowledge about its complications (n=135)

Attitude Statement	N (%)
How do you feel about your nose?	
• Happy	201 (48.7%)
• Not happy	85 (20.1%)
• Don't care	129 (31.2%)
Do you want to do a rhinoplasty?	
• Yes	196 (25.7%)
• No	307 (74.3%)
Why do you want to do a rhinoplasty? (n=196)	
• For beauty	79 (40.3%)
• For health reason	11 (5.6%)
• To show off	88 (44.9%)
• To catch up with the mode	64 (32.7%)
• Others	64 (32.7%)
What type of doctor would you like to operate on you? (n=196)	
• Doctor who works well	97 (49.5%)
• Doctor with good manners	66 (33.7%)
• Doctor who charges less	62 (31.6%)
• Doctor who has lots of patients and is busy	61 (31.1%)
Why don't you want a rhinoplasty? (n=307)	
• I like my nose as it is	213 (69.4%)
• Religious reasons	24 (7.8%)
• Plastic surgery is of no use	21 (6.8%)
• Fear of operation	20 (6.5%)
• Fear of side effects	14 (4.6%)
• Don't have enough money	64 (21.2%)
• Other reasons	11 (3.6%)
Knowledge about rhinoplasty complication	Yes (%)
1. Dissatisfaction with the new nose	291 (70.5%)
2. Headache	290 (68.2%)
3. Breathing disorders	231 (56.0%)
4. Nose blockage	270 (65.4%)
5. Sensitivity to strong odors	247 (58.1%)
6. Recurrent nosebleed	242 (58.6%)
7. Nasal discharge	217 (52.5%)
8. Need for respiration	194 (47.0%)
9. Skin discoloration	182 (43.2%)
10. Recurrent nausea and vomiting	121 (29.3%)
11. Recurrent nasal mucosal irritation	120 (29.1%)
12. Death	49 (11.6%)
Total knowledge score (mean ± SD)	6.01 ± 3.27
Level of knowledge	
• Poor	255 (61.7%)
• Good	138 (38.3%)

Conclusion

Since the number of teenagers wanting rhinoplasty is increasing, assessing their knowledge and their attitudes and perspectives about it should be an important part of the patient work-up for the surgeon performing the operation.

To contribute to a more successful surgical outcome and an understanding of the potential risks and complications can provide greater satisfaction for the patient.

References



Presenter Details

Name: Azouf Alsulaiman,
 Sara Alabdulkareem
 Batch number: 16
 Email: Alsulaiman275@ksau-hs.edu.sa,
Sara.alabdulkareem@gmail.com

Razan Almulhem²; Eman Balahmar²; Raghad Almutairi²; Danah Aleesa²; Dareen Ashgar²; Nazish Masud^{3,4}; Hasan Al-Dorzi^{1,2}

¹Consultant, Intensive Care Department, King Abdulaziz Medical City, Riyadh, Saudi Arabia.

²College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

³Department of Epidemiology, Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro, GA USA.

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

Introduction

- Status epilepticus (SE) is a continuous seizure lasting longer than five minutes or multiple episodes within five minutes without returning to a normal state of consciousness between episodes.^{1,2}
- Complications range from altered level of consciousness to death with 20% mortality.³
- The study aims to evaluate the management and outcomes of adult SE patients admitted to the Intensive Care Unit (ICU).

Methods and Materials

- A retrospective cross-sectional study was conducted to evaluate patients diagnosed with SE aged ≥ 14 admitted to the ICU in King Abdulaziz Medical City in Riyadh, Saudi Arabia.
- This study followed a consecutive sampling technique during the period 2016 to 2021.
- BESTCare was reviewed for Patients' data and SPSS for data analysis.

Discussion

Consistent with the literature:

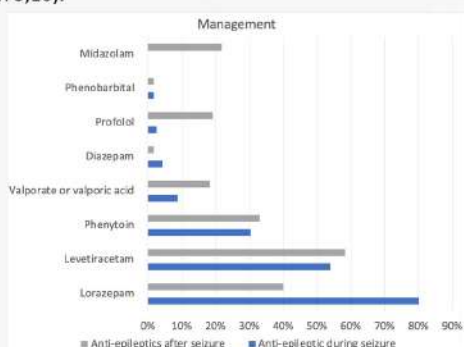
- Lorazepam and Levetiracetam use.^{4,5}
- Most patients improved by discharge.⁶
- CKD was considered as predictors of poor outcome.^{7,8}

Inconsistent with the literature:

- Lower mortality rate.^{9,10}
- Low initial GCS and age didn't predict poor outcome.^{11,12,13}

Results

- 115 SE patients were admitted to the ICU during the study period.
- Their median age was 38 years (IQR 26, 59); 72/115 (62.6%) patients were males.
- 38/115 (33.0%) had hypertension and 34/115 (29.6%) diabetes.
- 68/115 (59.1%) were on antiepileptic therapy before presentation.
- 85.7% had generalized tonic-clonic seizures and the median Glasgow Coma Scale (GCS) was 7 (IQR 3,10).



- Outcomes of SE patients are shown in Table1.
- Worse outcome, defined as Glasgow Coma Scale < 14 or death, occurred in 36 patients (31.3%).
- On multivariate logistic regression, chronic kidney disease (CKD) (OR 10.44, 95%CI 1.223-89.215, $P = 0.032$) was associated with worse outcomes, and no other association was found in other comorbidities and CT findings.
- Old stroke (OR 0.236, 95%CI 0.058- 0.950, $p = 0.042$) decreased the odds of poor outcome.

Table 1: Outcomes of SE

Outcome	n (%)
Tracheostomy	21 (18.26%)
Death or discharge with GCS < 14	36 (31.3%)
Death during ICU stay	5 (3.5%)
Death during the hospital stay.	6 (5.2%)
Outcome	Median (IQR)
Duration of mechanical ventilation (days)	4 (Q1,Q3 2, 10)
ICU length of stay (days)	4 (Q1,Q3 2, 10)
Hospital length of stay (days)	13 (IQR 2, 11)
GCS at ICU discharge (median)	14 (IQR 3, 10)
GCS at hospital discharge (median)	15 (IQR 9, 15)
GCS for hospital survivors (median)	15 (IQR 13, 15)

Conclusion

- Most patients admitted to the ICU due to SE were young, a minority had abnormalities in brain CT or cerebrospinal fluid and baseline electrolyte abnormalities were common.
- Lorazepam was the most abortive medication used.
- 1/5 patients required tracheostomy
- 1/20 patients died in hospital.
- CKD was a predictor of poor outcome.

References



Presenter Details

Name: Razan Almulhem
Batch number: 18
Email: almulhem196@ksau-hs.edu.sa
Phone: 966534566996

Mohammed Almusallam³, Mohammed Asiri^{1,2}, Yasser Almashari³, Yazeed Allarakia³, Riyadh Alhedaithy^{1,2,3}

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

Abstract

Background:

Rhinosinusitis is an inflammatory condition that affects the mucosa of the nasal cavity along with paranasal sinuses. In rare cases, acute rhinosinusitis might lead to significant orbital and intracranial complications. The aim of this study is to review the patients presented with orbital or intracranial complications of acute rhinosinusitis to identify the main outcomes of these complications and their prognosis.

Methods:

A retrospective chart review of patients with orbital or intracranial complications of acute rhinosinusitis who presented to the Otolaryngology department at King Abdulaziz Medical City, Riyadh, Saudi Arabia from 2016 to 2022.

Results:

A total of 43 patients with orbital, intracranial, or both (orbital and intracranial) complications of ARS were included. The most involved sinuses were maxillary sinuses. The most reported orbital complication was subperiosteal abscess, and the most reported complication was epidural abscess.

Conclusion:

Orbital and intracranial complications of ARS are serious and life-threatening if not recognized early and treated effectively. The majority of ARS complications in this study were orbital complications.

Methods and Materials

After obtaining ethical approval, a retrospective cohort study was performed at King Abdulaziz Medical City in Riyadh, Saudi Arabia.

Charts of all patients who visited the hospital and were diagnosed with orbital or intracranial complications of ARS from the period of January 2016 to December 2022 were reviewed.

The target population of the study were pediatric above 1 year and adult patients who presented to Otorhinolaryngology department with intracranial or orbital complications of acute sinusitis. The sample size was 43 patients.

Inclusion criteria:

Male and female patients, all patients presented with intracranial or orbital complications as a result of acute sinusitis, all nationalities

Exclusion criteria:

Age less than 1-year, pregnant patients, patients presented with complications other than intracranial or orbital, patients with chronic sinusitis

Discussion

There is a variation in the time taken for the orbital complication to give rise to symptoms like eye swelling, eye discharge which is not as long as the time needed for intracranial complications to present with symptoms. In addition, many patients may present with multiple sinuses involvement at first presentation.

Frontal and sphenoid sinus involvement in ARS is a high risk to develop intracranial complications. In literature, the sphenoid sinus is considered one of the main sources of intracranial complications which can be a result of its contiguous location to the cranial cavity⁷. Additionally, sphenoid sinus inflammation can hardly present with rhinologic signs. Headache on the other hand can be the only presenting symptom that makes it a challenging clinical diagnosis and require early CT imaging. In another study, it was shown that ethmoidal sinuses were the most affected location in their cases and the maxillary sinuses were third, while our study demonstrated the maxillary sinus to be the most affected⁸.

Most of the patients were managed surgically in addition to antibiotics and symptomatic treatment, in which we found a favourable number of these cases had improved signs and symptoms. Surgical interventions included functional endoscopic sinus surgery to clear the involved sinuses and drain accessible subperiosteal abscesses. Craniotomy or burr hole evacuation of brain abscesses, and evacuation of orbital abscesses through external approach. Nonetheless, there has been a recurrence of abscess formation in one case, and one mortality was found among the patients.

Introduction

The most causative pathogens for acute rhinosinusitis (ARS) are viruses like rhinovirus, coronavirus, and adenovirus, along with bacterial and fungal organisms. It can affect children younger than 15 years and most commonly adults between 25 to 64 years.

Complications of acute rhinosinusitis are divided into orbital, intracranial, and bony complications¹. The orbital spread of infection is the most common complication of acute rhinosinusitis². According to Chandler's classification: orbital complications are divided into preseptal cellulitis, orbital cellulitis, subperiosteal abscess, orbital abscess, and cavernous sinus thrombosis³. It is characterized by eyelid edema, erythema, chemosis, proptosis, blurred vision, fever, headache, and double vision⁴. Furthermore, intracranial complications which are known to be another complication of ARS have potentially life-threatening consequences including subdural empyema, epidural and intracerebral abscess, meningitis, and sinus thrombosis^{5,6}. In our study, we will focus on orbital and intracranial complications of acute rhinosinusitis to expand our perspective and identify the main outcomes of these complications and their prognosis to shed a light on their significance and effect among the patients.

Results

- A total of 43 patients with orbital, intracranial, or both (orbital and intracranial) complications of ARS were included. Patients' ages ranged from 1.5 to 69 years
- A total of 29 cases had orbital complications with 7 patients presenting with both orbital and intracranial complications.

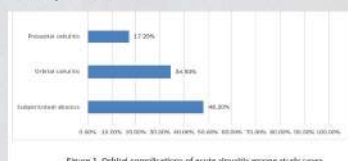


Figure 1. Orbital complications of acute sinusitis among study cases

- A total of 21 cases had intracranial complications due to ARS with 7 patients presenting with both orbital and intracranial complications



Figure 2. Intracranial complications of acute sinusitis among study cases

Outcome	No.	%
Management of patients with Orbital complications		
Surgery and antibiotics	6	27.3%
Antibiotics only	10	72.7%
Management of patients with Intracranial complications		
Surgery and antibiotics	10	73.4%
Antibiotics only	4	26.6%
Management of patients with Orbital and Intracranial complications		
Surgery and antibiotics	7	100%
Antibiotics only	0	0%
Length of stay		
< 5 weeks	16	77.2%
5-7 weeks	14	52.6%
> 7 weeks	13	100.2%
Prognosis		
Improved	41	95.3%
Death	1	2.3%
Recurrence of intracranial disease	1	2.3%

Conclusion

Acute rhinosinusitis is a common disease with a possibility to develop complications. Orbital and intracranial complications of ARS are serious and life-threatening if not recognized early and treated effectively. The majority of ARS complications in this study were orbital complications with subperiosteal abscess being the most common type. Most patients with orbital complications have been treated conservatively with antibiotics.

References



Presenter Details

Mohammed Hamoud Almusallam
Batch 16
almusallam220@ksau-hs.edu.sa
+966549302811

Nazish Masud^{1,2}, Shahad Alenezi³, Ohoud Alsayari³, Deemah Alghaith³, Rana Alshehri³,
Danah Albarrak³ and Sami Al-Nasser^{1,2}

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

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

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

Abstract

This study evaluated the perception of SA among medical students at a governmental university in Saudi Arabia. A cross-sectional study with 336 currently enrolled medical students was conducted from September 2020 to May 2021. The data were collected using an electronic survey comprised of the THENet questionnaire. The results showed that Out of the 336 participants, the mean age was 21.26 ± 0.5 years and 189 (56.3%) were males. Most participants (173, 52%) scored in the 18–36 range, reflecting good perceived SA. The demographic profile of students was significantly associated with perceived SA. In conclusion, most medical students had a good level of perceived SA about their institution. The preclinical year students exhibited a better perception of SA. The final-year students were more critical about the SA of the institution compared to other students.

Methods and Materials

Study Design and Setting:

A cross-sectional questionnaire-based survey was conducted in Riyadh campus between September 2020 and May 2021 at KSAU-HS.

Study Participants:

All medical students studying preclinical and clinical phases, both male and female campuses, both stream I, and stream II. The final sample was 336 students.

Data Collection Tool and Process:

The data were collected using an electronic survey comprised of the THENet questionnaire that included 12 items to assess the perception of SA and some demographic variables. The total score was categorized into four groups and compared with the demographic profile of students.

Discussion

One of the notable findings of the study was the highest mean score associated with the item evaluating the location of the medical practice and the future posting preference of medical students. The result can be associated with the core of KSAU-HS mission, which is to graduate qualified physicians for community services and promote the concept of SA. An interesting finding of the study was that students perceived the school did not promote general specialties, such as family medicine and general practice (GP). Another study conducted at KSAU-HS in which two-thirds of the medical students refrained from choosing a general specialty as a future career option. Unlike our study population, medical students from universities in the United Kingdom were more inclined toward opting for GP as a future specialty for practices. Younger students reported a better perception of SA. A study conducted at Qassim University concluded that clinical year students are at higher risk of developing mental conditions impacting their perception of SA. For the overall level of SA, most participants scored within the range of 18–26, indicating signs of weaknesses, despite the school's improved efforts.

Introduction

Social accountability (SA) includes citizen-led efforts to hold public officials, lawmakers, and service providers accountable for their acts and performance in providing services, enhancing people's welfare, and preserving their rights.

The WHO defines SA in the context of medical education as the responsibility to focus education, research, and service activities on tackling the most pressing community health issues.

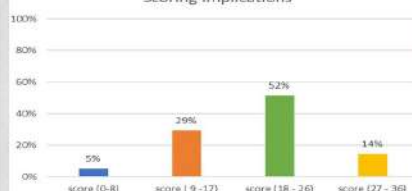
The literature evaluating SA of medical schools is limited; however, some international studies have revealed a lack of understanding of SA by medical students. This study evaluated the perception of SA among medical students at a governmental university in Saudi Arabia.

Results

Out of the 336 participants, the mean age was 21.26 ± 0.5 years, with most students in the 19–21 age group ($n = 154$, 46%), and 189 (56.3%) were males. In addition, preclinical and clinical students had similar representation: 170 (51%) and 166 (49%), respectively. Most participants (173, 52%) scored in the 18–36 range, reflecting good perceived SA. The demographic profile of students (i.e., age, GPA, and year of study) was significantly associated with perceived SA ($p = 0.003$, 0.002 , and < 0.001 , respectively).

Variables	Categories	SA categories				p-value
		Score 0-8 (8%)	Score 9-17 (17%)	Score 18-26 (52%)	Score 27-36 (23%)	
Age categories	19-21 years	4 (3%)	30 (20%)	98 (63%)	27 (19%)	0.0007
	22-25	10 (6%)	42 (24%)	11 (6%)	21 (12%)	
Gender	Male	4 (3%)	11 (6%)	8 (5%)	9 (5%)	0.38
	Female	6 (4%)	42 (24%)	75 (47%)	21 (12%)	
Year of study	Year 1	9 (6%)	55 (32%)	98 (52%)	27 (16%)	<0.001
	Year 2	4 (3%)	22 (12%)	51 (29%)	18 (10%)	
	Year 3	0 (0%)	20 (11%)	52 (30%)	7 (4%)	
	Year 4	0 (0%)	28 (16%)	48 (28%)	18 (10%)	
Phase of study	Pre-clinical	14 (8%)	54 (32%)	54 (30%)	9 (5%)	0.0007
	Clinical	1 (1%)	58 (34%)	75 (47%)	18 (10%)	
City level	Urban	13 (8%)	62 (36%)	117 (69%)	41 (23%)	0.17
	Rural	0 (0%)	16 (9%)	18 (10%)	7 (4%)	
Education level	High school	13 (8%)	62 (36%)	117 (69%)	41 (23%)	0.17
	University	0 (0%)	16 (9%)	18 (10%)	7 (4%)	
Work	1-4	8 (5%)	11 (6%)	19 (11%)	4 (2%)	0.0002
	5-8	0 (0%)	21 (12%)	58 (34%)	14 (8%)	
Teaching faculty	Non-Local	4 (3%)	29 (16%)	58 (34%)	14 (8%)	0.03
	Local	0 (0%)	23 (13%)	40 (23%)	18 (10%)	
Parents background	No healthcare background	10 (6%)	70 (40%)	120 (70%)	38 (21%)	0.35
	Healthcare background	1 (1%)	12 (7%)	41 (23%)	10 (6%)	
Living background	No healthcare background	0 (0%)	48 (28%)	87 (50%)	21 (12%)	0.38
	Healthcare background	0 (0%)	31 (18%)	68 (39%)	27 (15%)	

Scoring implications



Conclusion

The study concludes that most medical students had a good level of perceived SA about their institution. The preclinical year students exhibited a better perception of SA. The final-year students were more critical about the SA of the institution compared to other students.

References



Presenter Details

Name: Ohoud Saad Alsayari
Batch number: 16
Email: Alsayari276@ksau-hs.edu.sa
Phone optional

Najla Al-rasheed1; Renad Aljohani2; Haneen Khair2; Noof Al-Harbi2; Nahlah Al-Otaibi2; Shahad Al-Edrees2; Aamir Omair3

1 Department of Medicine, King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia.
2 College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

Abstract

Background: Percutaneous radiologic gastrostomy (PRG) is the method of choice for patients incapable of ingesting nutrition orally. The complications related to PRG are classified into major and minor complications. This article presents the prevalence of major and minor complications of PRG among adult patients admitted to King Abdulaziz Medical City (KAMC) in Riyadh, Saudi Arabia between 2017 and 2018.

Methods: This was a retrospective cross-sectional study

Results: A total of 105 patients who underwent PRG were covered with a mean age of 69.2 ± 20.4 years. Most of the complications reported were minor (40%). None of mortalities were related to the PRG tube.

Conclusion: This study found that the PRG procedure had low rates of complications, and none of the mortalities were related to the tube itself.

Methods and Materials

Study design and area: This was a cross-sectional study that was conducted by reviewing electronic medical records at KAMC.

Study participants:

An estimated sample size was 278. Patients who received a new PRG tube and these patients had to be followed for one-year, adult patients above 18 years, and both males and females of all nationalities were considered for inclusion.

Data collection process and analysis: Data were collected using a data sheet. The data were entered into an Excel sheet and analyzed by (SPSS). The chi-square test was used to identify the association between the utilization of PRG tubes and complications.

Discussion

In this research, the main indication for PRG insertion was neurogenic pharyngeal dysphagia in 31% of cases. In contrast to other research, neurological disease was the main indication in 59.6% of patients [18]. According to this research, in KAMC, the incidence of minor complications (73%) was higher than the major complications (39%), like other studies in this aspect [19,20].

For minor complications, in previous studies, leakage was recorded as one of the least occurring minor complications [18,20]. However, in the current study, leakage was found to be the most common minor complication that developed following a PRG.

In this study, age was not associated with the incidence of any of the major or minor complications of PRG.

Furthermore, there were no significant differences between the presence of the comorbidities and the complication of PRG insertion detected, except for the internal hemorrhage group.

None of the mortalities were related to the procedure. Therefore, based on the results of this study and other literature, procedure-related mortality is low, and PRG is considered safe in clinical practice [1,21,22].

Introduction

In 1981, the radiologic insertion of gastrostomy tubes emerged [5]. Percutaneous radiologic gastrostomy (PRG) is the least invasive of all other gastrostomy approaches. Also, it is associated with the least risk of post-procedure complications and has more favorable outcomes [3]. According to the Society of Interventional Radiology, PRG complications are designated into major and minor complications. Major complications, such as aspiration, hemorrhage, and infection [9]. In addition, minor complications such as obstruction, tube displacement, and skin-related conditions [1,8,9]. PRG is primarily indicated to replenish nutrients depleted in patients with dysphagia and anorexia [1,13,14]. Contraindications to the PRG procedure are mainly massive ascites in the infra-colic, gastric displacement due to an intrinsic abdominal tumor, or altered gastric anatomy following partial gastrectomy. Other anatomical barriers include hepatosplenomegaly and hiatal hernia [17]. This study aimed to measure the prevalence of PRG complications and identify the major and minor complications of PRG.

Results

	Mean	SD*
Age	69.2	20.4
Body Mass Index (kg/m ²)	25.2	5.7
	N*	%*
Gender		
Male	58	55%
Female	47	45%
Indications		
Nutritional support for neurogenic pharyngeal dysphagia	33	31%
Nutritional support for elderly dementia and inadequate oral intake	30	29%
Terminal cancer patient	14	13%
Other	35	33%

	N*	%*
Minor complications		
Leakage	48	47%
Stomal infection	45	41%
Tube dislodgment	39	37%
Tube occlusion	20	19%
Other	5	5%
Major complications		
Major skin complications	19	18%
Abscess	17	16%
Internal hemorrhage	9	9%
Peritonitis	5	5%
Other	2	2%

For major complications, the mean of comorbidities was greatest in patients with post-insertion internal hemorrhage, with a value of 4.9 ± 1.8 .

The p-values of major and minor complications are all greater than 0.05 in relation to the mean age.

The mortality during the first 30 days post-insertion was 5% (n = 5), and the mortality during the first-year post-insertion was 20% (n = 21). However, none of the deaths were related to the PRG tube.

Conclusion

In conclusion, PRG tube insertion is a relatively safe procedure. It has major and minor complications, with a higher prevalence of minor complications. The total number of comorbidities is not a risk for any of the major complications, except for the internal hemorrhage, and none of the minor complications. Age is also not a risk factor for major or minor complications. Mortality is not directly related to PRG tube insertion.

References



Presenter Details

Name: Nahlah Nawaf Alotaibi
Batch number: 16
Email: nahlanawaf@gmail.com
Phone optional: 0554420198



Dermatological Conditions in the Intensive Care Unit at a Tertiary Care Hospital in Riyadh, Saudi Arabia



Ghida Saleh Altammami¹, Sarah Khalid Alswayed¹, Mohammed I AlJasser MBBS FRCP 1,2,3,
Rayan A Alkhodair MBBS FRCP 1,2,3

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

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

³ Division of Dermatology, Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia.

Abstract

- Certain skin conditions may arise in intensive care units (ICUs) or require ICU admission.
- This is a retrospective study of all ICU admissions with dermatological manifestations.
- The most reported category was skin infections.
- The most common dermatological disorder were morbilliform drug eruption.
- Dermatological disorders are commonly encountered in the ICU and could range in severity.

Methods and Materials

- A descriptive retrospective chart review study conducted at the adult, pediatric and neonatal ICU at king Abdul-Aziz medical city hospital in Riyadh, Saudi Arabia.
- All patients with dermatological condition or consulted by dermatology in the period from January 2016 to December 2020 had their charts reviewed and data collected through an excel sheet.
- Dermatological diagnoses, category of the disease and related subcategories were tabulated and graphed.

Discussion

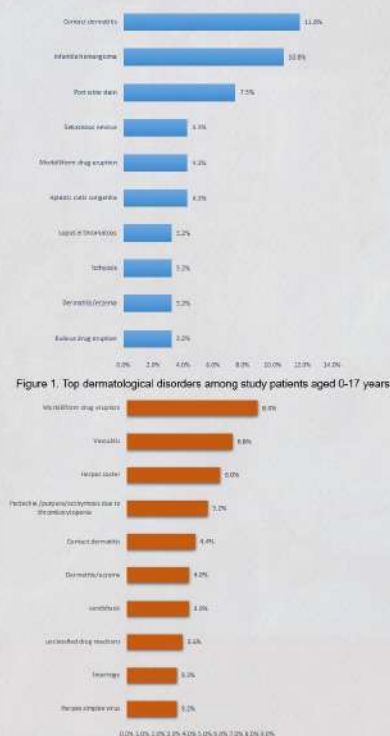
- Infectious dermatological diseases were most common (19.5%), which is similar to a previous report [5].
- Among infectious conditions, viral infections were the most reported (40.8%) with herpes zoster accounting for the majority (58.6%)
- Our study showed morbilliform drug eruption was the most common diagnosis (6.8%). Compared with a previous study ADRs accounted for only 3.7% [6].
- We found contact dermatitis (11.8%) to be the most common diagnosis among children and adolescents. In contrast, infections causes were responsible for most of the dermatological manifestations among paediatrics [7].

Introduction

- The fact that dermatology is frequently thought of as an outpatient specialty with a low mortality rate must be acknowledged.
- Some skin conditions can arise in the ICU, or it can be very serious enough to require ICU admission [1,2].
- Data showed that 42.2% of severely ill patients had dermatological manifestations [3].
- Dermatological disorders are commonly encountered in the intensive care unit and could range in severity
- This study aims to evaluate all patients with various dermatological conditions admitted in the ICU.

Results

A total of 344 ICU patients with different dermatological conditions were included. The most common skin disorders were morbilliform drug eruption (6.8%), followed by contact dermatitis (6.3%), vasculitis (5.5%). Infectious conditions (19%), drug reactions (17%), and dermatoses due exogenous factors (12.6%) were the most prevalent general categories of skin diseases



Conclusion

- There is a wide range of severity of dermatological disorders in the ICU.
- Infections, drugs, and external factors cause the most skin diseases.
- Providing optimal care and ensuring better outcomes requires collaborative care between dermatologists and intensivists.

References

- 1- T. Green, A. R. Manara, and G. R. Park, "Dermatological conditions in the intensive care unit," *Hosp Update*, vol. 15, pp. 367-376, 1989.
- 2- S. Enns, C. Enns, G. Akoglu, D. D. Darris, and A. Metri, "Evaluation of dermatological consultations of patients treated in intensive care unit," *Dermatology*, vol. 226, no. 1, pp. 75-80, 2013.
- 3- M. Badia et al., "Classification of dermatological disorders in critical care patients: a prospective observational study," *J Crit Care*, vol. 28, no. 2, pp. 223-231, 2013.
- 4- W. U. Nowak, "Dermatology in the Intensive Care Unit," *Our Dermatol Online*, 2012; 3(4): 298-303.
- 5- Agrawal, P., Patel, J. V., & George, R. (2013). Dermatological manifestations and relationship to outcomes of patients admitted to a medical intensive care unit: a study from a tertiary care hospital in India. *Postgraduate medical journal*, 89(1055), 501-507.
- 6- Prashanth, G. P., & Pai, V. V. (2012). A retrospective cohort study of dermatological problems observed in paediatric intensive care unit. *Journal of the European Academy of Dermatology and Venereology* : JEADV, 26(9), 1105-1108.

Presenter Details

Name: Ghida Saleh Altammami , Sarah Khalid Alswayed.
Batch number: 16
Email: Ghaidaaltammami@gmail.com
Phone: 0532192689



Opinion of Geneticist Regarding Performing Preimplantation Genetic Testing for Monogenic Disorder (PGT-M) for Variants of Unknown Significance



Reema Alduaiji³, Laila Alqahtani³, Reema Alqadiri³, Lena Alotaibi³, Mostafa abolfotouh² Majid Alfadhel^{1,2,3*}

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

² King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

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

Abstract

Preimplantation genetic testing (PGT) is a technique used to identify a pathogenic variant in embryos created through in vitro fertilization. A "variant of uncertain significance" (VOUS) is a genetic variant discovered through genetic testing but with unknown clinical significance. The primary goal is to gauge geneticists' perspectives on performing PGT-M for VOUS in Saudi Arabia, which results in the development of recommendations from higher authorities regarding the criteria of PGT-M in clinical practice. In addition, after reviewing the literature, the cross-sectional study questionnaire was developed, and survey monkey was used to create this questionnaire. A total of 96 Saudis and non-Saudis, male and female geneticists, agreed to participate in the study. The most important finding of this study is that 64% of geneticists were opposed to performing PGT-M for VOUS. Another significant finding was that 94.5 percent of geneticists agreed that PGT-M is poorly understood. Future researches with a larger sample size are required for performing PGT-M for VOUS, which helps in developing guidelines for PGT-M in Saudi Arabia.

Methods and Materials

Study Design and Setting:

A cross-sectional questionnaire-based study was conducted all around Saudi Arabia hospitals with a genetics department.

Study Participants:

A total of 96 participants, Saudis and non-saudis, male and female geneticists who agreed to participate in the study.

Data Collection Tool and Process:

This questionnaire was developed after reviewing literature using survey monkey. The reliability of the questionnaire was assessed in terms of internal consistency and Test-retest were assessed by Cronbach's alpha

Discussion

The most remarkable finding in this study is that the opinion of geneticist was significantly against performing PGT-M for VOUS. Ultimately, this led the geneticists' decision to go with the parents' opinion on whether or not to perform PGT-M.

Detailed genetic counseling regarding performing PGT-M for VOUS and its expected psychological stresses is necessary for the parents. Ultimately this led, the geneticist's decision to go with the parents' opinion on whether or not to perform PGT-M. In addition, geneticists have agreed on the need of mentioning that whether or not PGT-M is performed it will not guarantee a genetic disorder free embryo.

Despite the fact that it is censorious that PGT-M is performed using tests that have been verified and tailored for the couple, there have been multiple incidents of misdiagnosis. Misdiagnosis can occur due to sample-specific factors, such as chromosomal mosaicism in the embryo. It could possibly be a technique-specific issue, such as maternal or paternal contamination or allele dropout.

Introduction

When one or both of the parents have a known genetic abnormality and at high risk of inheriting it to their offspring, Preimplantation genetic testing for monogenic disorders (PGT-M) or its previous term preimplantation genetic diagnosis (PGD) is one of the options to prevent the recurrence of the disease in future pregnancies. Preimplantation Genetic Testing for Monogenic disorder (PGT-M) is a technique that identifies a pathogenic variant in the early developing embryos created through in vitro fertilization before pregnancy. A "variant of uncertain significance" (VOUS) is defined as a genetic variant discovered through genetic testing but whose relevance is unknown.

Results

Out of 96 geneticists, 56 (59.6%) were females. The majority of the participants were of Saudi ethnicity with a percentage of (76.6%). The most remarkable finding of this study indicates that 64% of geneticist were against performing PGT-M for VOUS. Another major finding was that 94.5% of geneticists agreed that there is a lack of knowledge about PGT-M.

Statements	AG	NS	DA
1. PGD is an early form of genetic testing and, when combined with IVF, enables gestation of only unaffected embryos.	43 (91.2)	5 (5.5)	3 (3.3)
2. There is lack of knowledge and evidence regarding performing PGD for monogenic diseases (PGT-M) for variants of unknown significance (VOUS).	46 (94.5)	4 (4.4)	1 (1.1)
3. I will not perform PGD for monogenic diseases (PGT-M) for variants of unknown significance (VOUS).	55 (64.7)	25 (28.4)	5 (5.9)
4. Informed consent is needed to perform PGD for monogenic diseases (PGT-M) for variants of unknown significance (VOUS).	50 (96.8)	2 (2.2)	1 (1.1)
5. I will go with the opinion of the parents, after detailed genetic counseling to perform PGD for monogenic diseases (PGT-M) for variants of unknown significance (VOUS).	75 (82.5)	10 (11.0)	6 (6.6)
6. Patients at risk of a genetic disorder have the right to choose not to know of their carrier status. Non-disclosure PGD or exclusion PGD can enable this while offering the option of conceiving mutation-free children who will not go through similar emotional turmoil.	65 (82.3)	10 (12.7)	4 (5.1)
7. Informed consent is needed only in case the parents insist to do PGT-M.	48 (52.8)	21 (23.1)	22 (24.2)
8. Couples should be counseled on ethical issues relevant to their PGD and the expected psychological stresses during the decision-making process and the IVF-PGD treatment	52 (100)		
9. When performing PGT-M for VOUS you need to include in detailed genetic counseling there is a risk of having a baby with genetic disorders whether you do PGT-M or not	52 (98.9)	1 (1.1)	
10. Patients who are at risk and/or family members at reproductive age should be counseled on IVF-PGD as an option to conceive healthy children, as early as possible to maximize their chances of conception	45 (96)	2 (2.3)	1 (1.1)
11. Most carriers of genetic mutations opt for PGD over prenatal testing to avoid facing the difficult decision of whether or not to terminate an affected pregnancy or to give birth to a sick child	72 (83.7)	9 (10.5)	5 (5.8)
12. A patient carrying a known genetic mutation or chromosomal abnormality can choose to use IVF-PGD to prevent transmission of the genetic abnormality to their offspring and future generations	46 (95.6)	4 (4.4)	
13. Thousands of children born after PGD seem as healthy as 69 those delivered after natural conception or after IVF and/or ICSI treatments only for infertility	69 (88.1)	7 (9.0)	2 (2.6)

Conclusion

This study showed that most of the geneticists were against performing PGT-M for VOUS and agreed that there is a lack of knowledge about PGT-M due to lack of guidelines and lack of researches regarding PGT-M. Therefore, future researches are needed regarding ethical considerations of PGT-M and its implication as it will help higher authorities in developing the guidelines for PGT-M regarding VOUS usage in clinical practice in Saudi Arabia.

References



Presenter Details

Name: Laila Alqahtani
Batch number: 17
Email: Alqahtani065@ksau-hs.edu.sa

Authors: Faisal Khalid N Alfakeeh¹, Yazeed Mohammed A Alghamdi¹, Bassam Fawaz S Alharbi¹, Abdulaziz Falah M Alotaibi¹, Khalid Abdulrahman M Alsaleh¹, Abdullah Mohammed A Alshubaili¹, Ryan Hussam A Mrcabi¹, Farhan Kassar alenazi¹, Dr. Awad Almuklass^{1,2}

1-King Saud bin Abdulaziz University for Health Sciences, 2-King Abdullah International Medical Research Center

Abstract

Objective: determine the relationship between HbA1c and different types of stroke, and how comorbidities and risk factors are related to stroke. **Methods:** This study was conducted at KAMC. We included patients who had stroke between 2015 and 2020. **Results:** 976 patients were included, of whom 670 were males. Hemorrhagic stroke (HS) was higher in males, while ischemic stroke (IS) was higher in females. IS was higher in ages >65, while HS was higher among those aged <65. The mean HbA1c levels in all types of stroke were abnormally high, and especially higher in IS. Mortality was reported in 16 patients and was higher in the IS group. HbA1c levels were higher in patients with IS. **Conclusion :** HS was more common in males, while IS was higher in females. IS had a higher occurrence but a lower mortality rate than HS.

Methods and Materials

This retrospective chart review was conducted at KAMC. Informed consent was not required. However, to ensure the safety and privacy of patient data, any information that identified the patient was removed and replaced with a code. This study employed a non-probability convenient sampling method. A total of 976 patients met the inclusion criteria. Inclusion criteria was patients aged 18-100 years admitted with IS, HS, or TIA. Data was collected using BestCare. All data were collected between 2015 and 2020 which included demographics, clinical data such as medical history, laboratory results, and imaging. Stroke was classified as IS, TIA, or HS. Regarding HbA1c, WHO guidelines for diabetes and hypertension were followed. A HbA1c value greater than 6.5% and blood pressure greater than 140/90 were considered high^{8,9}.

Discussion

An increase in HbA1c is associated with first-time stroke in patients with or without diabetes¹⁰. A study done on patients with AF and DM found that stroke risk is increased in patients with HbA1c of >7% . HbA1c levels >9% significantly increased the mortality risk¹¹. A meta-analysis found that diabetes was less prevalent in HS¹². A study conducted in KSA found that the most common subtype of stroke in diabetics was large artery disease, which is a subtype of IS. In addition, most of the patients who developed stroke had diabetes¹³. Another study in KSA found that HbA1c levels were higher in patients with stroke and that IS was associated with poor glycemic control¹⁴. In our study, the number of patients aged 65 years and older was approximately 408. In 2009, a study found that the stroke incidence in males was about 30% higher¹⁵. Females have a higher risk of TIA and IS¹⁶, whereas males had a higher incidence of HS¹⁷. AF increases the risk of stroke by up to five times and is related to IS^{18,19}. CAD was found to increase the risk of stroke by almost three times²⁰. A study conducted in KSA found higher mortality rates in patients with HS²¹. A study conducted in the Middle East found that HS was more lethal²².

Introduction

Stroke refers to the sudden neurological deterioration caused by a decrease in blood supply¹. It is the second most common cause of mortality and morbidity worldwide and in Saudi Arabia^{2,3}. According to a report by the AHA in 2022, there were approximately 765,000 cases of stroke in the US⁴. Stroke is responsible for 165,000 deaths annually⁵. Statistics regarding stroke are insufficient when considering Saudi Arabia; however, a study conducted in 2020 suggested that there are 29 stroke cases per 100,000 people annually⁶. The two main types are IS and HS. IS accounts for 87% of all stroke cases worldwide⁴. The other type is HS, which accounts for approximately 10% of all strokes. Non-modifiable risk factors for stroke include age, sex, race, ethnicity, and genetic factors. On the other hand, modifiable risk factors for stroke include hypertension, atrial fibrillation, hyperlipidemia, diabetes mellitus, physical inactivity, and transient ischemic attack. A recent study found a bimodal distribution between stroke development and HbA1c levels⁷.

Results

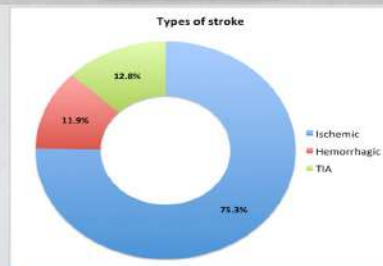


Table 1: Comparison of HbA1c levels (n=976)

	Mean	Std. Deviation	Minimum	Maximum	p-value
Ischemic	8.17	2.34	3.25	18.87	0.027
Hemorrhagic	7.73	2.24	4.60	15.70	
TIA	7.43	2.36	4.50	14.80	
Total	8.05	2.34	3.25	18.87	

HbA1c: Hemoglobin A1c; TIA: Transient Ischemic Attack

Table 2: Distribution of different types of stroke according to patient medical history and demographics

			Type of Stroke			Total	p-value
			Ischemic	Hemorrhagic	TIA		
Sex	Male	n	500	95	75	670	0.001
		%	74.8%	14.2%	11.2%	100.0%	
	Female	n	235	21	50	306	
		%	76.8%	6.9%	16.3%	100.0%	
Age	<65 years	n	410	82	76	568	0.008
		%	72.2%	14.4%	13.4%	100.0%	
	>65 years	n	325	34	49	408	
		%	79.7%	8.3%	12.0%	100.0%	
Previous Stroke	No	n	565	101	102	768	0.031
		%	73.6%	13.2%	13.3%	78.7%	
	Yes	n	170	15	23	208	
		%	81.7%	7.1%	11.1%	21.3%	
Previous CAD/AF/VHD	No	n	561	107	109	807	0.003
		%	73.2%	13.3%	13.5%	82.7%	
	Yes	n	144	9	16	169	
		%	85.2%	5.3%	9.5%	17.3%	
Previous TIA	No	n	719	110	118	953	0.013
		%	75.4%	12.2%	12.4%	97.6%	
	Yes	n	16	0	7	23	
		%	69.6%	0.0%	30.4%	2.4%	
Anticoagulant w/ antiplatelets	No	n	82	88	7	177	<0.001
		%	46.3%	40.7%	4.0%	18.1%	
	Yes	n	653	28	118	799	
		%	81.7%	3.5%	14.8%	81.9%	
Statins	No	n	157	84	24	265	<0.001
		%	59.2%	31.7%	9.1%	27.2%	
	Yes	n	578	32	101	711	
		%	81.3%	4.5%	14.2%	72.8%	
Death	No	n	725	110	123	960	0.003
		%	75.5%	11.5%	13.0%	98.4%	
	Yes	n	10	6	0	16	
		%	62.5%	37.5%	0.0%	1.6%	

Conclusion

HbA1c levels were elevated in both types of stroke but were significantly higher in the IS group. The incidence of HS was higher in males, while IS was higher in females. In addition, cardiovascular diseases had a significant association with stroke occurrence, especially IS. Our findings showed that although IS was more prevalent, HS was more lethal in our cohort. Further studies should be conducted to evaluate the morbidity and mortality rates of HS and IS in Saudi Arabia.

References



Presenter Details

Name: Faisal Alfakeeh, Yazeed Alghamdi, Abdulaziz Alotaibi
Batch number: 16, 17
Email: alfakeeh324@ksau-hs.edu.sa
Phone optional: 0500537079



Refractory *Salmonella* Prosthetic Valve Endocarditis Complicated by Splenic Infarction and Aortic Pseudoaneurysm in a Patient with Double Prosthetic Valves: A Case Report



Moustafa S. Alhamadh^{1,2}, Rakan Alanazi^{1,2}, Thamer Alhowaish^{1,2}, Abdulrahman Alhabeeb^{1,2}, Sultan Algarni^{1,2}, Osama Wadaan^{1,2}, Ihab Suliman^{2,3}, Mohammed Al-Ghamdi^{2,3}

1- College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Ministry of the National Guard-Health Affairs, Riyadh, Saudi Arabia
2- King Abdullah International Medical Research Center, Ministry of the National Guard-Health Affairs, Riyadh, Saudi Arabia
3- Department of Adult Cardiology, King Abdulaziz Medical City, Ministry of the National Guard-Health Affairs, Riyadh, Saudi Arabia



ABSTRACT

Endocarditis is an extremely rare complication of Salmonellosis with an incidence of 0.2-0.4%. It is a destructive and invasive infection that follows a highly complicated course and carries a high mortality rate that exceeds 45%. Multiple predisposing factors for *Salmonella* endocarditis have been described in the literature, including human immunodeficiency virus, congenital heart diseases, and prosthetic valves. Herein, we report a case of *Salmonella* prosthetic valve endocarditis complicated by splenic infarction and aortic pseudoaneurysm presenting as a month-long history of fluctuating fever, chills, and rigors, accompanied by occasional cough and shortness of breath in a 55-year-old female with aortic and mitral valves replacement and multiple comorbidities. She was diagnosed by multiple radiographic studies and successfully treated with Commando procedure and a long course of IV antibiotics.

PRESENTATION

A 56-year-old female, known case of T2DM, HTN, atrial fibrillation, non-ischemic cardiomyopathy, and RHD S/P mitral and aortic valves replacement, presented to our emergency department complaining of a month-long history of fluctuating fever, accompanied by occasional cough and mild shortness of breath. She denied a history of sick contact, chest pain, and urinary or bowel changes. Her past surgical history was remarkable for a MAZE procedure a year ago for atrial fibrillation and mechanical aortic and mitral valves replacement for RHD 2 years ago. On examination, she was ill-appearing and tachycardiac with a high-grade fever (39.5 °C). Auscultation revealed right basal crepitations. There was a trace right lower limb edema. Laboratory investigations were notable for non-hemolytic anemia, thrombocytopenia, kidney injury, elevated uric and lactic acids, inflammatory, cardiac, and thrombotic, markers, hyponatremia. Her coagulation profile was remarkable for elevated PT (59.1 s), PTT (45 s), and INR (6.62). Blood cultures came positive for *Salmonella*.

TREATMENT

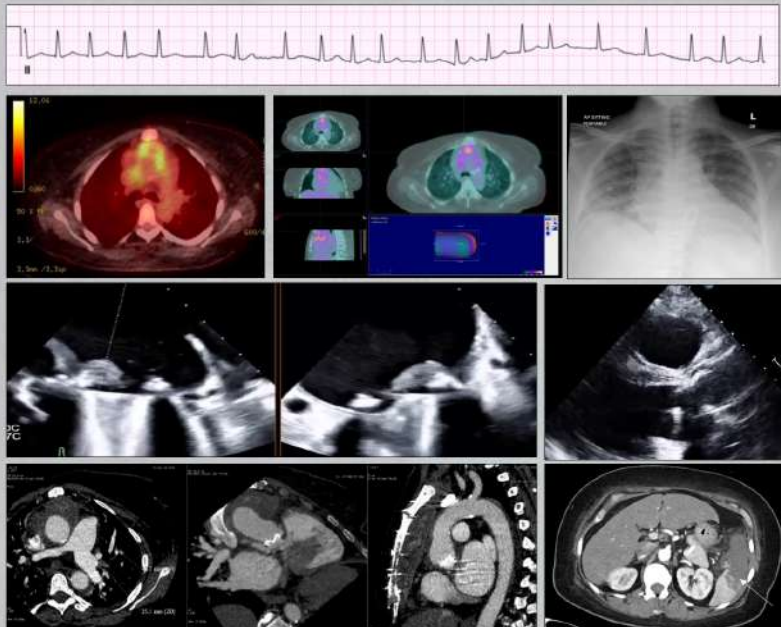
She underwent a complicated cardiac surgery, admitted to the ICU, and received IV Ceftriaxone and Gentamicin. Her course was complicated by a severe kidney injury necessitating HD. She was discharged after 4 months of admission, and on follow-up 2 months later, her kidneys completely recovered.

INTRODUCTION

Salmonellae are responsible for 600 deaths annually, and up to 10% of the cases develop bacteremia, affecting vital systems such as the cardiovascular system. Endocarditis is a rare complication of *Salmonella* infection with an incidence of 0.2–0.4%. It is an invasive infection that follows a highly complicated clinical course and carries a high mortality rate that exceeds 45%. Multiple predisposing factors for *Salmonella* endocarditis have been described in the literature, including human immunodeficiency virus infection, congenital heart diseases, and rheumatic heart disease and subsequent prosthetic valve replacement.

CONCLUSION

Since unified diagnostic criteria are lacking, *Salmonella* endocarditis represents a challenge, and clinicians should maintain a low threshold of its diagnosis, especially in patients with preexisting heart disease, as early interventions can prevent or mitigate its associated morbidity and mortality.



Presenter Details:

Name: Moustafa Sami Alhamadh
Batch Number: 15 (905031)
Email: Alhamadhmo@gmail.com
Phone: +966563334084



Demographic and clinical predictors of severity in patients with multiple sclerosis: a retrospective cross-sectional study



Awad Almuklass^{1,2}; Ghidaa Gosty¹; Eman Alotaibi¹; Bushra Alharbi¹; Reem Alshayea¹; Ahmed Ab Alkhail¹; Mashal Abaalkhail³

¹King Saud Bin Abdulaziz for Health Sciences, College of Medicine, Riyadh, Saudi Arabia, ²King Abdullah International Medical Research Center, Riyadh, Saudi Arabia, ³ College of Medicine, King Saud University, Riyadh, Saudi Arabia

Abstract

Multiple sclerosis is a chronic autoimmune disease of the CNS with various symptoms in varying degrees of severity. Gender, BMI, duration of disease, and age at onset have been identified as predictors of disease severity. This study investigates the association between the aforementioned factors with severity of MS measured by the number of hospital visits and admissions, frequency of methylprednisolone use, and length of hospital stay in MS patients. A total of 272 MS patients were included along with the aforementioned factors. Majority of the participants were females (68.75% vs. 31.25%). The findings indicated that duration of disease was a significant predictor of the number of visits and admissions, with a p-value < .001 and p-value = .006. While the length of hospital stay and number of methylprednisolone doses were insignificant, the study found a significant association between BMI and age at diagnosis with length of hospital stay. Additionally, there was a significant correlation between the duration of disease and the number of methylprednisolone doses ($p = 0.045$). In conclusion, this study highlights the complexity of the relationship between various factors and the severity of MS.

Methods and Materials

Study design and setting: It is an analytic retrospective cross-sectional chart-review. It included patients diagnosed with multiple sclerosis from 2015 to 2020 at KAMC in the Neurology Department, in Saudi Arabia.

Patients and methods: Data was collected through the Best Care System. The inclusion criteria were MS patients aged > 14, and not immunocompromised, pregnant, or diagnosed with cancer. A total of 272 MS patients were included, and for each the following were recorded and measured:

- BMI recorded within 6 months of their diagnosis
- Duration of their disease
- Number of admissions as inpatient, emergency or outpatient
- Total length of stay.
- Frequency of methylprednisolone use.

Statistical analysis: Data were analyzed using (SPSS) version 25 on Mac. A P-value of 0.05 was used for statistical significance in all tests. Linear regression analyses were done to investigate the correlation between the variables, and multicollinearity variables were removed.

Discussion

This article discusses the association between gender, BMI, duration of disease, and age at onset with the severity of MS, as measured by the number of hospital visits, frequency of methylprednisolone use, and length of hospital stay in MS patients. The study found that only the duration of the disease was a significant predictor of the number of hospital visits, admissions, and frequency of methylprednisolone use, while BMI and age at onset were significantly associated with the length of hospital stay. Obesity has been associated with a two-fold increased risk of MS, with higher risk in females. However, the relationship between BMI and MS severity is complex and has yielded mixed results in previous studies. The study has several limitations, including a small sample size and a retrospective study design. Further large-scale prospective studies are required to validate the findings.

Introduction

Multiple sclerosis (MS) is a chronic disease of the central nervous system (CNS) that affects millions of people worldwide. The cause of MS is unknown, but both genetic and environmental factors are believed to play a role. MS can present with various symptoms and is classified into two syndromes, CIS and RIS. MS can also be categorized into relapsing-remitting and progressive disease types. Gender, body mass index (BMI), duration of disease, and age at onset have been identified as potential predictors of disease severity, with obesity being a significant risk factor for MS susceptibility. However, the relationship between these factors is complex and varies among individuals. Further research is necessary to understand these relations and develop effective interventions for managing MS symptoms and preventing disability. This study aims to investigate the association between gender, BMI, duration of disease, and age at onset with the severity of MS measured by hospital visits, methylprednisolone use, and length of hospital stay.

Results

A total of 272 participants were included in the study. The sample consisted of 187 (68.75%) females and 85 (31.25%) males with an average age of 33.77 ± 9.58 and an average age at diagnosis of 30.78 ± 9.27 . The duration of disease was found to be a significant predictor of hospital visits, admissions and methylprednisolone use. However, gender and BMI did not significantly contribute to the variation in these outcomes. Nonetheless, BMI and age at onset were found to be significantly associated with the length of hospital stay.

Table 2. Linear regression model predicting the number of visits.

Variable	B	SE	95.00% CI	β	t	p
(Intercept)	20.91	7.14	[6.59, 34.82]	0.00	2.93	.004
Gender	-1.40	2.49	[-6.30, 3.49]	-0.03	-0.56	.574
BMI	-0.20	0.19	[-0.57, 0.17]	-0.06	-1.06	.291
Age at Diagnosis	-0.009	0.13	[-0.26, 0.24]	-0.004	-0.07	.943
Duration of Disease	2.81	0.30	[2.09, 3.52]	0.43	7.75	< .001

Results: $F(4,267) = 36.05$, $p < .001$, $R^2 = .19$
 Unstandardized Regression Equation: Number of Visits = $20.91 - 1.40 \times \text{Gender} - 0.20 \times \text{BMI} - 0.009 \times \text{Age at Diagnosis} + 2.81 \times \text{Duration of Disease}$

Table 3. Linear regression model predicting the number of admissions.

Variable	B	SE	95.00% CI	β	t	p
(Intercept)	1.32	0.54	[-0.76, 3.39]	0.00	2.44	.015
Gender	-0.003	0.89	[-0.97, 0.97]	-0.0009	-0.02	.988
BMI	0.02	0.01	[-0.004, 0.05]	0.19	1.68	.094
Age at Diagnosis	-0.010	0.030	[-0.03, 0.009]	-0.06	-1.01	.315
Duration of Disease	0.08	0.03	[0.02, 0.13]	0.17	2.76	.006

Results: $F(4,267) = 2.65$, $p = .032$, $R^2 = .06$
 Unstandardized Regression Equation: Number of admissions = $1.32 - 0.003 \times \text{Gender} + 0.02 \times \text{BMI} - 0.010 \times \text{Age at Diagnosis} + 0.08 \times \text{Duration of Disease}$

Table 4. Linear regression model predicting the length of stay

Variable	B	SE	95.00% CI	β	t	p
(Intercept)	8.75	4.35	[0.19, 17.31]	0.00	2.01	.040
Gender	-0.28	1.51	[-3.28, 2.69]	-0.01	-0.19	.846
BMI	-0.25	0.12	[-0.47, -0.02]	-0.13	-2.14	.033
Age at Diagnosis	0.15	0.08	[0.001, 0.31]	0.12	1.98	.048
Duration of Disease	0.07	0.22	[-0.37, 0.50]	0.02	0.30	.766

Results: $F(4,267) = 1.70$, $p = .151$, $R^2 = .03$
 Unstandardized Regression Equation: Length of stay = $8.75 - 0.28 \times \text{Gender} - 0.25 \times \text{BMI} + 0.15 \times \text{Age at Diagnosis} + 0.07 \times \text{Duration of Disease}$

Table 5. Linear regression model predicting Methylprednisolone NO. doses

Variable	B	SE	95.00% CI	β	t	p
(Intercept)	5.12	4.18	[-3.13, 13.76]	0.00	1.17	.243
Gender	1.54	3.51	[-5.46, 8.57]	0.06	1.02	.308
BMI	0.08	0.12	[-0.15, 0.30]	0.04	0.65	.518
Age at Diagnosis	-0.01	0.08	[-0.23, 0.18]	-0.06	-0.94	.349
Duration of Disease	0.45	0.22	[0.01, 0.89]	0.12	2.02	.045

Results: $F(4,267) = 1.53$, $p = .194$, $R^2 = .02$
 Unstandardized Regression Equation: Methylprednisolone NO. doses = $5.12 + 1.54 \times \text{Gender} + 0.08 \times \text{BMI} - 0.01 \times \text{Age at Diagnosis} + 0.45 \times \text{Duration of Disease}$

Conclusion

In conclusion, this study highlights the complexity of the relationship between various factors and the severity of MS. While duration of disease was found to be a significant predictor of hospital visits, admissions and methylprednisolone use, gender and BMI did not significantly contribute to the variation in these outcomes. However, BMI and age at onset were found to be significantly associated with the length of hospital stay. Further research is needed to better understand the complex interplay between various factors and MS severity and to explore other potential predictors that may affect the outcomes of interest.

References



Presenter Details

Name: Ghidaa Tarik Gosty
 Batch 17
 Email: gosty239@ksau-hs.edu.sa
 Phone: 0535550422

Factors associated with Emergency Department visits or readmission of late preterm infants, Neonatal Intensive Care Department, National Guard Health Affairs, Riyadh

Aly Farouk Mahmoud¹, Abdullah Mohammed Alqahtani², Abdurhman Saif Al Saif², Eid Dhahawi E Alanazi², Khalid Ayed Almutairi², Nawaf Dakheelallah Aljehani²

Abstract

Background: Infants who are born between 34 0/7 to 36 6/7 weeks of pregnancy defined as "Late Preterm Infants" (1). late preterm infants are more predisposed to pregnancy complications because they are less mature physiologically and metabolically.

Methods: This was a retrospective cross-sectional study, which looks for data that already exists and tries to identify the risk factors that affect the readmission of late preterm infants

Results: A total of 249 late preterm infants were included in the study.

Among readmitted infants (n=64), 51 infants were readmitted to the emergency room 8 infants were readmitted to the pediatric ward and 5 infants were readmitted to both

Conclusion: Many factors increase the risk of readmission within the first month of discharge in late preterm infants. The most common being GIT problems, URTI, Jaundice, and Airway problems

Methods and Materials

This was a retrospective cohort study, which looks for data that already exists and tries to identify the risk factors that affect the readmission of late preterm infants in 2018 in the Neonatal Intensive Care Department. The study was conducted at the Neonatal Intensive Care Department (NICD) at King Abdulaziz Medical City, Riyadh (KAMC-R)

In this study, we focused on the 792 late preterm infants of different nationalities. All the Late Preterm Infants who are born between 34 0/7 to 36 6/7 weeks of pregnancy during the study period were the denominator. Using a population of 792, the required sample size is 249. The sample technique that was used in this research is non probability consecutive sampling, because it was a retrospective cross-sectional study. We included the first 249 cases.

Discussion

Late preterm infants encompass the majority of preterm infants, and they are predisposed to many risk factors that can increase their readmission rate. In our research we have found that GIT issues and URTI are the most common causes that lead to Pediatric ER visits, while jaundice was the main cause of ward readmission. The risk factors of readmission associated with late preterm infants were comparable with other studies

Few articles mentioned that the most common risk factors for readmission within the first month were jaundice, acute bronchiolitis, viral infections, congenital heart diseases, and respiratory infections (13,14). Contradictory to other studies which demonstrated that the feeding problems were the dominant risk factor that led to readmission within the first month (15). In our hospital the most common cause for Pediatric ER admission was GIT problems followed by URTI, Jaundice, Airway problems, pyrexia, orthopedic problems, and CHD. On the other hand, Jaundice was the most common cause for direct ward admission (without a referral from Pediatric ER). One infant was admitted for an airway problem and another one for regurgitation.

Introduction

Infants who are born between 34 0/7 to 36 6/7 weeks of pregnancy as a result of maternal or fetal factors are defined as "Late Preterm Infants" (1). Compared to term infants, late preterm infants are more predisposed to pregnancy complications because they are less mature physiologically and metabolically.

The rate of readmission of preterm infants is associated with several factors such as jaundice, feeding problems, respiratory distress, and sepsis evaluation. According to previous studies that were performed in the past, newly born late preterm infants are usually nurtured and taken care of before getting discharged from the hospital when they reach the postnatal age of 2-3 days (4). Also, it was illustrated in past studies that the likelihood for late preterm infants to be readmitted is three times more than term infants for the previous risk factors (5).

Many studies indicate that the relationship between the length of stay (LOS) and readmission is inversely proportional (7). Therefore, the risk of readmission for late preterm babies decreases 8.6% for every additional day of stay

Results

Table 2: Unadjusted Demographic and birth characteristics of non-readmitted and readmitted infants.

Characteristic	Not readmitted, N = 185 ¹	Readmitted, N = 64 ¹	Overall, N = 249 ¹	N	O	95 % CI ²	p-value
Gender				2	4		
Male	89 (48%)	23 (36%)	112 (45%)	—	—		
Female	96 (52%)	41 (64%)	137 (55%)	1.6	0.93	0.03	0.00
Weight (kg)	2.44 (±0.45)	2.51 (±0.52)	2.46 (±0.47)	2.4	1.4	0.77	0.3
Length (cm)	47.0 (44.0, 49.0)	46.0 (42.8, 49.0)	47.0 (43.0, 49.0)	2.4	0.9	0.94	0.7
Breastfeeding	126 (92%)	41 (80%)	167 (89%)	1.8	0.8	0.05	
No				—	—		

Table4: Readmission characteristics

Characteristic	ER, N = 51 ¹	Ward, N = 8 ¹	Both, N = 5 ¹	Overall, N = 64 ¹
Cause of readmission				
GIT problem	14 (27%)	0 (0%)	0 (0%)	14 (22%)
Jaundice	7 (14%)	5 (62%)	0 (0%)	12 (19%)
URTI	9 (18%)	0 (0%)	3 (60%)	12 (19%)
Airway problem	6 (12%)	1 (12%)	2 (40%)	9 (14%)
Pyrexia	6 (12%)	0 (0%)	0 (0%)	6 (9.4%)
Others	5 (9.8%)	0 (0%)	0 (0%)	5 (7.8%)

Conclusion

Many factors increase the risk of readmission within the first month of discharge in late preterm infants. The most common being GIT problems, URTI, Jaundice, and Airway problems. Although most evidence from studies in the late preterm population points to an increased risk of later problems, there should be further studying on this topic.

References



Presenter Details

Name: Khalid Ayed Almutairi
Batch number: 16
Email: Almutairi399@ksau-hs.edu.sa
Phone optional: 0568655892



Patient-Related Risk Factors of Prosthetic Joint Infections Following Total Hip and Knee Arthroplasty at King Abdulaziz Medical City, A 10-year Retrospective Study.



Wazzan S. Aljuhani^{1,2,3}, Abdullah M. Alanazi^{2,4}, Abdullah I. Saeed¹, Khalid H. Alhadlaq^{2,4},
Yazeed S. Alhoshan^{2,4}, Ziad A. Aljaafari^{2,4}

¹ Department of Orthopedic Surgery, Ministry of the National Guard – Health Affairs, Riyadh, Saudi Arabia,

² King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

³ King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

⁴ College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

Abstract

Background: Total joint arthroplasty (TJA) can be associated with the development of periprosthetic joint infection (PJI). It is necessary to develop a baseline for the possible modifiable and nonmodifiable correlated risk factors for developing PJI to provide the optimum healthcare to the TJA candidates.

Methods: This study was a single center, retrospective review of 1198 patients who underwent TJA from 2012 to 2022. The data analysis process of this study included two stages. The first stage included a descriptive analysis and the second stage included bivariate analysis.

Results: The mean age of the subjects was 63 years. Among the 1198 individuals, only 1.3 % had PJI. No significant comorbidity was detected. General anesthesia was used in almost 21% and was statistically significant for having a higher risk of infection (p-value of 0.049). Moreover, increased OR time was significant for developing PJI with (p value= 0.012). In addition, in our study, TXA was a protective factor in reducing the risk of PJI with a (p-value = 0.017).

Conclusion: Even though PJI is not a common complication of TJA, multiple risk factors play a significant role in its development, such as general anesthesia and prolonged OR time. In contrast, tranexamic acid administration is thought to reduce the risk of PJI effectively.

Methods and Materials

A retrospective study was conducted at King Abdulaziz Medical City. The study included all patients who underwent TJA between 2012 and 2022. Both genders were included. Exclusion criteria were applied for patients under 18, immunocompromised, had a history of infection, and patients with missing data. Non-probability consecutive sampling included all patients who met the inclusion criteria.

The main categories of the sheet used: demographic data, surgery data, comorbidities, and infection. The surgery data included the anesthesia type, surgery name, whether it was unilateral or bilateral, approach, tourniquet, estimated blood loss, OR period, estimated OR time, time to infection post-op, drain, and tranexamic acid.

The data analysis process of this study included two stages. A descriptive analysis where categorical variables were described using frequencies and percentages, and numerical variables were described using mean and standard deviation. Followed by bivariate analysis using the Chi-squared test and Mann-Whitney test, which was applied by IBM SPSS Statistics 25.0. Each analysis was calculated with a 95% confidence level, $p < 0.05$.

Discussion

Regarding the gender factor, previous studies have noted that men candidates were more prone to develop PJI in comparison to women [9, 10]. On the other hand, other studies have reported the opposite findings, claiming that women were more vulnerable to developing the infection than men [11, 12]. In our results, women were more vulnerable to developing PJI when compared to men (P-value = 0.379).

Only general anesthesia was significantly associated with PJI (P-value = 0.049). Schotten R et al. [13] showed similar results; spinal anesthesia was utilized more. General anesthesia had higher odds for early PJI, which was 2.0 (95% CI 1.0–3.7) based on multivariable logistic regression.

Operating Room (OR) time is calculated from incision to closure. Peersman, G. et al. [14] showed a significant association between SSI and subsequent PJI with prolonged OR time. A recent meta-analysis conducted by Scigliano NM et al. [15] showed that following TJA, the risk of SSI and PJI is significant in procedures ≥ 120 minutes. In our study, increased OR time was significant for developing PJI with (P-value = 0.012) and a mean of 137.9 min \pm 56.02.

Tranexamic acid usage in TJA is thought to have a protective effect in reducing the risk of PJI [16]. Similarly, in our study, it is thought to be a protective factor in reducing the risk of PJI with a (P-value = 0.017).

Our study found that the risk of infection is around 1.3%. Acute PJI vs. chronic PJI with a cut of 90 days. 33.3 % had acute PJI, whereas the rest presented as chronic PJI. A recent study conducted by Kim HS et al. [17] showed that the annual incidence of PJI in Korea was 2.3% - 2.8%, comparable to those of the United States, ranging from 2 % - 2.7%.

In a study conducted by Poultsides, L.A. et al. [18] to assess the infection following TKA, the widespread infection of simultaneous bilateral TKA (0.57%) was significantly lower than bilateral staged TKA (1.39%) and unilateral TKA (1.1%). Similarly, in our study, there was a significant association between staged bilateral TKA and the incidence of PJI, with a (P-value of = 0.036) representing 46.7% of PJI-identified cases.

Conclusion

In conclusion, periprosthetic joint infection is not a common complication of joint arthroplasty, but risk factors such as general anesthesia and prolonged OR time can lead to its development. Whereas tranexamic acid administration was found to reduce the risk of PJI. To attain optimum patient healthcare after undergoing an arthroplasty procedure, the modifiable risk factors should be acknowledged and optimized previously.

Introduction

Periprosthetic joint infection (PJI) involves postoperative infection in the joint prosthesis, occurring at a rate of 0.25% to 2.0% [1,2]. Even though TJA was found to improve the overall quality of life for patients who have end-stage arthritis, variable complications can potentially occur that can jeopardize the procedure's outcomes and compromise the patient's health status [3]. While variable advancements and improvements in the joint prosthesis nature are developing, the incidence of PJI is increasing on a worldwide level [4].

Increased PJI can be thought to be related to the increased comorbidities in many of the surgical candidates. Due to the increased life expectancy, there is an assumed future healthcare burden caused by the higher number of osteoarthritis cases [5], thus; increased numbers of TJA being operated on. With the assumed increased numbers, the rate of PJI could increase proportionately in the upcoming decades [6,7].

The development of PJI is influenced by different factors that ultimately increase its risk of occurrence. For instance, the patient's characteristics undergoing the TJA, the procedure's technique, the adequacy of the postoperative period, and the care provided [8]. Our study aimed to review the cases of TJA performed and assess the rate of PJI and its associated factors.

Results

Table 1: Demographics

Characteristics (n=1198)	n	(%)
Gender		
Male	200	23.4
Female	918	76.6
Age		
Less than 30	9	.8
30 to 44	28	2.3
45 to 59	362	30.2
60 to 74	605	50.5
75 years and older	190	15.4
BMI		
Normal weight	44	3.7
Overweight	215	17.9
Obese	939	78.4

All values are presented as numbers and percentages.

Table 2: PJI with surgery details.

Surgery Details		Yes n (%)	No n (%)	Median SD	P-value
Anesthesia Type	General	2 (0.3)	130 (9.3)		
	Spinal	7 (0.6)	252 (21.2)		0.049*
	Spinal/General	1 (0.1)	10 (0.8)		
Surgery Name	Total knee arthroplasty (TKA)	14 (0.9)	1123 (94.1)		0.810
	Total hip arthroplasty (THA)	1 (0.1)	82 (6.8)		
	Unilateral	5 (0.4)	55 (4.6)		
Unilateral / Bilateral	Unilateral - Revision	1 (0.1)	7 (0.6)		
	Bilateral/revision	4 (0.3)	162 (13.5)		0.036*
	Bilateral staged	7 (0.6)	413 (34.5)		
Approach	Medial parapatellar	13 (0.7)	248 (20.7)		
	Subvastus	1 (0.1)	238 (19.8)		0.520
	Posterior lateral	1 (0.0)	5 (0.4)		
Fluoroscope	Applied	14 (0.9)	1097 (91.1)		0.200
	Not Applied	1 (0.1)	128 (10.7)		
Wound Size / cm	-	403.5 \pm 150.5	130.5 \pm 29.5		0.070
	4-6	487.5	142.2		
	6-8	1016.7	238		
DRG Medical	Afternoon	5 (0.4)	454 (38.1)		0.776
	Evening	0 (0.0)	14 (0.1)		
	Night	0 (0.0)	4 (0.3)		
Estimated OR Time / min	-	207.5 \pm 117.0	137.0 \pm 55.0		0.012*
	1-15	115	55.0		
	15-30	11 (0.9)	87		
Drain / No Drain	Drain	1 (0.1)	29		0.885
	No Drain	4 (0.3)	253		
Location of Drain / Day	-	2.33 \pm 1.79	2.73 \pm 1.77		0.400
	1-3	1	1		
	3-5	1	1		
Tranexamic Acid Use	Yes	1 (0.1)	431 (36.1)		0.017*
	No	14 (0.9)	163		

* Significant relation at 0.05 level of significance.

Presenter Details

Name: Ziad A. Aljaafari
Batch: 16
Email: Z.Aljaafari@gmail.com

References





Preimplantation genetic diagnosis: Assessment of acceptance rates toward its use at a single tertiary center



Nawaf Alawad¹, Abdullah Alangari¹, Abdulaziz Allhybi¹, Nazish Masud¹, Faisal Almuzaini¹,
Mohmed alshmiri¹, Muhammad Umair², Majid Alfadhel^{1,2}

1.College of Medicine, King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS)
2.Genetics and Precision Medicine department (GPM), King Abdullah Specialized Children's Hospital (KASCH),
King Abdulaziz Medical City, Ministry of National Guard Health Affairs (MNG-HA)

Abstract

In this cross-sectional study, we assessed the attitudes of the general public in Saudi Arabia regarding both medical and non-medical applications of pre-implantation genetic diagnosis (PGD). The study was conducted in King Abdullah Specialist Children's Hospital (KASCH) in Riyadh with a sample size of 377. Demographic information was collected, and attitudes toward applications of PGD were assessed using a pre-validated self-administered questionnaire. People from the western part of the country were found to have lower scores (less favorable attitudes towards PGD) compared to other regions of the country ($p=0.03$). Personally, knowing someone who had a prior experience with PGD was associated with higher attitude scores (more favorable attitudes towards PGD) (P -value=0.04).

Methods and Materials

This was a cross-sectional questionnaire-based study targeting individuals attending King Abdullah Specialist Children's Hospital (KASCH) with the non-probability convenience sampling technique.

A self-administered structured questionnaire was included in this study with the aim of assessing the acceptance rates of the general public regarding the varied applications of PGD.

Data collection occurred between November 2020 - June 2021 .

The inclusion criteria were:
-Male and female adults (>14 years)
-Saudi citizens
-Comfortable with reading Arabic language

Discussion

A study done in 2010 in King Faisal Specialist Hospital and Research Centre showed that despite having some moral concerns regarding the fate of embryos, families who were at risk of genetic disorders were accepting of PGD and are relatively unconcerned about its technical limitations (Alsulaiman, 2010). Our study demonstrates that support for PGD extends to the general Saudi population. Similar levels of support had also been seen in foreign populations including Europe, Asia and the United States [Chamayou et al., 1998; Meister, Finck, Stöbel-Richter, Schmutzer & Brähler, 2005; Wah Hui et al., 2002; Winkelman, 2014]. Although most respondents supported genetic disease screening, lower levels of support are identified when asked about non-medical applications of PGD. Such contrast between the two views might be attributed to the Muslim religious values of the Saudi population, as the acceptance of one's fate would hinder parents from aspiring for a child with ideal traits (Madi et al., 2019).

Introduction

Pre-implantation genetic diagnosis (PGD) is a clinical diagnostic method for couples at-risk of transmitting genetic disorders by facilitating in vitro examination of cultured cells from oocytes or early embryos searching for specific genetic abnormalities, and exclusively transferring embryos without pathogenic variants to the uterus. Presently, this procedure is regarded as a second line of protection being an alternative to prenatal diagnosis for high-risk couples with hereditary conditions, effectively eliminating pregnancy termination or transmission of said conditions. Despite the Saudi Ministry of Health's substantial efforts in educating the general public about the growing incidence of genetic disorders in our region, likely owing to the high rate of consanguinity (42.1-66.7%), as well as emphasizing the value of undertaking premarital tests to identify couples with an increased risk of passing a genetic condition to their children, a study in 2007 found that amongst more than 2,300 at-risk couples approached through the phone, 89% of them eventually continued marriage despite being identified as a high-risk couple by premarital test results.

Results

A total of 377 respondents were included. Out of which, 230 (61%) were males, 258 (68%) were married, 235 (62 %) had one child or more, and 255 (68%) were older than 30 years of age representing the majority. Also, 105 (28%) personally knew someone with a genetic or developmental disorder. While only 87 (23%) of participants reported prior experience with PGD, 154 (41%) had prior knowledge regarding the procedure.

Opinions towards using PGD for screening of genetic diseases	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Screening for diseases that are fatal in the first few years of life	4 (1%)	22 (6%)	46 (12%)	128 (34%)	177 (47%)
Screening for diseases that cause lifelong disability	9 (2%)	31 (8%)	59 (16%)	102 (27%)	175 (47%)
Screening for diseases that may not occur until later in life	10 (3%)	26 (7%)	57 (15%)	113 (30%)	171 (45%)
Opinions towards the potential use of PGD for selection of ideal traits					
Gender selection	34 (9%)	58 (15%)	87 (23%)	119 (32%)	79 (21%)
Physical characteristics selection	46 (12%)	86 (23%)	99 (26%)	80 (21%)	66 (18%)
Personal traits Selection	53 (14%)	82 (22%)	98 (26%)	67 (18%)	77 (20%)

Items	N (%)
Reasons behind approval of the use of PGD to screen for genetic diseases	
Couples should be independent and to make their own decisions	200 (56%)
It improves the chances that a couple will have a healthy child	178 (50%)
It will lower healthcare costs and may result in a better society	166 (46%)
It can eliminate certain genetic diseases forever	113 (32%)
Reasons behind disapproval of the use of PGD to screen for genetic diseases	
It leads to the unnecessary destruction of embryos	24 (7%)
It promotes discrimination against people with certain diseases	28 (8%)
It interferes with nature and places doctors in role of "playing God"	33 (9%)
Widespread use may lead to unforeseen consequences	29 (8%)
There is no regulation towards its use	8 (2%)
Reasons behind approval of the use of PGD for the selection of ideal traits	
Couples should be independent and to make their own decisions	170 (48%)
Selecting ideal traits will help a child lead a successful life	147 (41%)
Selecting ideal traits will result in a better society	69 (19%)
Reasons behind disapproval of the use of PGD for the selection of ideal traits	
It leads to the unnecessary destruction of embryos	53 (15%)
It promotes discrimination against people with certain characteristics	121 (34%)
It interferes with nature and places doctors in role of "playing God"	97 (27%)
Widespread use may lead to unforeseen consequences	87 (24%)
There is no regulation towards its use	29 (8%)

Conclusion

Our study showed that our sample of Saudi individuals generally showed a positive overall attitude towards the use of pre-implantation genetic diagnosis.

The sample size is relatively small, and future studies with more participants should be conducted, thereby being more representative of the entire population.

References



Presenter Details

Name: Nawaf Alawad
Batch number: 16
Email: aw.nawaf@gmail.com



Unique Tissue Mitral Valve Replacement with Lateral Thoracotomy which Survived More Than Expected: A Case Report.

Fay Arran Alotaibi 1, Wed Shaleh Alotaibi 1, Ihab Fathi 2

1-College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

2-King Abdulaziz Cardiac Center, Ministry of the National Guard–Health Affairs, Riyadh, Saudi Arabia

Abstract

Background: Mechanical prosthetic heart valves have been used for many decades to replace damaged native valves. Unlike sternotomy incision, the right lateral thoracotomy seems to be favorable regarding resource-related outcomes.

Case presentation: We present the case of a 57-year-old female who underwent mechanical mitral valve replacement (MVR) in 2006. However, this patient has been well since the surgery, and there were no complications of the mitral valve.

Discussion: The reported case has no complications after 17 years of MVR. Based on our information, she may be the only patient who has not shown sign of MVR surgery on X-ray and has been well after 17 years of MVR.

Conclusion: To our knowledge, this is the first report of a unique tissue mitral valve replacement which survived for more than 17 years.

Keywords: Survival rate, Lateral thoracotomy, MVR, Case Report.

Case Presentation

Case presentation:

A 57-year-old female, a known case of diabetes mellitus and hypertension, was referred to our hospital for evaluation of Mitral Valve Replacement (MVR). She had a history of valvular heart disease and had a successful bio-prosthetic MVR in Security Force Hospital 17 years ago. Since then, the patient was doing fine and have reported no complications unlike most of MVR patients.

On physical exam, no lymphadenopathy, jugular venous distention, or carotid bruits were found during a neck examination. A cardiovascular examination revealed normal S1 and S2 with no murmurs or thrills on auscultation. Lung sounds were clear in all lobes bilaterally without rales, ronchi, or wheezes. For abdominal examination, it was soft, symmetric, and non-tender without distention. There were no visible lesions or scars. Bowel sounds were present and normoactive in all four quadrants. No masses, hepatomegaly, or splenomegaly were noted.

Upon investigating, all the lab tests were normal including Complete Blood Count (CBC) and all the cardiac biomarkers. The Trans-Thoracic Echocardiography (TTE) Showed the left ventricle size, and the left ventricular wall thickness were normal (Figure 2). The ventricular systolic function was normal, and the Ejection Fraction was $\geq 55\%$. No regional wall motion abnormalities were noted. The prosthetic mitral valve was well-seated. Bio-prosthesis leaflets were thickened but move well. However, there was a mild tricuspid regurgitation.

Discussion

There were no complications after 17 years of MVR clinically or on imaging in 46 years old patient. Moreover, the X-ray did not show the site of the incision because the surgery was done by lateral thoracotomy. To the best of our knowledge, she may be the only patient who has not shown sign of MVR surgery on X-ray and has been well after 17 years of MVR without any complication

Introduction

Introduction:

The sternotomy is regarded as the gold standard incision in cardiac surgery because of its outstanding long-term outcomes and minimal failure rates. In thoracic surgery, it may also be utilized for lower trachea and main stem bronchus surgery, bilateral pulmonary surgery, or mediastinal surgery (1). However, for a mitral valve surgery a right lateral minithoracotomy seems to be favorable regarding resource-related outcome one of these outcomes is cosmetic reason in case of a Female patient (2). In regards of Mitral valve surgery transcatheter MV repair may produce unsatisfactory or potentially dangerous results in situations like severe leaflet calcification, small mitral orifice area. In these cases, the best solution is to do Mitral Valve replacement (MVR). Lately, percutaneous transcatheter MVR has become a well validate therapeutic approach for the management of surgical bioprosthetic diseases that have deteriorated (3). The utility of mitral valve surgery is still debatable due to the procedure's high early mortality and poor long-term survival rates. Short-term operative mortality is 3.5%. After mitral valve surgery, the survival rate reported in several studies to have a 80% in 5 years, 64% in 10 years, and only 44% in 17 years (4). The one- and five-year survival percentage after a mitral valve replacement, were reported to be 67-56% and 45-29%, compared to 71-69% and 59-23% after a mitral valve repair (5). Moreover, one of the outcomes of MVR was shown in another study which stated that the left ventricular ejection fraction in survivors after MVR in two years was decreased and the baseline of the EF was 39.8 % (6). The degeneration rate of bioprosthetic mitral valve, is like that of bioprosthetic aortic valves, which is highly dependent on patient age. The 10- years degeneration rate in patients younger than 40 years was 20%, four times higher than in patients older than 60 years (7).

Result



Conclusion

Clinical complications are always expected in the setting of MVR patients. Although our patient had comorbidities and she was young when had the MVR, all of these factors contribute to make the MVR life expectancy less. Therefore, our case represents a unique presentation of MVR after surgery for being healthy and lasts for a long time. We believe that there were not any other studies have reported the long-life expectancy of MVR.

References

1. Jaber D, Callahan E, Tufekcioglu G, Gokhori A, Molteni F. Median sternotomy. Multimed Man Cardiothorac Surg. 2013 Jul 17;2013:med017. doi: 10.1093/mms/mnt017. PMID: 24088332.
2. Sidermann SM, Sorrenti L, Rodriguez Carlos Blaser V, Sahert B, Holthaus T, Fath V, Jassbi S. Mitral valve surgery: right lateral minithoracotomy or sternotomy? A systematic review and meta-analysis. J Thorac Cardiovasc Surg. 2018 Apr;148(1):1989-1993. doi: 10.1054/jtcv.2018.01.004. Epub 2018 Feb 5. PMID: 29480104.
3. Ekin V, Nakamura M. Transcatheter mitral valve replacement. J Cardiol. 2021 Jun;77(6):555-564. doi: 10.1007/s12012-020-00200-0. Epub 2020 Nov 25. PMID: 33048895.
4. Mathew CA, Vassilakis CM. Long term outcomes of mitral valve repair versus replacement for degenerative disease: a systematic review. Curr Cardiol Rev. 2015;11(2):157-72. doi: 10.2174/1573312215066026000. PMID: 25250661. PMCID: PMC4264725.
5. Mihalov S, Szostekova M, Dole B, Szabo O, Karas M, Weymann A. Outcomes and Predictors of Mortality after Mitral Valve Surgery in High-Risk Elderly Patients: The Heidelberg Experience. Med Sci Monit. 2017 Oct; 23:201705-201706. doi: 10.1593/medsci.201705. PMID: 28209056. PMCID: PMC5757085.
6. Moller DM, Sengul Y, Dargatzis A, Berthel B, Jaber G, Geyrhofer P, Radakovic V, Guenther M, Thurnher V, Bolognini F, Dotti P, Durrant N, Moller T, Jara P, Cheung M, Baxer P, Logoth L, Bahlmann V. 2-Year Outcomes of Transcatheter Mitral Valve Replacement in Patients With Severe Symptomatic Mitral Regurgitation. J Am Coll Cardiol. 2021 Nov 9;78(19):1847-1854. doi: 10.1016/j.jacc.2021.08.040. PMID: 34736061.
7. Hoffmann G, Jaber G, & Cerny J. (2008). Durability of bioprosthetic cardiac valves. Devices (London, England). 20(8), 143-146. <https://doi.org/10.1002/dmde.2008.00143>

Presenter Details

Name : Fay Araan Alotaibi

Email: Alaotibi184@ksau-hs.edu.sa

Phone optional :966503759071



Pediatric organ donation following neurological determinants of death in intensive care units in Saudi Arabia: a retrospective study



Yasser Kazzaz 1,2,3, Fidaa Maghrabi 4, Raghad Ali Alkhathaami 2, Rahaf Alghannam 2, Nora Mohammad Alonazi 2, Alanood Abdullah Alrubaiian 2, Nayla Anwar Alkabeb 2, Mohannad Antar 1, Razan Babakr 5,6,7

Department of Pediatrics, Ministry of National Guards Health Affairs, Riyadh, Saudi, College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi, King Abdullah International Medical Research Center, Riyadh, Saudi, Department of Pediatrics, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia, Department of Pediatrics, King Abdulaziz Medical City, Jeddah, Saudi Arabia, King Abdullah International Medical Research Centre, Jeddah, Saudi Arabia, King Saud bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia

Abstract

Despite implementations of organ donation programs worldwide, there remains insufficient organs for transplantation, with many patients dying on the waiting list.¹ Compared with adult patients, pediatric patients present a two-fold increase in mortality while on the waiting list. Saudi Arabia, in comparison to other countries, has a low organ donation rate, dependent on deceased donation after brain death, as there is no donation after circulatory death program.¹¹ The aim of this retrospective study was to assess the performance of pediatric organ donation in intensive care units at three tertiary centers following neurological determinants of death over 5 years in Saudi Arabia. In our findings, only 2 patients out of 423 pediatric deaths became actual donors. Major contributors to low actual donation rate were consent, donor identification, and donor referral.

Methods and Materials

Study design and settings

A retrospective chart review of all deaths in three pediatric intensive care units (PICUs) at King Abdullah Specialist Children Hospital, King Abdulaziz Medical City, and King Abdulaziz University Hospital, Saudi Arabia over 5 years

Study participants

All patients who died in PICUs from January 2017 to December 2021, which were a total of 423 pediatric patients.

Data collection tool and process

A standardized case report form was used to collect data. Data were obtained from the electronic medical records (EMRs), hospital transplant databases, and SCOT (Saudi Center for Organ Transplantation) database. Data were analyzed using descriptive statistics. A chi-square test or Fisher's exact test was used for categorical data and the Mann-Whitney *U* test for continuous data.

Discussion

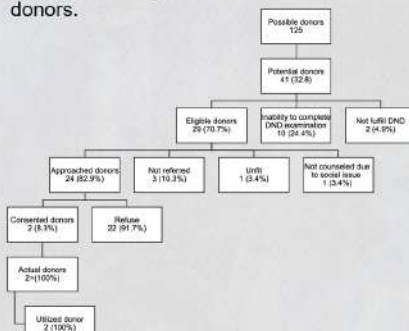
Our study demonstrated a low donation rate due to low consent rates, failure to identify potential donors, and non-referral to OPOs. The most common causes of death in possible donors included hypoxic-ischemic insults owing to cardiac arrest, trauma, and drowning. 41 of 125 possible donors underwent NDD examinations; donors who did not undergo NDD were more likely to have pre-existing comorbidities and malignancy. One-third of the potential donors were not referred to OPOs, and this high percentage was consistent with other national studies.³⁻⁴ Moreover, consent rates differ considerably across countries with cultural, healthcare system and OPO system factors.⁵⁻⁸ Some of the factors associated with non-consent are not modifiable, such as organ donation beliefs; however, several factors can be altered to increase the rates. Although not practiced in Saudi Arabia, pediatric worldwide institutions that established donation after CDD noted an increase of up to 60% in their donation rate.⁹ Our methodological design and findings are relevant to other countries with low organ donation rates in the pediatric population.

Introduction

Organ recovery is possible through living or dead donors (deceased). Deceased donation is attained by the circulatory determination of death (CDD) or neurological determination of death (NDD).² A survey from three countries showed overall lower pediatric Low pediatric donation rate is attributed to lower mortality rate in children and emotional burden on parents and healthcare workers, leading to missed donation opportunities. Saudi Arabia has a low organ donation rate, dependent on deceased donation after brain death. We hypothesize that there are significant missed opportunities for donations following NDD; to this end, we aim in this retrospective audit to assess the performance of pediatric organ donation by identifying possible, potential, and actual donors following neurological determinants of death and determine the epidemiology of possible donors with NDD in intensive care units in Saudi Arabia.

Results

Among the 423 pediatric deaths, 125 (29.6%) were identified as possible donors by neurological criteria (Devastating brain insult with likelihood of brain death, Glasgow Coma Score of 3, and ≥ 2 absent brainstem reflexes). Of them, 41 (32.8%) patients were identified as potential donors (neurological determination of death examinations initiated by the treating team), while only two became actual donors.



Causative Mechanism	Prevalence (No.)	Percent
Cardiac arrest	44	35.2
Post cardiac arrest/CPR other	23	18.4
Post cardiac arrest/CPR infectious/sepsis	3	7.2
Post cardiac arrest/CPR respiratory failure	9	7.2
Post cardiac arrest/CPR brain tumor	2	1.6
Post cardiac arrest/CPR poisoning	1	0.8
Injury and external causes	31	24.8
Trauma/head trauma/ Traumatic brain injury	22	17.6
Drowning	9	7.2
Intracranial bleeding	13	11.4
Spontaneous intracerebral hematoma	6	4.8
Mixed intracranial hemorrhage	4	3.2
Brain stem hemorrhage	2	1.6
Subarachnoid hemorrhage	1	0.8
Other	37	29.6
Shock	18	14.4
CNS infection	6	4.8
Encephalopathy	4	3.2
Apoplexy/respiratory failure	4	3.2
CNS tumor	3	2.4
Neurovascular condition	1	0.8
Obstructive hydrocephalus	1	0.8

Conclusion

The availability of deceased organ donors remains a challenge in Saudi Arabia. This study highlighted the need for a comprehensive donation-quality assurance program for ICUs. Improving these critical first steps of identification and referral requires investment in five key areas namely identifying possible donors, the responsibility of healthcare professionals to identify and report, consistent and systemic communication with OPOs, accurate and timely data on missed donation opportunities, and accountability at the system and individual levels.

References



Presenter Details

Name: Raghad Ali Alkhathaami
Batch number: 17
Email: alkhathaami371@ksau-hs.edu.sa

Abdullah Alturki¹, Ziad Aljaafari², Halah Alshabraqi², Ibrahim Hassan³, Ali Alhandi¹

¹Department of Orthopedic Surgery, National Guard Health Affairs, Riyadh, Saudi Arabia.

²College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

³Dr Sulaiman Al Habib Medical Group, Takhassusi, Riyadh, Kingdom of Saudi Arabia.

Abstract

Total knee arthroplasty is a standard procedure for patients with end-stage osteoarthritis. Patients' comorbidities undergoing TKA might make it difficult to proceed with the desired procedure due to the high-risk profile limiting the option for different modalities of anesthesia to be utilized. This is a case of an eighty-years-old male known to have multiple comorbidities, opted to undergo left TKA. During clearance for TKA, he was found to be a high-risk patient, where general anesthesia and neuraxial anesthesia was contraindicated. Regional anesthesia was utilized as the sole modality of anesthesia and went successfully. In conclusion, regional anesthesia can be considered an option when facing patients with contraindications to other anesthesia modalities.

Figures



Figure 1



Figure 2

Discussion

TKA is a safer option with more efficient outcomes, minimal adverse effects, and improved pain tolerance if PNB is continued until discharge. In our case, TKA under regional anesthesia was successful with a hospital stay without any complications and good outcomes regarding the prosthesis.

This case highlights the potential benefits of using regional anesthesia as an alternative to other modalities. However, using peripheral nerve blocks alone to perform TKA may have several limitations and considerations:

- Total dose of local anesthetic used in this case approaches the maximum recommended dose.
- The technique requires multiple separate needle entry points and perineural injections.
- Innervation of the knee is highly variable, making complete surgical anesthesia a challenge using PNBs alone.

No studies have evaluated the incidence of neurologic sequelae after performing femoral, sciatic, and multiple cutaneous PNBs, similar to the technique used in this case.

Conclusion

With excellent anesthesia care, such complex cases can be managed through a patient-tailored approach. Due to patient's medical history involving multiple comorbidities, TKA was done under regional block, and the outcomes were successful with no complications.

References

1. Hu S, Zhang ZY, Hua Y-Q, Li J, Cai Z-D. A comparison of regional and general anesthesia for total replacement of the hip or knee. *The Journal of bone and joint surgery British volume*. 2009;91-B(10):1235-40. doi:10.1302/0301-2203.91B10.1235.
2. Chelly X, Granger C, Dubouard H, Coupe K, Cyprien TA, Buckle R, et al. Continuous femoral blocks improve recovery and outcomes of patients undergoing total knee arthroplasty. *The Journal of Arthroplasty*. 2002;17(4):436-40. doi:10.1054/jarth.2001.23622.
3. Kopp SE, Bargman L, Bannanarajan A, Horlocker TT, Hohl RM, Alentorn-Geli G, et al. Anesthesia and analgesia practice patterns for total knee arthroplasty: Regional anesthesia and Pain Medicine. 2017;42(1):683-97. doi:10.1097/0000000000000007.
4. Farnow S, Rossi SM, Cassiani A, Langguth A, Denesio F. Perioperative pain management in total knee arthroplasty: A narrative review of current multimodal Analgesia Protocols. *Applied Sciences*. 2022;12(4):2708. doi:10.3390/app12042708.
5. Montecassio SG, Cozzicone C, Bakker J, Reuser G, Liu J, Siffert EM, et al. Anesthetic care of patients undergoing primary hip and knee arthroplasty: Consensus recommendations from the international consensus on anesthesia-related outcomes after surgery group (ICAPAS) based on a systematic review and meta-analysis. *British Journal of Anaesthesia*. 2015;115(3):365-87. doi:10.1093/bja/aev042.
6. Stock LA, Brennan JC, Delle SS, Turcotte JJ, King H. Analysis of risk factors for high-risk patients undergoing total joint arthroplasty. *Arthroscopy Today*. 2020;15. doi:10.1016/j.arth.2022.02.011.
7. Keating EM, Mading JB, Park PM, Ritter MA. Long-term follow-up of noninvasive total knee replacements. *Clinical Orthopaedics and Related Research*. 2002;404:34-9. doi:10.1097/00003089-200212000-00007.
8. Reddy PP, Aggarwal P, Buzzi R, Balakrishna A. The real barrier to prosthesis: A 5- to 9-year follow-up study in Chondrolytic Knee. *The Journal of Arthroplasty*. 2002;17(5):544-9. doi:10.1054/jarth.2001.32166.

Introduction

Total knee arthroplasty (TKA) is a common procedure performed for patients with end-stage osteoarthritis, with excellent outcomes in alleviating pain and improving functionality that has been evaluated and studied over many years. However, some patients are at increased risk of complications based on their coexisting medical issues including high BMI and cardiovascular diseases.

Anesthetic and analgesic modalities utilized in TKA have advanced much to improve surgical outcomes and reduce possible complications. Two main anesthesia groups are used, General anesthesia (GA) and neuraxial anesthesia (NA). A recent meta-analysis showed that when compared to general anesthesia, neuraxial anesthesia was associated with shorter stays and fewer complications following TKA. No study in the literature showed the usage of regional anesthesia when both NA and GA are contraindicated.

This paper presents a case in which the patient underwent a novel mix of regional anesthesia modalities to achieve a complete block of sensory impulses to proceed with the desired surgical procedure.

Case Description

- An 80 Y/O overweight male with type 2 diabetes mellitus, benign prostate hyperplasia, and hypertension
- Bilateral knee pain worse in the left knee for the past two months.
- X-rays: Advanced osteoarthritic changes more in the left knee.(Figure 1)
- ECG : Atrial fibrillation
- Echocardiogram: Good left ventricular function; dilated atria, moderately severe mitral and tricuspid regurgitation, and restrictive cardiomyopathy features.

Surgical Course

- Patient underwent TKA under regional block only with minimal sedation, no spinal or general anesthesia was used.
- Under ultrasound guidance, using 0.75% Ropivacaine with 1: 200,000 epinephrine the following nerves were blocked in this order:

In lateral position → Sciatic nerve blockade with 15 mL.

In supine → Lateral femoral cutaneous nerve with 5 mL.

Legs in figure of four → Obturator nerve with 10 mL.

In supine → Femoral nerve with 15 mL.

- Medial parapatellar approach was utilized, implant used was Genesis II PS Oxinium

- The patient tolerated the procedure well. Lateral and AP x-rays of the left knee were obtained after the procedure showing implants to be in a good position.(Figure 2)

Presenter Details

Halal Abdulrahman Alshabraqi
Batch 17
Alshabraqi178@ksau-hs.edu.sa



Title of Research: Presentation and outcomes of patients presenting with rhabdomyolysis: a tertiary care center experience



Mohammed Tawhari^{1,2}, Abdulaziz Aldalaan¹, Rahaf Alanazi¹, Sarah Aldharman¹, Turki Alnafisah¹, Nawaf Alawad¹, Abdullah Alhejji¹
¹College of Medicine, King Saud bin Abdulaziz University for Health Sciences,
²Department of Medicine, King Abdulaziz Medical City, National Guard Health Affairs

Abstract

Rhabdomyolysis is syndrome caused by severe skeletal muscle necrosis leading to release of cellular contents into the blood stream. In this study we sought to determine clinical presentations, causes and complications of Saudi patients presenting with rhabdomyolysis.

we conducted a retrospective chart review cohort study of adult patients (age of 18 years or above) who presented with rhabdomyolysis to King Abdulaziz Medical City (KAMC) between January 2016 and December 2022

The most common cause of rhabdomyolysis among our cohort were medications (44.8%). Other causes included exercise (29.3%), infection (10.3%) and trauma (8.6%).

rhabdomyolysis is potentially lethal disease and early recognition, and treatment are keys to successful treatment.

Methods and Materials

we conducted a retrospective chart review cohort study of adult patients (age of 18 years or above) who presented with rhabdomyolysis to King Abdulaziz Medical City (KAMC) between January 2016 and December 2022. Rhabdomyolysis was defined by creatinine kinase (CK) of at least 1000 U/L, we excluded patients with underlying genetic causes myopathy, acute myocardial infarction at the time of presentation, end-stage kidney disease patients (both dialysis dependent and kidney transplant recipients).

Discussion

Our study demonstrated that the clinical presentation of rhabdomyolysis among Saudi patients is similar to the western population with myalgia being the most common presenting complain and the medications are the most common etiology^{3,4}. Like the presentation in the western population, dark urine, although easily noticeable, was reported in just over one fifth of our population. In keeping with the international reports, acute kidney injury presented in around a third of our cohort. The mortality rate among our population was similar to the international reports, around 10%, with the most common cause being cardiac arrhythmia resulting from electrolytes disturbances^{3,5}. Management of rhabdomyolysis was focused addressing the underlying causes and management of metabolic consequences. Renal replacement therapy was provided on a case-by-case basis⁶. Our study main strength is that it is the first study to demonstrate the clinical presentation and outcomes of rhabdomyolysis among the Saudi population. However, it is limited by its observational nature, being limited to a single center and being of a small sample size. Also, our population was limited to hospitalized patients, who had more severe presentation, this can overestimate the clinical course and underestimate the prevalence of the disease.

Introduction

Rhabdomyolysis is syndrome caused by severe skeletal muscle necrosis leading to release of cellular contents into the blood stream.¹ The most common causes of rhabdomyolysis are trauma, drug, ischemia, metabolic derangement, and infection.² Patients with rhabdomyolysis can be asymptomatic or may have severe metabolic derangement including electrolytes disturbances, cardiac arrhythmia, acute kidney injury (AKI) or even death.³ Data regarding the presentation and outcomes of rhabdomyolysis among Saudi patients is limited to case reports. In this study we sought to determine clinical presentations, causes and complications of Saudi patients presenting with rhabdomyolysis.

Results

We included a total of 58 patients with a median age of 41 years. Most of the participants (84.5%) were males, and the median body mass index (BMI) was 26.5. The most common comorbidities were hypertension (27.6%), followed by dyslipidemia (25.9%), followed by diabetes mellitus (24.1%).

Table1: causes of RML

Variable	N (%)
Medication-induced	26 (44.8%)
Statins induced	13 (22.4%)
Substance Abuse	9 (15.5%)
Antipsychotics	4 (6.9%)
Strenuous Exercise	17 (29.3%)
infection	6 (10.3%)
trauma	5 (8.6%)
seizure	1 (1.7%)
Post op	1 (1.7%)
Hypernatremia	1 (1.7%)

The most common clinical presentation was myalgia (63%), fatigue (37.9%), ECG changes (34.5%), altered level of consciousness (24.1%), dark urine (17.2%), focal weakness (15.5%), and fever (12.1%)

Almost a third of the participants (32.8%) developed AKI, 3 of them required temporary hemodialysis. Intensive care unit admission was required in 10 patients (17.2%). Mortality rate was 8.6%, with the most common cause

Conclusion

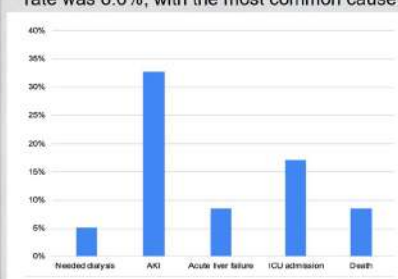
Our study demonstrated that the clinical presentation and outcomes of Saudi patients presenting with rhabdomyolysis are like the western population. We also demonstrated that rhabdomyolysis is potentially lethal disease and early recognition, and treatment are keys to successful treatment. Further studies, preferably prospective controlled, with larger sample sizes are required to explore the prevalence, risk factors and clinical presentation of rhabdomyolysis.

References

- Glennogleu GO, Chazotte YS, Mistril G. The syndrome of rhabdomyolysis: Pathophysiology and diagnosis. Eur J Intern Med. 2007 Mar; 14(2):99-106. doi: 10.1016/j.ejim.2006.09.020. PMID: 17138950
- Cabral BM, Edding SH, Pontocarrero JF, Lema EV. Rhabdomyolysis. Dis Mon. 2020 Aug;66(8):101015. doi: 10.1016/j.dismon.2020.101015. Epub 2020 Jun 10. PMID: 32532456
- Gubow PA, Kashner WD, Koffner SP. The spectrum of rhabdomyolysis. Medicine (Baltimore). 1982 May;61(2):141-52. doi: 10.1097/00007726-198205000-00003. PMID: 7076398
- Nance JR, Manninen AL. Diagnostic evaluation of rhabdomyolysis. Muscle Nerve. 2015 Jun;51(6):793-810. doi: 10.1002/mus.24606. Epub 2015 Mar 14. PMID: 25671154. PMCID: PMC4417836
- Zaki R, van der Kooi AL, Linthorst GE, Wanders RJ, de Visser M. Rhabdomyolysis: review of the literature. Neuromuscul Disord. 2014 Aug;24(8):851-5. doi: 10.1016/j.nmd.2014.05.005. Epub 2014 May 21. PMID: 24946698
- Long B, Koffman A, Gottlieb M. An evidence-based narrative review of the emergency department evaluation and management of rhabdomyolysis. Am J Emerg Med. 2019 Mar;37(3):518-523. doi: 10.1016/j.ajem.2018.12.051. Epub 2019 Jun 2. PMID: 30630682

Presenter Details

Abdulaziz Aldalaan
 381110296
 Aldalaan296@ksau-hs.edu.sa
 0598651225



Maha Almuneef¹; Shatha Alfrehhi²; Sarah Alswayed³; Jumanah Alraddadi³; Sarah Aldharman³

¹National Family Safety Program, King Saud bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City - National Guard Health Affairs, King Abdullah International Medical Research Center, Saudi Arabia.

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

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

Abstract

Background: Child abuse is a major public health concern that can result in major ocular injuries. This study described the presentation and ocular manifestations of suspected child abuse cases in Saudi Arabia.

Methods: A descriptive, observational, retrospective study was conducted in King Abdullah specialist children's hospital including all suspected child abuse cases.

Results: A total of 25 cases of abusive head trauma (AHT) were included in the study. Out of the 25 abused cases, retinal hemorrhage was found in 34 eyes.

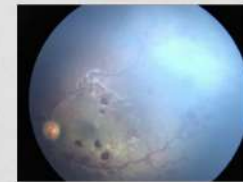
Conclusion: Most cases of child abuse had abnormal eye findings. Thus, Early recognition of abuse is crucial to help in vision preservation.

Methods and Materials

- This is a descriptive retrospective study that was conducted at King Abdullah specialist children's hospital (KASCH) in Riyadh, Saudi Arabia.
- All suspected child abuse cases that presented to King Abdullah specialist children's hospital KASCH were included. The included cases were evaluated and confirmed for the abuse suspicion by the Child Care Division.
- Patients' electronic medical records were reviewed, and data were collected, entered in an excel sheet and stored in a password-protected computer.
- The research was approved by the Institutional review board (IRB) at King Abdullah International Medical Research Center (KAIMRC).
- For categorical variables, they were described using frequencies and percentages.

Discussion

Up to our knowledge, this is the first study that observed the eye findings and the clinical presentation of abused children in Saudi Arabia. Several limitations were noted in our study. First of all, the number of patients was limited compared to other international studies.^[4,5] Second, most of the patients did not show to their eye follow up appointments. As a result, visual outcome of most abused children could not be evaluated. Child abuse in Saudi Arabia is underreported.⁶ We recommend implementing further strategies that can improve child protection services in Saudi Arabia.



Introduction

- Abusive head trauma (AHT) is an injury to the skull and intracranial structures of a newborn or child younger than 5 years due to violent shaking or abrupt impact and it has been associated with up to 25% mortality in several cases.¹
- It is estimated that up to 80% of children may experience a developmental delay as a result of head trauma or will lose their eyesight as a result of cortical visual impairment.^[2,3]
- Children may present with poor feeding, vomiting, lethargy, increased sleeping and failure to thrive, Respiratory distress, and seizures.¹

Results

- A Total of 25 cases of abusive head trauma (AHT) were included in the study. Of the 25 patients, 19 (76%) were males and the most common age group was < 6 months in 10 (40%) followed by 6 – 12 months in 9 (36%).
- Regarding the social risk factors, the most common was history of domestic violence 9 (36%) followed by maternal chronic/ mental illness 4 (16%), divorced parent/ single parent 4 (16%).
- About half of the children were previously healthy 13 (52%), and 12 (48%) had underlying physical illnesses.
- In regards to brain hemorrhage type, most of the patients had subdural hemorrhage 22 (88%).
- Falls were reported as the trauma type in 17 (68%) patients, and 2 (8%) were thrown/shaken by father.
- 25 five patients were included, out of the 25, 38 eyes were affected, and 12 eyes had normal fundus examination. 34 eyes had multiple retinal hemorrhages, and 4 eyes had vitreous hemorrhage. Moreover, retinal detachment was found in two eyes of the 40 eyes affected, as well as retinoschisis.

Conclusion

In conclusion, different ocular manifestations were noted in most of the child abuse cases that presented to King Abdullah Specialized Children's Hospital indicating the importance of a thorough eye examination in child abuse cases to mitigate worse outcomes.

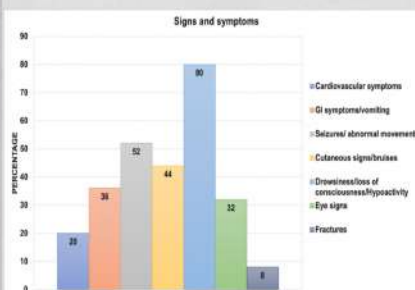
References



Scan me!

Presenter Details

Name: Sarah Alswayed, Jumanah alraddadi
Batch number: 16
Email: sarahksayed@gmail.com
Jumanaalraddadi@gmail.com





A Comparison Between the Complications of Laparoscopic and Open Gastrostomy Tube Insertions: A Single-Center Study From Riyadh, Saudi Arabia



Nouf Yaqoub ¹, Sadeem Atham ¹, Faten Khayat ¹, Deemah Asiri ¹, Sarah Alfraihi ¹, Yusra S. Chachar ², Syed F. Jamil ^{3,4,5}.

1- College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SAU

2. College of Science and Health Professions, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SAU

3. Research, King Abdullah International Medical Research Center, Riyadh, SAU

4. College of Medicine, King Abdulaziz University for Health Sciences, Riyadh, SAU

5. Pediatrics, King Abdullah Specialized Children's Hospital, Riyadh, SAU

Abstract

Background:

Gastrostomies are common procedures, performed to correct nutritional imbalances. It can be done laparoscopically (LAG) or through an open approach (OG). Though some complications have been documented, the data in Saudi Arabia remains scanty. This paper aimed to shed some light on the topic in Riyadh, Saudi Arabia.

Methods:

With a total of 107 patients, a retrospective cross sectional study was employed. Held in KASCH, Riyadh, Saudi Arabia.

Results:

A significant association was found between undergoing LAG and some complications; discharge, skin manifestations, and bleeding.

Methods and Materials

Study Design and Settings:

A retrospective cohort study was conducted among pediatric patients in the GI department in KASCH, Riyadh, Saudi Arabia.

Study participants:

107 Pediatric patients (0-14) who underwent gastrostomies between JAN. 2016 and DEC. 2020. In KASCH.

Data Collection:

The BestCARE system was utilized to collect the variables. Those included:

- Demographic data
- Indications
- Complications
- Method of insertion
- Type of tube

Data Analysis:

Fisher's exact test was used for the association between the method and complications.

Discussion

Gastrostomies are widely performed globally. Multiple techniques are available for performing it, and making the right choice between them is crucial.

In literature, the percutaneous endoscopic approach (PEG) was the most common type. It is preferred because it is less invasive and resulted in a quicker recovery and less complications, especially when compared to OG and LAG. Unfortunately, PEGs weren't performed in KASCH.

Other studies compared LAG and OG. Kozloz et al. Found that among infants, OG was associated with more complications. Liu et al. Also documented that the open approach also produced the most complications.

There was a discrepancy between our findings and the literature. Many reasons were behind this; the differences in the patients ages, immune status, and the physicians ability.

Introduction

Gastrostomy is a prevalent procedure in which a tube is placed for enteral feeding. It is usually indicated for nutritional support, especially in patients who are unable to feed independently.

Many types of gastrostomies exist, most commonly are the laparoscopic (LAG) and the open (OG) approach. These two differ in their techniques.

Like all procedures, gastrostomies produce complications. The most commonly reported ones are: granulomas, infections, and gastric outlet obstructions. Unfortunately, it is not well understood which technique was associated with more complications.

This paper aimed to discover the association between the complications and the type of gastrostomy performed among pediatric patients in KASCH, Riyadh, Saudi Arabia.

Results

Demographic Data:

- 54% females vs 46% males
- The majority were infants (58%)

Method of insertion:

- 45% OG and 55% LAG.

Type of tube:

- The Malecot tube was the most common at (81%)

Indications	%
Dysphagia	69%
Failure to thrive	59%
GERD	30%
Structural anomalies	11%

Complications	%
Tube malfunction	22%
Skin manifestations	21%
Discharge	20%
Others	37%

Complications	LAG	OG	P-value
Bleeding	10%	0%	0.0230
Skin manifestations	27%	10%	0.0305
Discharge	27%	8%	0.0132

Conclusion

When compared, LAGs were significantly responsible for more adverse outcomes than OGs.

Further studies are required to definitely determine the complications.

In the future, some guidelines may be implemented based on the findings.

References



Presenter Details

Name: Nouf Yaqoub

Batch number: 16

Email: yaqoub206@ksau-hs.edu.sa

Phone optional: 0548860068



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



Asma Alanazi ^{1, 2}, Haifa Alhawaz ^{1, 2}, Munirah Aldossari ¹, Dana Almutairi ¹, Dana

Almatroudi ¹, Afnan Alenazi ¹, Leen Almadhi ¹, Maram Albalawi ³

¹Department of Basic Medical Sciences, College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), Riyadh, Saudi Arabia.

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

³Department of Biostatistics and Bioinformatics, King Abdullah International Medical Research Center, Riyadh, Saudi Arabia.

Abstract

Background: Sleep disorders affect an individual's mental and physical health and vice versa. Sleep medicine is underrecognized as a specialty; therefore, many sleep disorders go undiagnosed. This study is aimed at assessing the knowledge of medical students toward circadian neuroscience and sleep disorder based on biomedical diagnosis.

Methods: This cross-sectional study was conducted in both male and female medical colleges from the third to the sixth year through a self-administered structured questionnaire

Results: The total number of participants was 296, with 154 female and 142 male participants. The prevalence of inadequate knowledge was considerable with 96.62% of students, compared to adequate knowledge with only 3.38%. The students' attitude to sleep medicine was negative 14.53% and positive among 85.47%.

Conclusion: This study concluded that medical students possess inadequate knowledge regarding sleep medicine, yet they have a positive attitude towards it.

Methods and Materials

Study design and area: This study was a cross-sectional study conducted in KSAU-HS, Riyadh branch, regarding the knowledge and attitude of medical students towards sleep medicine as a specialty.

Study participants: The study population included medical students. The inclusion criteria were male and female medical students from the third year to the sixth year. The exclusion criteria were graduated students as well as those whose data were incomplete. Our Sample size was 292 and our total responses was 296.

Data collection process and analysis:

The data collection was through a self-administered questionnaire and all data analyses were performed using the Statistical Analysis System (SAS) Version 9.4 software. Chi-square/Fisher exact tests were used to analyze the participants' knowledge level with the sociodemographic profile. The Wilcoxon two-sample test was used for two-level continuous variables.

Discussion

The main goal of this study was to assess the knowledge and attitude of medical students at King Saud bin Abdulaziz University for Health Sciences toward circadian neuroscience and sleep disorder based on biomedical diagnosis. The final analysis found that the students' knowledge was poor 286 (96.62%). In another study conducted in 2020 at King Abdulaziz University in Jeddah by Alghamdi et al., the ASKME questionnaire was used [19]. They classified the results into two categories: low scores (<60%) and high scores (>60%) [19]. A total of 568 medical students participated, out of which the mean score was 9.89 (±4.89) and 97.7% had low scores [19]. Additionally, they found no statistically significant difference between both genders' knowledge scores as the findings in this study [19]. Another local study done at Qassim University by Alrebdi et al. had 116 medical students [9]. While using the ASKME questionnaire, they found that 94.8% of the participants had poor knowledge with positive attitude among the students, which was consistent with the results of this study [9]. In a study from Egypt, they had 726 participants complete the survey, of which there were 573 sixth-year medical students [20, 21]. Their results indicated poor knowledge among medical students [22]. Furthermore, there was a statistically significant difference in the knowledge scores of participants' gender and the knowledge scores, which conflicts with our findings [23, 24].

Introduction

Sleep can affect one's mental health, having mental health problems could lead to sleep disorders[1]. Sleep disorders: are defined as a disturbance in an individual's pattern of sleep [2]. It can be caused by a variety of environmental conditions and factors [2]. The Rationale of the study was to question If there is a need for Sleep Medicine to be added to the medical school's curriculum. The purpose of this study was to assess the knowledge level of sleep medicine among medical students in King Saud bin Abdulaziz University for Health Science (KSAU-HS) and evaluate their attitude towards it. We assessed King Saud Bin Abdulaziz University of Health Sciences (KSAU-HS) medical students' knowledge of sleep medicine as a medical specialty as adequate or inadequate. Moreover, evaluated KSAU-HS medical students' attitude and beliefs towards sleep medicine as a medical specialty as positive or negative.

Results

The total number of participants was 296, with 154 female and 142 male participants. The prevalence of inadequate knowledge was considerable with 96.62% of students, compared to adequate knowledge with only 3.38%. The students' attitude to sleep medicine was negative 14.53% and positive among 85.47%. We found that gender was significantly associated with attitude with a p value = 0.0057. The specific interest in sleep medicine had a significant association with knowledge and attitude, p value of 0.0522 and 0.0059, respectively.

Predictor variable	N (%)
Level of knowledge	
(i) Adequate	10 (3.38)
(ii) Inadequate	286 (96.62)
Attitude	
(i) Positive	253 (85.47)
(ii) Negative	43 (14.53)
Knowledge score (mean ± SD)	10.09 ± 4.15
Attitude total score (mean ± SD)	35.56 ± 5.61

Conclusion

This study concluded that medical students possess inadequate knowledge regarding sleep medicine, yet they have a positive attitude towards it.

References



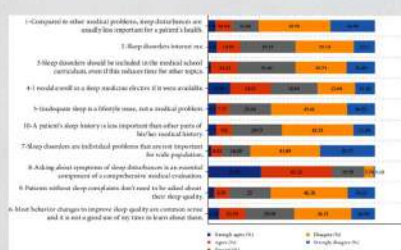
Presenter Details

Name: Leen Hamad Almadhi

Batch number: 17

Email: Almadhi162@ksau-hs.edu.sa

Phone optional: 0501175335



Rakan Alanazi^{1,2}, Mozustafa Alhamadh^{1,2}, Osama Wadaan^{1,2}, Abdulrahman Alhabeeb^{1,2}, Mohammad Alkaiyat^{2,3}, Ohoud Zaid Aljarbou^{1,2,4}, Fouad Sabatin^{2,3}

1-College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Ministry of the National Guard-Health Affairs, Riyadh, Saudi Arabia

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

3-Department of Medical Oncology, King Abdulaziz Medical City, Ministry of the National Guard-Health Affairs, Riyadh, Saudi Arabia

4-Department of Pathology, King Abdulaziz Medical City, Ministry of the National Guard-Health Affairs, Riyadh, Saudi Arabia

Introduction

Mesothelioma is a rare type of cancer affecting serosal membranes, particularly the visceral pleura. Peritoneal mesothelioma makes up about 10% of cases and has a low five-year survival rate even with proper treatment. Predisposing factors include gene mutations like BAP-1, NF2, and environmental elements like asbestos. Its clinical presentation is highly nonspecific and might present as abdominal mass, pain, distention, anorexia, early satiety, eventually leading to bowel obstruction and cachexia. Surgery followed by hyperthermic intraperitoneal chemotherapy (HIPEC) remains ideal for operable patients, but not everyone qualifies upon discovery. In this article, we report a case of multiple primary malignancies involving fatal metachronous malignant peritoneal mesothelioma and thyroid papillary adenocarcinoma in a 55-year-old female with a previous history of radiation therapy.

Case presentation

A 55-year-old Saudi female gravida 10 para 9 + 1, known case of type 2 diabetes mellitus, hypertension, dyslipidemia, chronic endometritis, simple ovarian cyst, and thyroid papillary adenocarcinoma status post total thyroidectomy and radiotherapy, presented to our emergency department complaining of a localized right upper quadrant dull abdominal pain for 5 months accompanied by fatigue, night sweat, anorexia, and a month-long history of nausea and vomiting. Upon admission, she was on Metformin and Insulin Glargine for diabetes mellitus, Amlodipine for hypertension, Atorvastatin for dyslipidemia, Esomeprazole for occasional reflux, and Thyroxine due to her previous history of total thyroidectomy. Her past surgical history was notable for hysteroscopic polypectomy for menorrhagia 2 years ago and total thyroidectomy for papillary adenocarcinoma 15 years ago. On examination, she was ill-appearing, distressed, and in pain. She was vitally unstable with a blood pressure of 97/83 mmHg and a heart rate of 116 bpm but a normal respiratory rate (20) and body temperature (36.4°C). Her abdomen was severely-distended with a positive shifting dullness and fluid thrill, diffusely tender to palpation with a constant pain in the right upper quadrant, audible bowel sounds, and no distended veins or evidence of organomegaly. Both of her lower limbs were diffusely edematous without tenderness.

Conclusions

ICS is an exceedingly rare form of extrapulmonary sarcoidosis. The recognition of ICS requires a high index of clinical suspicion and a proper interpretation of CMR and PET with FDG. Since the prognosis of ICS can be extremely poor, prompt diagnosis and glucocorticoid initiation are crucial to prevent CS-related complications such as heart failure and ventricular arrhythmias. This case highlights the importance of keeping CS in the differential diagnosis when a young patient presents with bradycardia with atrioventricular block and episodes of non-sustained polymorphic ventricular tachycardia.

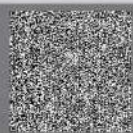
Presenter Details

name: Rakan Alanazi

Batch number: 15

Email: Rbfa19@gmail.com

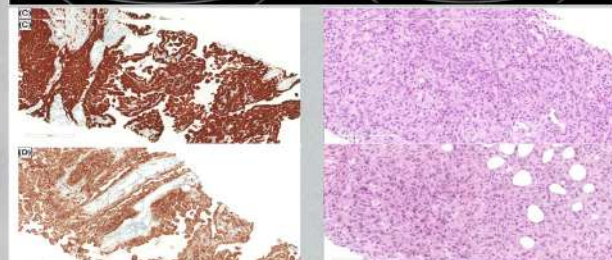
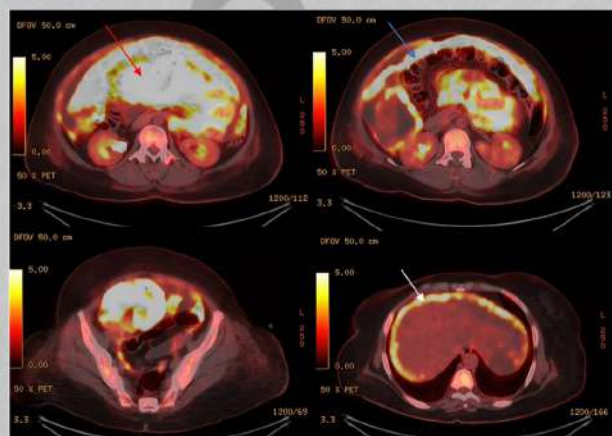
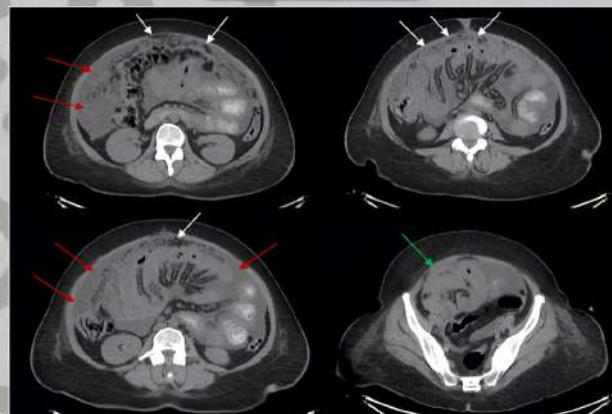
Phone: 0506657600



Laboratory

Investigations were remarkable for microcytic hypochromic anemia, thrombocytosis, leukocytosis with a neutrophilic predominance, mild hyperkalemia, hyperphosphatemia, hyponatremia, hypoalbuminemia, slightly elevated alkaline phosphatase (189 U/L), and gamma-glutamyl transferase (41 U/L) without transaminitis (ALT: 24 U/L, AST: 27 U/L), and elevated lactate dehydrogenase, D-dimer (2.65 mg/L), and inflammatory markers (ESR: 121 mm/h, CRP: 282 mg/L). Beta-hCG (30 IU/L), CA 125 (663 U/mL), and CA 15-3 (229 U/mL) were markedly elevated whereas alpha fetoprotein, CEA, and CA 19.9 were within normal limits. Her serum-ascites albumin gradient was 0.5 g/dL, probably reflecting peritoneal carcinomatosis. Ascitic fluid cytologic analysis showed reactive mesothelial cells, histocytes, and lymphocytes intermixed with few highly atypical cells worrisome for adenocarcinoma of ovarian origin.

Imaging



Rakan B. Alanazi^{1,2}, Moustafa S. Alhamadh^{1,2}, Thamer S. Alhowaish^{1,2}, Abdulrahman Yousef Alhabeeb^{1,2}, Ayah Boudal^{2,3}, Khalid Al Khathlan^{2,3}, Abdulrahman Alrashid^{2,3}

1-College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Ministry of the National Guard-Health Affairs, Riyadh, Saudi Arabia

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

3-Department of Rheumatology, King Abdulaziz Medical City, Ministry of the National Guard-Health Affairs, Riyadh, Saudi Arabia

Introduction

Sarcoidosis is an immune-mediated disorder affecting multiple organs including lungs, eyes & joints. Its exact cause is not known though genetic factors are suspected. Higher rates of sarcoidosis incidents are reported amongst African Americans & Scandinavians. Heart involvement (Cardiac Sarcoidosis), is more common & results in high morbidity when not treated early. Endomyocardial biopsy was earlier considered gold standard to establish CS, now Cardiac MRI replaces Endomyocardial biopsy. Standard treatment includes corticosteroid therapy which works in most cases. Refractory cases may require immunosuppressants like methotrexate. Early detection improves prognosis greatly.

Case presentation

A 42-year-old male, a known case of non-ischemic cardiomyopathy with reduced ejection fraction (EF), presented to our emergency department due to a recent device shock and a week-long history of recurrent dizziness, lightheadedness, and near-fall episodes. He denied a history of chest pain, palpitation, syncope, shortness of breath, cough, fever, chills, abdominal pain, or nausea and vomiting. He was an active tobacco smoker and had a remote history of performance-enhancing drugs and anabolic steroid use for bodybuilding. Upon admission, he was on multiple anti-failure medications, including sacubitril-valsartan, dapagliflozin, ranolazine, bisoprolol, and spironolactone, and had an ICD implanted a year ago. On examination, the patient was vitally stable and exhibited no signs of distress. The patient's chest was clear with equal bilateral air entry and normal vesicular breathing. Cardiovascular examination was unremarkable with normal S1 and S2, no jugular vein distention, lower limbs edema, added sounds or murmurs, carotid or femoral bruits, and thrills or heaves. His abdomen was nontender, soft, and without evidence of organomegaly. He was admitted under cardiology for observation and management as appropriate.

Laboratory

Laboratory values were within normal limits, except for elevated BNP (52.7 pmol/L), mildly elevated glutamic acid (67 umol/L), and low high-density lipoprotein (HDL) (0.82 mmol/L). The rest of the laboratory investigations, including complete blood count with differential, coagulation profile, lipid profile, renal, liver, and thyroid function tests, electrolytes, inflammatory markers, luteinizing hormone (LH), follicle-stimulating hormone (FSH), amino acids, testosterone level, angiotensin-converting enzyme (ACE) level, cardiac biomarkers, and urinalysis were unremarkable.

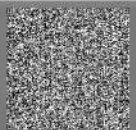
Presenter Details

name: Rakan Alanazi

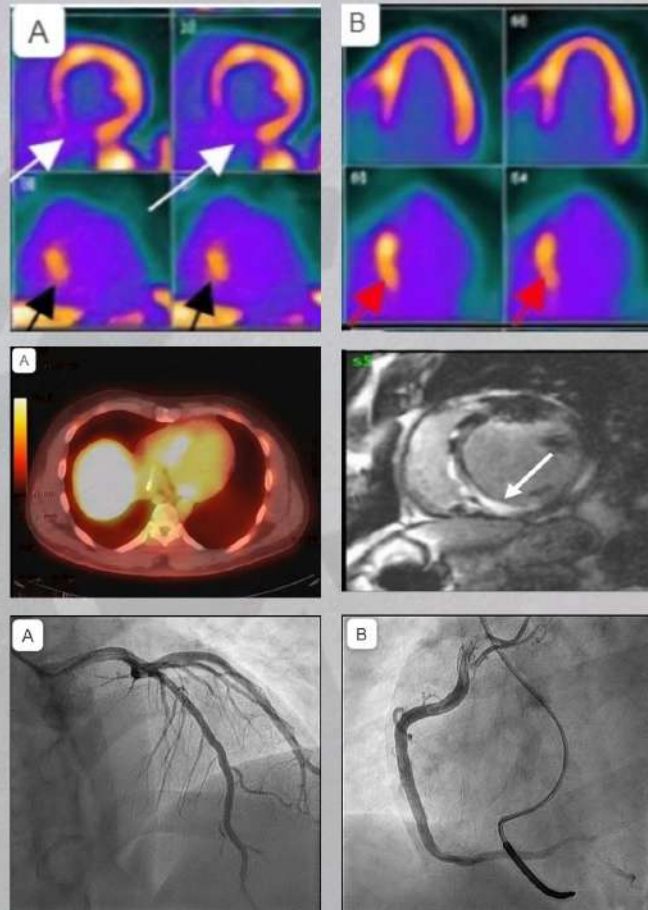
Batch number: 15

Email: Rbfa19@gmail.com

Phone: 0506657600



Imaging



Treatment

Based on CMR findings that were further supported by PET with FDG, a diagnosis of isolated cardiac sarcoidosis (ICS) was made. Rheumatology was consulted regarding the treatment plan, and it was decided to start the patient on daily prednisone after checking viral hepatitis serology and TB Quantiferon. He was started on oral prednisone 80 mg once daily for 14 days, with a plan of decreasing the dose by 10 mg weekly until 40 mg once daily and then by 5 mg until 20 mg once daily. The patient was discharged with a notable decrease in the frequency of PVCs and given a follow-up appointment with rheumatology after three months.

Conclusions

ICS is an exceedingly rare form of extrapulmonary sarcoidosis. The recognition of ICS requires a high index of clinical suspicion and a proper interpretation of CMR and PET with FDG. Since the prognosis of ICS can be extremely poor, prompt diagnosis and glucocorticoid initiation are crucial to prevent CS-related complications such as heart failure and ventricular arrhythmias. This case highlights the importance of keeping CS in the differential diagnosis when a young patient presents with bradycardia with atrioventricular block and episodes of non-sustained polymorphic ventricular tachycardia.



Reassessment of the need of asthma patients for biologic treatment in a tertiary care hospital



Sami M Alyami, Hamad Saadi Alshammari, Mosaad Ibrahim Alshahwan, Faisal Muthi Abugamza,

Sultan Naser Alotaibi, Omar Ahmed Saeed Abuoliat

Abstract

This study evaluated severe asthma patients on biologic treatment for factors related to poor asthma control. The questionnaire-based study included demographic information, asthma symptoms, compliance, inhaler techniques, and comorbidities. Results showed that 66% had partially controlled or uncontrolled asthma, with 42% at intermediate/high risk for OSA, 47% with uncontrolled GERD, and 80% with uncontrolled allergic nasal symptoms. Only half demonstrated proper inhaler technique. Controlling these factors could improve asthma control and prevent unnecessary treatment upgrades.

Methods and Materials

The study was conducted at KMAC. using a questionnaire to collect data from asthmatic patients on biologic treatment. Investigators interviewed patients and assessed asthma control, inhaler techniques, compliance, and comorbidities. Asthma symptoms were evaluated using the Global Initiative for Asthma scoring system, and patients were classified according to OSA risk using the STOPBANG score. GERD symptoms were also assessed, and patients were divided into two groups based on the severity of their symptoms. Compliance and inhaler techniques were evaluated through questions and demonstrations. Data was analyzed using SPSS, with a significance cut-off value of less than 0.05.

Discussion

This study is the first to retrospectively evaluate severe asthma patients on biologics concerning asthma control and factors associated with poor control. It hypothesizes that proper measures were not followed, leading to unnecessary treatment upgrades or unaddressed comorbidities. More than half of the sample had moderate or high Obstructive Sleep Apnea (OSA) risk, which may have contributed to poor asthma control. Uncontrolled GERD and allergic nasal disease were prevalent among patients, possibly affecting asthma control despite biologic therapy. Many patients believed they could use inhalers correctly, but only half demonstrated proper usage. Our study suggests that addressing these factors could improve asthma control and potentially reduce the need for biologic therapy. Limitations include a small sample size and retrospective design. Other studies should investigate larger samples and control all factors associated with poor asthma control to determine optimal treatment strategies.

Introduction

Asthma, a chronic noninfectious condition affecting over 300 million people worldwide, involves inflammation and narrowing of the airways.^{1,2} Difficult-to-treat asthma is often associated with poor adherence to inhaled therapy, incorrect inhaler technique, and coexisting conditions.³⁻⁵ Severe asthma requires a combination of treatments and close monitoring of patient adherence and inhaler techniques. Factors contributing to poor asthma control include improper inhaler use, inadequate physician instruction, electronic cigarette smoking, patient compliance, and obesity.⁶⁻⁹ Biologic treatments have gained popularity for severe asthma, but studies evaluating prescribing habits are limited. This study aims to assess severe asthma patients on biologic treatments, focusing on medication compliance, administration technique, comorbidities, and environmental exposures.

Results

In a study of 38 severe asthma patients on biologics, 42% had uncontrolled asthma, and most were female and overweight or obese. Over half had low Obstructive Sleep Apnea (OSA) risk, while 53% had controlled GERD. Despite high confidence in inhaler use, only half demonstrated proper technique.

Asthma Control	Frequency	Percent %
Controlled (20-25)	13	34.2
Partially controlled (16-19)	9	23.7
Uncontrolled (15)	16	42.1
Total	38	100
GERD Control		
Controlled or no GERD	20	53
Uncontrolled GERD	18	47
Total	38	100
OSA risk (STOPBANG score)		
Low risk (0-2)	22	57.9
Intermediate risk (3-4)	9	23.7
High risk (5-8)	7	18.4
Total	38	100
Rhinitis/Rhinorrhoea		
Controlled or no	7	18.4
Rhinitis/Rhinorrhoea	31	81.6
Uncontrolled Rhinitis/Rhinorrhoea	38	100

Asthma Control (Two Groups) and GERD Control Crosstabulation				
		GERD Control		p-value
		Controlled GERD	Uncontrolled GERD	
Asthma Control (Two Groups)	N	(n=20)	(n=18)	
controlled (20-25)	13	9	4	
		69%	31%	
Partially controlled (16-19) / Uncontrolled (<16)	25	11	14	.54
		44%	56%	

Asthma Control (Two Groups) and STOP-BANG Score of OSA risk (Two Groups) Crosstabulation				
		Risk of OSA (Two Groups)		p-value
		Low risk (0-2)	Intermediate risk (3-4) / high risk (5-8)	
Asthma Control (Two Groups)	N	(n=22)	(n=16)	
controlled (20-25)	13	10	3	
		77%	23%	.09
Partially controlled (16-19) / Uncontrolled (<16)	25	12	13	
		48%	52%	

Conclusion

Significant number of our severe asthma patients had at least a factor associated with poor asthma control. Appropriate control of these factors might lead to better response to treatment and would avoid unnecessary upgrading of asthma management.

References



Presenter Details

Name: Hamad Saadi Alshammari,
Sultan Naser Alotaibi
Batch number 16
Email: alshammari396@ksau-hs.edu.sa
Alotaibi660@ksau-hs.edu.sa
Phone optional: 0530843663

Medical Students' Attitudes and Influential Factors Towards Conducting Medical Research

Faisal S. Alqahtani; Bassam E. Al Rajhi, Ibrahim A. Omer, Reema A. Abualnaja, Alqassem Y. Hakami
College of Medicine, King Saud bin Abdulaziz University for Health Sciences

X Abstract

Background: Since medical research has become an essential part of medical students' curricula at several medical colleges in Saudi Arabia, this study aimed to assess medical students' attitudes to conduct medical research. **Methods:** This cross-sectional study was conducted by using the students' attitudes towards research and the students' perceived influential factors toward participating in research activities questionnaires which was distributed to medical students at the College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS). **Results:** The top influential factor for conducting medical research was 'to facilitate entry into competitive residency programs. **Conclusion:** Most of the surveyed students showed a positive attitude towards conducting medical research in KSAU-HS.

X Method

This cross-sectional study was conducted at the College of Medicine of King Saud bin Abdulaziz University for Health Sciences (KSAU-HS). The survey was distributed to medical students. Pre-medical students were excluded because the research course started during year three in the college curriculum. Interns were also excluded because they were more likely to be familiar with the process of conducting medical research. This study utilized two self-administered questionnaires acquired with permission from recent studies: (SAR) and the Students' Perceived Influential Factors Toward Participating in Research Activities questionnaires. This is a pre-piloted survey with high internal reliability (Cronbach's α coefficient = 0.88). The estimated population was 1627 medical students. Therefore, with a 5% margin of error and 95% CI, the recommended sample size was 311 students.

X Introduction

Currently, conducting a research project is a prerequisite for graduation in several Saudi medical colleges. In addition, the Saudi Commission for Health Specialties (SCFHS), a regulatory commission that sets requirements for students' enrollment into Saudi residency programs, recently announced that participation in research activities and publications in specified journals are granted 6 points out of the total 20 points available for residency applications as of 2022. There has been an increase in research summer schools to encourage students to gain hands-on experience with well-known researchers and physicians. While this will improve the students' knowledge about research principles, many global studies have shown that these changes usually become controversial since they can influence the quality and quantity of students' future contributions to the field by encouraging them to publish more articles with lower quality to increase their chance of getting accepted into a competitive residency program. However, there is no available multi-campus study conducted in Saudi Arabia.

The primary aim of this study was to assess medical students' attitudes towards conducting medical research and to identify the factors that influence their willingness to conduct research projects.

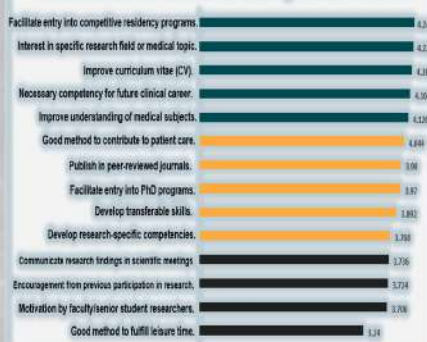


X Result



Characteristic		Descriptive Statistics	
		N	%
Gender	Male	336	67.2%
	Female	164	32.8%
GPA	3 – 3.49	4	0.8%
	3.5 – 3.99	34	6.8%
	4 – 4.49	108	21.6%
	4.5 – 5	354	70.8%
	5th year	154	30.8%
Year	4th year	218	43.6%
	6th year	87	17.4%
	6th year	41	8.2%
Phase of Study	Pre-clinical	366	73.2%
	Clinical	134	26.8%
Prior research publication	Yes	67	13.4%
	No	433	86.6%

Influential Factors Towards Conducting Medical Research



Statement	Disagree N (%)	Neutral N (%)	Agree N (%)	p- value**
Statement regarding Research Activities Offered in the College				
I am much interested in participating in research activities at the undergraduate level	91 (18.2)	91 (18.2)	318 (83.6)	0.331
My college organizes and gives priority to include undergraduates in research activities	63 (12.6)	123 (24.6)	314 (82.8)	0.360
Faculty members have adequate skills to handle research methodology	59 (11.8)	113 (22.6)	320 (85.6)	0.014*
Faculty do not have sufficient time to mentor undergraduate students in research	133 (26.6)	139 (27.8)	228 (45.6)	0.836
The degree of involvement of the faculty in the research program is good	108 (21.6)	148 (29.6)	244 (40.8)	0.338
Our college has adequate infrastructure to organize research programs	65 (13)	114 (22.8)	321 (84.2)	0.005*
I had been exposed to basic and advanced statistical tools needed for the preparation of a research report	100 (20)	117 (23.4)	282 (56.6)	0.207
Statement regarding Students Opinions of Faculty Involvement in Research				
Faculty members place great emphasis on research	64 (12.8)	126 (25.2)	210 (82)	0.258
Faculty members discuss their own research interests in class	162 (34.4)	162 (32.4)	156 (31.2)	0.484
Faculty members use research findings as a part of their teaching material	100 (20)	151 (30.2)	249 (49.8)	<0.001*
Research is important for identifying and investigating problems in a subject matter	23 (4.6)	78 (15.6)	399 (79.8)	0.060
I am always getting the chance to discuss about the scientific/academic research in my class	168 (32.6)	166 (32.2)	160 (32.2)	0.002*
Statement regarding Infrastructural Facilities Offered by College for Research				
Our college provides good infrastructural facilities (i.e. laboratory) needed to conduct research at the undergraduate level	130 (26)	166 (33.2)	204 (40.8)	0.547
The library facilities available in my college are sufficient for us to conduct research activities	99 (19.8)	171 (34.2)	230 (46)	0.759
Sufficient funding is offered by the university for conducting research at the undergraduate level	125 (25)	219 (43.8)	156 (31.2)	0.674
Overall, I am satisfied with the research training program offered at the undergraduate level	95 (19)	140 (28)	265 (53)	0.059

X Discussion

The study outcomes revealed the importance of recruiting interested medical students in basic and/or clinical studies so that they can contribute to the scientific field in the early stages of their careers. This study is important for policymakers, residency program directors, and research center directors to reconsider published research and research activities as prerequisites for acceptance into competitive programs. Further studies should investigate whether medical students pursue research activities after college, their attitudes, and influential factors, as well as their research skills and how they acquired them. **Limitations:** This study utilized a self-administered, web-based survey, and it was conducted at only one university, which means that the results and conclusions may not be applied to other universities.

Conclusion

Further studies should investigate whether medical students pursue research activities after college, their attitudes, and influential factors, as well as their research skills and how they acquired them.

Abdullah Alzahrani ⁽¹⁾, Ali Alshehri ⁽¹⁾, Khalid Alsheikh ⁽¹⁾, Faisal Alzahrani ⁽¹⁾, **Rand Alshaya** ⁽²⁾, Ibrahim Ababtain ⁽³⁾
⁽¹⁾ Department of Orthopedic Surgery, King Abdulaziz Medical City Riyadh, Riyadh, SAU. ⁽²⁾ College of Medicine, King Saud Bin Abdulaziz University for Health Sciences College of Medicine, Riyadh, SAU. ⁽³⁾ Department of Orthopedic Surgery, Prince Sultan Military Medical City, Riyadh, SAU

Introduction

Tibial shaft fractures are severe injuries that could result in severe complications ⁽¹⁻⁵⁾. The gold standard surgical procedure for tibial shaft fractures is reamed intramedullary nailing ^(1,6). However, the presence of post-traumatic ankle arthritis with tibial shaft fracture can alter the treatment plan. One possible solution is to perform closed reduction and internal fixation (CRIF) and tibiotalocalcaneal arthrodesis (TTCA) simultaneously using a retrograde femoral nail, which was implemented in our case report. To our knowledge, the previous literature does not describe a case using the same technique for the same purpose.

Case Presentation

A 71-year-old male patient with a history of type II diabetes mellitus and hypertension presented with pain in his right leg and ankle after falling out of bed and twisting his ankle. The leg pain started after the injury; however, he suffered from severe ankle pain 2 years before the injury due to a previous right ankle fracture, which was managed by ORIF 3 years before this visit. Radiographs of the leg showed a tibial spiral fracture (figure 1). Ankle radiography showed post-ORIF status and severe tibiotalar post-traumatic arthritis (figure 2). The patient underwent CRIF of the tibia and TTCA using a femoral nail (figure 3). He tolerated the procedure without complications. Full weight-bearing, as tolerated, was started 3 months after the surgery. Around 9 months after the procedure, the patient was actively mobile with full weight-bearing.

References:



Discussion

We preferred using a femoral nail because femoral nails allow for physiologic loading of the tibia, talus, and calcaneus and provide a more comprehensive size range in terms of length and diameter and have less angulation. We performed the surgery using the retrograde approach because it does not invade the proximal tibia, which might compromise its strength. Furthermore, this technique allows for significant pain improvement and maintains the correction of the hindfoot and forefoot. Additionally, internal fixation can be dynamized. Some limitations of this technique are that it is technically demanding and limits the range of motion of the subtalar joint. Moreover, it would not be possible in a deformed intramedullary canal. Furthermore, reaming would be challenging if the intramedullary canal diameter is less than 7 mm ⁽⁷⁾.

Conclusion

Using a retrograde femoral nail for simultaneous tibial shaft fracture CRIF and ankle arthrodesis has proven successful in our case. The success of this procedure is mainly because the femoral nail works as a rigid and stable load-sharing construct. The patient could walk 3 months after the surgery, did not report any pain, and was satisfied with the results.

Presenter details

Name: Rand Alshaya
 Batch number: 16
 Email: RandAlshaya@gmail.com
 Phone number: 0535933855



Figure 1



Figure 2



Figure 3

Kheireddine El-Boubbou^{ab}, O. M. Lemine^c, Rizwan Ali^b, Sarah M. Huwaizi^b,
Sulaiman Al-Humaid^a and Abdulmohsen AlKushi^a

a :King Saud bin Abdulaziz University for Health Sciences (KSAU-HS),

b : King Abdullah International Medical Research Center (KAIMRC),

c : Imam Mohammad Ibn Saud Islamic University (IMSIU),

Abstract

We report the preparation of different Polymerylated magnetic nanoparticles (PMNPs) and the characterization using various spectroscopic techniques. The thermal effects of the various PMNPs in response to an alternating magnetic field (AMF) were mapped showing high heating efficiencies with distinctive heating responses. PVP-MNPs displayed superior heat induction power compared to other PMNPs rapidly reaching hyperthermia temperatures of 42 C in only 90 s, and 45 C in 120 s. synergetic chemo-hyperthermal anticancer effects of drug-loaded PMNPs against metastatic MDA-MB-231 breast cancer cells, in the presence and absence of AMF, were demonstrated. It was found that the Dox@PVP-MNP under AMF was the most effective, killing almost all the tested cancer cells in relatively short times (only 15 minutes of magnetic excitation), low doses, and clinically-relevant AC magnetic fields. These findings strongly suggest that the PVP-MNP formulation holds great promise for combined magnetically-triggered drug delivery and hyperthermia and will be worth investigating for further in vivo potential.

Introduction

The unique properties of magnetic iron oxide nanoparticles (MNPs) allow them to be used in magnetic fluid hyperthermia (MFH). Due to their excellent intrinsic magnetic properties, nanometer sizes, easy functionalization, and high biocompatibilities, MNPs proved their effective potential not only in enhanced drug delivery to cancer cells, but also in improving drug penetration into tumor tissues both in vitro and in vivo. In addition to that, one of the most significant applications of MNPs in clinical practice is their utilization in cancer hyperthermia therapeutics. We prepared a panel of Polymerylated MNPs (PMNPs) based on our Ko-precipitation Hydrolytic Basic (KHB) methodology. We chose five polymers (PVP, PEG, PAA, HA, and Dextran) that are mostly used by researchers and in practice to coat MNPs. The physicochemical properties of the PMNPs were fully characterized in detail using various spectroscopic techniques. PMNPs exhibited controllable and uniform small sizes, stable dispersions, high magnetizations, and excellent biocompatibilities. Thermal effects of PMNPs in response to AMF treatments were then mapped. Finally, the optimal PMNP formulation with the highest heating efficiency and sustained drug-release properties was employed to study its potent effects against metastatic breast cancer cell lines, in the presence and absence of AMF. To our knowledge, this is the first report systematically studying the effects of different PMNP formulations on magnetization, heat-generation, and drug-release for combinatory chemotherapy and hyperthermia.

Presenter Details

Name: Sulaiman Alhumaid

Batch number: 16

Email: alhumaid538@ksau-hs.edu.sa

Methods and Materials

Preparation and characterization of PMNPs:

in situ basic hydrolytic precipitation of iron salts (Fe³⁺ and Fe²⁺) compartmentalized by the organic polymers afforded MNPs decorated with the different polymers. By varying the polymer coat (i.e. PVP, PEG, PAA, HA, and Dextran), and fixing the concentration of the other precursors, our procedure allowed the synthesis of controlled well-dispersed PMNPs. The obtained PMNPs were fully characterized by transmission electron microscopy (TEM), dynamic light scattering (DLS), Fourier transform infrared (FTIR), thermal gravimetric analysis (TGA), X-ray diffraction (XRD), and vibrating-sample magnetometer (VSM). These techniques clearly revealed the structure, morphology, and magnetization of the as-synthesized PMNPs and verified their polymer coating.

Results

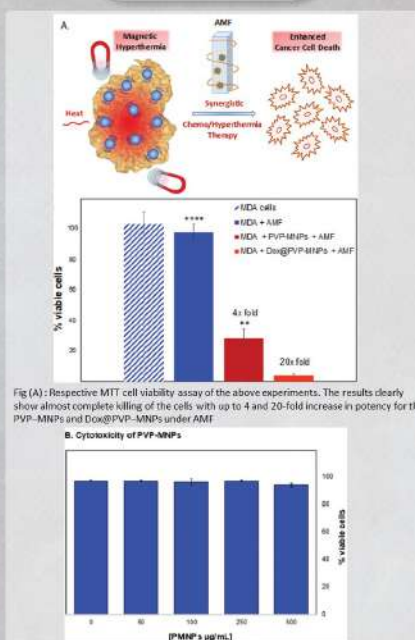


Fig (A) : Respective MTT cell viability assay of the above experiments. The results clearly show almost complete killing of the cells with up to 4 and 20-fold increase in potency for the PVP-MNPs and Dox@PVP-MNPs under AMF

B. Cytotoxicity of PVP-MNPs

Fig(B) Percent of viable cancer cells upon treatment with different concentrations of PVP-MNPs as determined by MTT cell viability assay. The results clearly show that the MNPs are safe even at the relatively high concentrations used

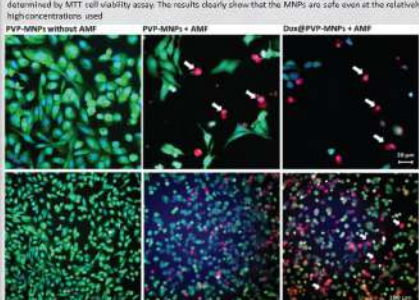


Fig. Confocal fluorescence images of MDA-MB-231 breast cancer cells treated with Dox@PVP-MNPs or PVP-MNPs in the presence or absence of AMF. Hoechst (blue) stains nuclei, PI (red) for dead cells, and Calcein AM (green) for viable cells. The merged images clearly indicate the effects of both AMF and Dox (chemo-hyperthermia) on cancerous cell death, with less death and healthier cells (green) observed for PVP-MNPs-treated cells. Without AMF, healthy viable green-stained cells with no red apoptotic/necrotic cells were detected. White arrows show late apoptotic/necrotic dead cells with compromised and disrupted cell membranes.

Discussion

Drug loading and release:

the optimal magneto-thermal properties and highest heating efficiencies PVP-MNPs were loaded with Dox. In vitro drug release profiles of Dox@PVP-MNPs in PBS buffer was then examined at neutral pH = 7.4 and acidic pH = 4.5 conditions. A fast initial drug release over the first 2 h, representing 80% at acidic pH and only 27% at neutral pH was observed. This step was followed by a more sustained slow release, with almost quantitative discharge after 48 h at acidic conditions as opposed to only 40% at neutral pH. Lowering the pH from 7.4 to 4.5 resulted in an increase in the release rate.

Synergetic magneto-chemo hyperthermia:

15 minute alternating magnetic field (AMF) exposure in the presence of PVP-MNPs or Dox@PVP-MNPs cooked the breast cancer cells to hyperthermia temperatures (42–43.5). Analysis of MTT viability assay results demonstrated killing efficiency up to 75% (4-fold) and 95% (20-fold) for PVP-MNPs and Dox@PVP-MNPs, respectively, when measured using only a NP dose of 0.5 mg mL⁻¹. When the concentration of NPs was increased to 1 mg mL⁻¹, ~ 2 to 3-fold enhanced killing of the cells was observed.

Conclusion

- 1- PVP-magnetic nanoparticles (MNPs) exhibited the highest heating ability when exposed to an alternating magnetic field where the hyperthermia temperatures were rapidly reached in as early as 120 s
- 2- PVP-MNPs formulation demonstrated cellular uptake and pH-dependent drug release with enhanced and selective cytotoxic effects towards breast cancerous cells with the least potency towards normal cells.
- 3- Dox@PVP-MNPs were found to be highly potent to the cancerous cells, killing almost all the cells in short times (15 minutes) at relatively low doses and clinically relevant mild AC magnetic fields

References

- 1-K. El-Boubbou, Nanomedicine, 2018, 13(8), 929–952.
- 2-A. B. Salunkhe, V. M. Khot and S. H. Pawar, Curr. Top. Med. Chem., 2014, 14, 572–594.
- 3-M. J. Jeon, C.-H. Ahn, H. Kim, I. J. Chung, S. Jung, Y.-H. Kim, H. Yoon, J. W. Chung and Y. L. Kim, J. Exp. Clin. Cancer Res., 2014, 33, 57.
- 3-A. J. Giustini, A. A. Petryk, S. M. Cassim, J. A. Tate, I. Baker and P. J. Hoopes, Nano Life, 2010, 1, 10.
- 4-S. Laurent, S. Dutz, U. O. Ha'El and M. Mahmoudi, Adv. Colloid Interface Sci., 2011, 166, 8–23.
- 5- K. Maier-Hauff, F. Ulrich, D. Nestler, H. Niehoff, P. Wust, B. Thiesen, H. Orawa, V. Budach and A. Jordan, J. Neurooncol., 2011, 103, 317–324.

The Histopathological Findings of Sleeve Gastrectomy Specimen: Data from Three Regional Centers in KSA

Sultan Alhabdan^{1,2,3}, Abdulrahman Alomar¹, Abdulrahman AlKabli², Bader Alhoumaily¹, Azzam Alturki¹, Faisal Alqahtani¹

¹College of Medicine, King Saud bin Abdulaziz University for Health Sciences,
²Department of Surgery, King Abdulaziz Medical City,
³King Abdullah International Medical Research Center

Abstract

Introduction: Sleeve gastrectomy is a commonly offered and performed bariatric procedure aimed at weight reduction primarily. The histopathological examination of the resected specimen can reveal significant information with high clinical relevance. The prevalence and variations of these findings is weakly studied in our population.

Methods: We conducted a retrospective chart review of 912 patients who underwent sleeve gastrectomy between 01/2015 until 03/2023 in Riyadh, Jeddah, and AlAhsa National Guard facilities.

Results: The mean age of our cohort was 37 [12-76] years with an average body-mass index (BMI) of 44.3 [29 – 76.9] kg/m² at baseline. When looking at co-morbidities, diabetes, hypertension, and dyslipidemia had an equal prevalence of 17% for each, whilst gastroesophageal reflux disease was in 5.7% (n= 52/912). Abnormal histopathological result was reported in the majority (53%, n= 484/912) of the cohort. Gastritis was the most prevalent finding (98%, n= 475/484). GIST & micro-carcinoid were identified in one case each, intestinal metaplasia in seven, proton-pump inhibitor effect in two cases, fundic gland polyps in two cases, enterochromaffin cell-like (ECL) hyperplasia in one case, and gastric schwannoma was identified in an isolated case. Fourteen patients had a prior history of *H. Pylori* and underwent treatment, of which seven had positive *H. pylori* in histopathology. In total, *H. pylori* was identified in (n= 186/912, 20%) of our cohort.

Conclusion: In short, our results are comparable to the published reports, with lower incidence of malignancy. Identifying the findings reported through histopathology is an important first step to decide and further study the need and cost-effectiveness of routine histopathological assessment.

Methods and Materials

A retrospective chart review of:

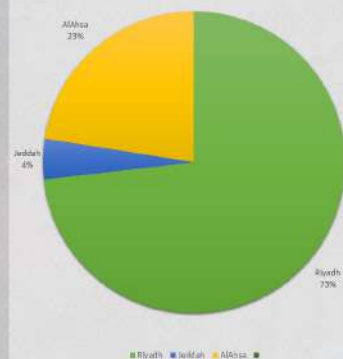
- All patients who underwent sleeve gastrectomy
- Between 1/1/2015 up to 31/3/2023
- Have specimen histopathology report

Cases who underwent Sleeve Gastrectomy for purposes other than weight reduction were excluded.

A total of 912 patients distributed between King Abdulaziz Medical City (KAMC) – Riyadh, KAMC – Jeddah, and King Abdulaziz Hospital - AlAhsa.

Discussion

- We are the first multicentric study of this topic in the area
- Our findings are comparable to previous reports, with no major findings altering the patient postoperative management
- This sheds lights on the cost-effectiveness and clinical usefulness of routine histopathological examination post sleeve gastrectomy for morbid obesity



Graph 1. Cohort Geographical Distribution

Introduction

Obesity & metabolic syndrome is one of the modern era's health care challenges. Its prevalence is high in our region reaching up to one-third of the population. Sleeve gastrectomy is a safe commonly done bariatric procedure proven for weight reduction and metabolic syndrome resolution. It involves resecting a part of the stomach for the purpose of reducing its volume. The resected part is sent for histopathology as per our hospital policy.

The histopathological examination of the resected specimen can reveal significant information with high clinical relevance, varying from mild gastritis to gastric malignancy. The prevalence and variations of these diagnoses is weakly studied in our population. Moreover, the necessity of routine histopathological assessment of all resected specimen, in addition to its cost-effectiveness, is currently under debate in the literature. Some reports have suggested histopathological assessment to be restricted for certain patient's group, for instance, older Black and Hispanic patients in the northeastern United States. However, no suggestions regarding at-risk group have been made or discussed in our region.

Knowing what are the findings reported through histopathology is an important first step to decide and further study the need of routine histopathological assessment. We aim to know the prevalence of gastritis, *H. Pylori*, and Stomach malignancies in resected specimen post-sleeve gastrectomy in King Abdulaziz Medical City. Also, we will investigate and report any other reported findings.

Results

- The mean age of our cohort was 37 [12-76] years with 60% females (n=549)
- Mean body-mass index (BMI) of 44.3 [29 – 76.9] kg/m² at baseline
- Smokers constituted 14.5% (n=133/912)
- Diabetes was in 174 of patients (17%) at baseline
- Hypertension in 170 of patients (17%)
- Dyslipidemia in 176 of patients (17%)
- Gastroesophageal reflux disease (GERD) was in 52 of patients (5.7%) at baseline
- Abnormal histopathology was seen in 53% (n= 484/912) of the cohort, as follows:

Finding	%
Gastritis	98% (n= 475/484)
<i>H. Pylori</i>	38% (n= 186/484)
Gastrointestinal Stromal Tumor (GIST)	0.1% (n= 1)
Microcarcinoid with intestinal metaplasia	0.1% (n= 1)
Intestinal Metaplasia	0.6% (n= 6)
Proton Pump Inhibitor (PPI) effect	0.2% (n= 2)
Fundic Gland Polyps	0.2% (n= 2)
Enterochromaffin cell-like (ECL) hyperplasia	0.1% (n= 1)
Gastric Schwannoma	0.1% (n= 1)

Table 1. Histopathological findings

Conclusion

In short:

- our results are comparable to the published reports, with lower incidence of malignancy.
- Identifying the findings reported through histopathology is an important first step to decide and further study the need and cost-effectiveness of routine histopathological assessment.

References

- Aljerian K. Histopathological Findings in Laparoscopic Sleeve Gastrectomy Specimens from Patients with Obesity in Saudi Arabia. *Gastroenterol Res Pract*. 2018 Apr 3;2018:1702705. doi: 10.1155/2018/1702705. PMID: 29849592. PMCID: PMC5953318
- Rashdan M, Mansour H, Odeh G, Abu-dawood R, Oloom G, Foudeh D, et al. Histopathology findings of resected gastric specimens post sleeve gastrectomy: A cross-sectional study. *Int J Surg Open*. 2022 Jun 1;43:100485.
- Al Saady R, Ejekam G. Histopathological findings in laparoscopic sleeve gastrectomy specimens. *Qatar Med J*. 2019;2019(1):1–5.
- Yang J, Trivedi A, Nyrenda T, Shi M, Pelti R, Talashnisky T. Histopathologic findings in laparoscopic sleeve gastrectomy: is routine full pathologic evaluation indicated? *Surg Obes Relat Dis*. 2022 Oct 7.
- Klaudia Nowek et al; Histologic and Cost-Benefit Analysis of Laparoscopic Sleeve Gastrectomy Specimens Performed for Morbid Obesity. *Arch Pathol Lab Med* 1 March 2021; 145 (3): 365–370. doi: https://doi.org/10.5858/arpa.2020-0084-OA

Presenter Details

Abdulrahman Alomar
Batch 15
Email: Alomar325@ksau-hs.edu.sa



Phenotype and Genotype of Saudi Pediatric Patients With Neurofibromatosis Type 1: A Seven-Year Multicenter Experience From Saudi Arabia



Mohammed A. Alfurayh^{2,3} • Nawaf K. Alawad^{2,3} • Abdulaziz M. Bin Akrish^{2,3} • Awad S. Alharbi^{2,3} • Ahmed Sharahili^{2,3} • Abdulaziz S. Bin Saleem^{2,3} • Muhammad T. Alrifai^{1,2,3}

¹King Abdullah Specialized Children's Hospital, Riyadh, Saudi Arabia. ²King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia. ³King Abdullah International Medical Research Center, Riyadh, Saudi Arabia.

Abstract

Background

Neurofibromatosis type 1 (NF1) is a complex disorder. NF1 is characterized by multisystemic involvement.

Methods

This study was conducted in the Ministry of National Guard Health Affairs, using a retrospective method. Electronic charts were reviewed to extract the variables. All Saudi pediatrics aged <18 were included.

Results

20.6% of patients had cutaneous neurofibroma. Epilepsy was the presenting feature of 17% of cases. Cognitive impairment was found in 9.4%. The most found type of mutation was nonsense 36.6%.

Conclusion: In this cohort of Saudi pediatric patients with NF1, optic pathway gliomas were prevalent.

Methods and Materials

- This study was conducted in NGHHA, Saudi Arabia including three tertiary hospitals, using a retrospective cohort method, electronic charts were reviewed to extract the variables.
- This study included all Saudi pediatric patients aged less than 18 who were diagnosed with NF1. Consecutive sampling was used due to the limited number of patients.

Discussion

- Similar to previous studies, the presence of café-au-lait macules was the most pronounced of the diagnostic criteria for NF1 as it was observed in 83.12% of our patients [1,2].
- Apart from the OPG, NOPGs are common in pediatrics with NF1[3].
- OPG prevalence rate worldwide is 8-15%, while in our study we found that it is 18.12% [4].

Introduction

- Neurofibromatosis (NF) is a complex hereditary disorder.
- Genetics and environment might be attributed as the leading cause of Neurofibromatosis.
- Neurofibromatosis is characterized by multisystemic involvement.
- Worldwide, NF-1 affects almost 1/3,000.
- NF-1 has various phenotypes and genotypes reported worldwide.
- In this study, we aimed to elaborate more regarding the Saudi children's phenotype and genotype.

Results

Variable	Overall (n = 160)
Age (Mean ± SD)	8.08 (±5.21)
Gender (N%)	
- Male	81 (50.62%)
- Female	79 (49.37%)
BMI (Mean ± SD)	18.90 (±6.54)
NF Criteria (N = 160)	Frequency (%)
- café au lait spots	133 (83.12)
- cutaneous Neurofibroma	33 (20.62)
- Plexiform Neurofibroma	31 (19.37)
- Iris Lisch Nodules	54 (33.75)
- Optic Pathway Glioma	29 (18.12)
- Skinfold Freckling	44 (27.50)
- Skeletal Involvement	27 (16.87)
- First Degree relative with NF	83 (51.87)
OPG (N= 29)	Frequency (%)
Site	
Left	13 (44.82)
Right	4 (13.79)
Bilateral	12 (41.37)
Way of diagnosis	
Accidental	11 (37.93)
Symptomology	18 (62.06)
Symptoms (N=18)	
Decrease visual acuity	10 (55.56)
Blindness	4 (22.22)
Nystagmus	4 (22.22)
Gait disturbances	1 (5.56)
Vomiting	1 (5.56)
Headache	3 (16.67)

- Splicing site mutations have been linked to OPG, however, we only had two patients with OPG and splicing site mutation [5].

Conclusion

This study's main goal was to evaluate the phenotype and genotype of Saudi pediatric patients with neurofibromatosis type. Optic pathway glioma and other brain tumors were prevalent among Saudi patients with NF1 raising the importance of early detection of the disease to provide the optimal quality of life possible.

References



Presenter Details

Mohammed Abdulaziz Alfurayh
Batch 16
Alfurayh597@ksau-hs.edu.sa
+966598892765



Bronchial Asthma Exacerbation in the Emergency Department in a Saudi Pediatric Population: An Insight From a Tertiary Hospital in Riyadh, Saudi Arabia



Mohammed A Alfurayh¹, Mouath A Alturaymi¹, Ahmed Sharahili¹, Majed A Bin Dayel¹, Abdullah I Al Eissa², and Muath O Alilaj².

¹ King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia. ² King Abdulaziz Medical City, Riyadh, Saudi Arabia.

Abstract

Background: Severe uncontrolled asthma in the pediatric population is a complicated disease and is considered a major challenge for pediatricians.

Methodology: A cohort study was conducted at NGHA. Data from children aged one month to 14 years were collected using the chart review. Extraction of the data was done from Jan 2016 to May 2022. Variables included demographic data, comorbidities, and asthma-related variables, including the number of asthma exacerbations and hospital admission.

Results: 363 patients were analyzed, 63.1% males and 36.9% females. The mean age was 4.9 years. GERD was associated with higher hospital rate admissions. Steroid use was associated with fewer patients having night symptoms, as 91 out of 123 steroid users had no night symptoms.

Conclusion: Asthma is a common pediatric respiratory disease that could be a burden if not controlled well. The frequency of hospital admissions and pediatric ER visits due to asthma exacerbation is increasing.

Methods and Materials

- A cohort study was conducted at National Guard Health Affairs in Riyadh, Saudi Arabia.
- Data from children aged one month to 14 years were collected using the chart review in the ER setting.
- All patients with other hyperactive airway diseases were excluded.
- Extraction of the data was done from Jan 2016 to May 2022.
- Variables included demographic data, comorbidities, and asthma-related variables, including the number of asthma exacerbations, hospital admission, ER visit, and the presence of allergic rhinitis and eczema.

Discussion

- Despite advances in asthma control and the establishment of guidelines specifically for pediatric asthma, acute flares still occur and lead to significant morbidity in the child's general health. [1] Our study showed that 51% of those who had experienced an asthma attack previously visited the ED one time, and 17% of asthmatic patients had visited the ED at least two times.
- GERD-associated obesity has been linked to asthma exacerbation as the reflux leads to the inflammation of the airways [2]. Interestingly, our study showed the same outcome as most GERD patients were visiting the ED frequently in addition to the higher rate of hospital admissions.
- A study showed that patients who were on steroid therapy were less frequently visiting the ED. [3] The study in hands also showed that inhaled steroid use is statistically associated with fewer ED visits and night symptoms.

Introduction

- Severe uncontrolled asthma in the pediatric population is a complicated disease and is considered a major challenge for pediatricians.
- Severe bronchial asthma in the pediatric population is related to significant morbidity and mortality.
- Children with complicated asthma are at a higher risk for unfavorable outcomes, including medication-associated adverse effects, severe life-threatening exacerbations, and poor quality of life.
- Asthma exacerbation is one of the most common reasons for emergency department visits.
- The presence of concurrent comorbidities with bronchial asthma raises the risk of frequent exacerbations.
- In this study, we aimed to elaborate on asthma-related emergency department visits among the pediatric population.

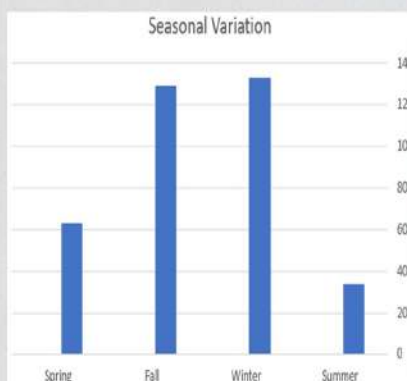
Results

- 363 patients were analyzed, 229 (63.1%) males and 134 (36.9%) females. The mean age was 4.9 years (SD = 3.5 years).

Emergency Visit	Steroids Used		Total	p-value
	Yes	No		
One Visit	39 21.1%	146 78.9%	185 100.0%	p=0.000*
Two Visits	18 28.6%	45 71.4%	63 100.0%	
Three	17 53.1%	15 46.9%	32 100.0%	
More Than Three Visits	49 50.0%	34 41.0%	83 100.0%	
Total	123 33.9%	240 66.1%	363 100.0%	

- GERD was associated with higher hospital rate admissions (**p value=0.05***)

- Steroid use was associated with decreased number of patients having **night symptoms**, as 91 out of 123 steroid users had no night symptoms. (**p value= 0.000***)



Conclusion

Asthma is a common pediatric respiratory disease that could be a burden if not controlled well.

Unfortunately, the frequency of hospital admissions and pediatric ER visits due to asthma exacerbation is increasing.

Comorbidities such as obesity and GRED play a significant role in asthma control.

References



Presenter Details

Mohammed Abdulaziz Alfurayh
Batch 16
Alfurayh597@ksau-hs.edu.sa
+966598892765



Toward One-day Admission for Living Kidney Donation: a retrospective study



Amjad M. Alsamti¹, **Alaa AlSahli**², Ghaleb Aboalsamh³, Sulaiman Alegair², Abdulrahman Altheaby¹, Khalid bin Saad¹, Abdulrazak Sibai¹, Mohammed F. Shaheen^{1,2}

¹King Abdulaziz Medical City (KAMC) – Riyadh, Saudi Arabia

²King Saud Bin Abdulaziz for Health Sciences, College of Medicine, Riyadh, Saudi Arabia

³King Faisal Specialist Hospital and Research Center (KFSH), Jeddah, Saudi Arabia

Abstract

This study evaluated the feasibility and safety of an Enhanced Recovery After Surgery (ERAS) protocol for living kidney donors undergoing laparoscopic nephrectomy, with the goal of reducing hospital stay to one day. To achieve that all patients received minimally invasive surgical techniques, intraoperative anesthesia block, and multimodal pain control methods.

A total of **210 living kidney donors** were included over the period of 2 years in King Abdulaziz Medical City - Riyadh. The **mean length of hospital stay was one day**, and most patients did not require opioids during the early postoperative period. The main causes leading to prolonged hospital stay were social or logistic reasons and suboptimal pain control.

Our results showed that **ERAS protocols could be safely implemented to achieve same-day admission for living kidney donors.**

Methods and Materials

Design: Retrospective descriptive study.

Inclusion criteria: All living kidney donors undergoing laparoscopic nephrectomy from January 2020 till January 2022 at King Abdulaziz Medical City - Riyadh

Data collected using bestCare system, a total of **210 consecutive live donors** included recording these multiple variables:

- Surgical technique, regional block received and perioperative morbidity.
- Pain scores and amount and frequency of opioids used.
- Date of admission, length of hospital stay, visits to ER and re-admission.

Statistical Analysis: Continuous data presented as Means \pm SD or Median [IQR] if not normally distributed, while nominal data presented as proportions



Discussion

- In this study, we provided our results after implementing ERAS along with minimally invasive nephrectomy for kidney donors as the first center from middle eastern countries.
- Combination of minimally invasive surgery and multimodal analgesia can successfully achieve safe and seamless postoperative recovery, allowing for 1 day hospital length of stay
- The system can be improved to minimize need for early admission, unnecessary emergency visits, and facilitate social support / venues for accommodation.
- Emergency visits happened in 12% of patients, however **only 1 required admission**

Reasons for prolonged hospital stay	N (%)
Lack of accommodation / logistics	31 (14.8%)
Pain control	13 (6.2%)
Delayed GI function	11 (5.2%)
Urinary retention	3 (1.4%)
Post-op complications	3 (1.4%)
Reasons for emergency visits	Statistics
GI disturbance	10 (4.8%)
Wound discharge	5 (2.4%)
Surgical site pain	4 (1.9%)

Introduction

Laparoscopic donor nephrectomy has become the standard approach for living kidney donation. Few studies have demonstrated the feasibility of achieving fast post-operative recovery, reducing the short of stay to about one day.

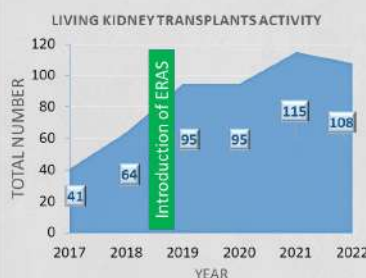
This would expectedly:

- 1- Alleviate donor's surgical stress
- 2- Lower hospital costs and financial burden
- 3- Expanding beds' availability / working capacity

In the face of increased demands for kidney transplants, we transitioned into an Enhanced Recovery After Surgery (ERAS) protocol for kidney donor in 2019 and was applied to all by donors by January 2020, aiming to safely achieve "one-day admission."

In this study we aim to:

- Evaluate the donors' safety and outcomes under the "one-day admission" ERAS protocol for living kidney donors.
- Identify the potential barriers to its implementation.



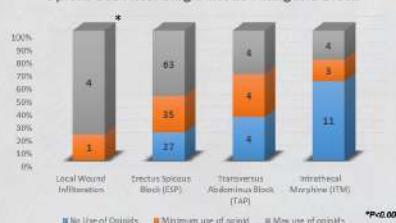
Presenter Details

Name: Alaa AlSahli
Batch: Batch 15
Email: alsahlia005@ksau-hs.edu.sa

Results

Demographics	Statistics
Males	77%
Age	31.2 \pm 7.7 years
BMI	25.3 \pm 4.6 Kg/m ²
Operative data	Statistics
Left kidney laterality	86%
Analgesia block modality	1.5 \pm 0.6 modalities
Number of Surgical Ports	3 [2-3]
Post-operative data	Statistics
Pain score in recovery	2.4 \pm 3
Pain score after 24 hours	1.9 \pm 2.7
Opioid spared	39%
Start of mobilization	13 \pm 4 hours
Hospital stay	1 [1-2] days

Opioid Use After Single Mode Analgesia Block



Opioid Use After Multimodal Analgesia Block



Conclusion

We demonstrated safety and practicality of transitioning to "one-day admission" utilizing ERAS protocols in a high-volume center. All minimally invasive surgical techniques are equivalent in terms of enhanced postoperative results. Multimodal anesthesia block seems to be the best option.

References



Hesham Almeneif¹; Ahad Alnemari²; Faris Alsalamah¹; Rafeef Alwahaibi³;
Awad Almuklass, PhD,^{1,4}

¹College of Medicine, KSAU-HS, Riyadh, ²College of Medicine & Surgery, Taif University, Taif,
³Prince Sultan bin Abdulaziz Humanitarian City, Riyadh, ⁴KAIMRC, Riyadh

Abstract

Multiple Sclerosis (MS) is a chronic inflammatory demyelinating disease attacking the brain and spinal cord. MS prevalence has increased worldwide. The global burden of the disease is estimated that there are 2.2 million persons with multiple sclerosis and 0.04 % of all Disability-Adjusted Life Years (DALYs) due to MS. The frequent onset of the disease occurs at an early age between 30 and 40. There is no curative treatment because of that it compromised a high disease burden in the younger age group. In this review, we aim to characterise the disabilities of each subtype including both upper and lower limb disabilities in MS patients. MS has different phenotypes, including clinically isolated syndrome (CIS), relapsing-remitting MS (RRMS), secondary progressive MS (SPMS), and primary progressive MS (PPMS). For each subtype, we reviewed the available literature and provided a detailed storyline for the patient's first presentation, clinical picture, and disease progression, with a focus on disability manifestation and characteristics. This approach can be of high value to clinicians and researchers who wish to focus on the disability point of view when working with MS patients.

Methods and Materials

A systematic literature search was conducted using PubMed, EMBASE, and Cochrane databases. The search terms included "multiple sclerosis", "subtypes", "disability", "comparison", "overtime", and their synonyms. The search was limited to articles published in English from January 2000 to December 2020. The inclusion criteria were: (1) original research articles or reviews; (2) involving human subjects with MS; (3) reporting on disability outcomes, such as the Expanded Disability Status Scale (EDSS), the Multiple Sclerosis Functional Composite (MSFC), or the Multiple Sclerosis Impact Scale (MSIS); (4) comparing different MS subtypes, either clinical or MRI-based; and (5) providing sufficient data and methodological details. The exclusion criteria were: (1) case reports, editorials, letters, or commentaries; (2) involving non-MS neurological diseases; (3) reporting on other aspects of MS pathophysiology or treatment; and (4) providing insufficient data or methodological details. The search yielded 1,567 articles, of which 54 met the inclusion criteria and were included in the review.

Discussion

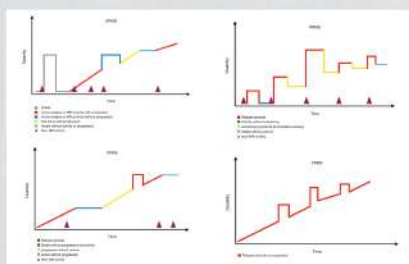
This narrative review aimed to compare the disability outcomes of different subtypes of MS over time, based on clinical and MRI data. The main findings were that the clinical MS subtypes have different trajectories of disability accumulation over time, with SPMS being the most severe and disabling subtype; and that the MRI-based MS subtypes capture different aspects of MS pathology that are associated with different disability outcomes over time, with the lesion-led subtype being the most active and progressive subtype. These findings have several implications for the understanding and management of MS. First, they highlight the heterogeneity and complexity of MS as a disease that affects multiple domains of the CNS and has variable clinical manifestations and outcomes. Second, they suggest that the current clinical MS subtypes classification may not adequately reflect the underlying disease mechanisms and may not be sufficient to guide treatment decisions. Third, they indicate that the MRI-based MS subtypes classification may offer a more objective and reliable way to stratify MS patients based on their pathological features and to predict their disability progression and response to treatment. Fourth, they point out the need for further research to validate and refine the MRI-based MS subtypes classification using larger and more diverse cohorts of MS patients, as well as to explore the potential biomarkers and therapeutic targets for each subtype. The limitations and gaps in the current literature were also identified and discussed. The main limitations were the retrospective nature of studies, the variability in the methods and measures used to assess disability outcomes, the lack of standardized criteria to define clinical and MRI-based MS subtypes, and the potential confounding factors that may influence disability outcomes, such as age at onset, sex, disease duration, treatment history, comorbidities, and genetic factors.

Introduction

Multiple Sclerosis (MS) is a chronic inflammatory demyelinating disease attacking the brain and spinal cord (Makhani & Tremlett, 2021). MS prevalence has increased worldwide (35.9 per 100,000 population) (Doshi & Chataway, 2016). The highest prevalence originates from North America (140 cases per 100,000) and Europe (108 cases per 100,000). The lowest majority is in sub-Saharan Africa (2.1 cases per 100,000) and East Asia (2.2 cases per 100,000) (Doshi & Chataway, 2016). According to recent data, the prevalence in the Gulf region has increased by approximately 31 – 35 cases per 100,000 (Jumah et al., 2019). In Saudi Arabia, MS prevalence was reported at 40 cases per 100,000. Therefore, we are placing Saudi Arabia above the low-risk zone according to the Kurtzke classification (Jumah et al., 2019). The global burden of the disease is estimated that there are 2.2 million persons with multiple sclerosis and 0.04 % of all Disability-Adjusted Life Years (DALYs) due to MS. The frequent onset of the disease occurs at an early age between 30 and 40. There is no curative treatment because of that it compromised a high disease burden in the younger age group, MS morbidity burden in Switzerland has a significant influence more than mortality in a ratio of 2:3 between persons in an asymptomatic/mild and moderate/severe disease stage (1). There are different phenotypes of MS; Clinically Isolated Syndrome (CIS) is the initial attack of MS. The CIS converts to Relapsing-Remitting MS (RRMS). Then, up to 80% develop Secondary Progressive MS (SPMS). Primary Progressive MS (PPMS) estimated 10 - 15% of patients have progressive disabilities from the onset.

Results

The results of the studies consistently show that PPMS patients have worse disability outcomes than RRMS patients, and that SPMS patients have worse disability outcomes than both RRMS and PPMS patients². For example, a longitudinal study of 1,507 MS patients followed for a median of 8.4 years found that PPMS patients had higher EDSS scores at baseline and faster EDSS progression than RRMS patients, and that SPMS patients had higher EDSS scores and faster EDSS progression than both RRMS and PPMS patients. Similarly, a cross-sectional study of 1,866 MS patients found that PPMS patients had lower MSFC scores than RRMS patients, and that SPMS patients had lower MSFC scores than both RRMS and PPMS patients. Moreover, a cross-sectional study of 2,126 MS patients found that PPMS patients had higher MSIS scores than RRMS patients, and that SPMS patients had higher MSIS scores than both RRMS and PPMS patients.



These findings suggest that the clinical MS subtypes have different trajectories of disability accumulation over time, with SPMS being the most severe and disabling subtype. However, these findings also reflect the limitations of the clinical MS subtypes classification, which relies on retrospective criteria and subjective judgments¹. Furthermore, these findings do not account for the heterogeneity within each subtype, which may be influenced by factors such as age at onset, sex, disease duration, treatment history, comorbidities, and genetic factors¹².

Conclusion

In conclusion, this narrative review provided a comprehensive overview of the current evidence on disability comparison between different subtypes of MS over time. We characterized the disabilities of each subtype including both upper and lower limb disabilities in MS patients. MS has different phenotypes, including CIS, RRMS, SPMS, and PPMS. For each subtype, we reviewed the available literature and provided a detailed storyline for the patient's first presentation, clinical picture, and disease progression, with a focus on disability manifestation and characteristics. This approach can be of high value to clinicians and researchers who wish to focus on the disability point of view when working with MS patients. Moreover, we shed light on other factors that could influence the progression of MS and the perceived severity of its symptoms, as well as their spectrum. Although they are mostly similar, it was evident that the Saudi MS population has slight variations in their characteristics when compared to the global MS population. These subtle variations should be taken into consideration when managing MS patients, as there may be other variations in different populations. Therefore, further studies might be needed to investigate such differences, if any.

References

- Doshi, A., & Chataway, J. (2016). Multiple sclerosis, a treatable disease. *Clin Med (Lond)*, 16(3), 53-59. doi:10.1093/clinmed/cmv036
- Huang, W., Chen, W. H., & Zhang, X. (2021). Multiple sclerosis: Pathology, diagnosis and treatment. *Exp Ther Med*, 19(1), 1-11. doi:10.3892/etm.2020.10000
- Jumah, M., Alzahrani, B., Othman, Y., Alotaibi, G., Alotaibi, A., & Alotaibi, Y. (2019). Rising Prevalence of Multiple Sclerosis in Saudi Arabia: a Descriptive Study. *Journal of Multiple Sclerosis*, 19(1), 1-11. doi:10.1177/1352458519850000
- Kurtzke, J. W. (1983). *Rating Expanded Disability Status Scale*. *Neurology*, 33(11), 1444-1452.
- Kormann, C. F., Uebachs, B. M., & Palmer, C. H. (2014). Multiple sclerosis: current knowledge and future outlook. *Eur Neurol*, 72(1-4), 120-130. doi:10.1159/000365524
- Khanna, S., & Laitin, J. D. (2018). Clinical Course of Multiple Sclerosis. *Clinical Practice*, 18(1), 101-110. doi:10.1155/2018/1010101
- Ko, T. (2018). Pathogenesis of multiple sclerosis. *J Neurol*, 255(1), 2-10. doi:10.1007/s00405-018-0501-2
- Li, Z., Liu, Q., Wen, H., & Zhang, Y. (2021). Disease modifying the gaps in relapsing remitting multiple sclerosis: A systematic review and network meta-analysis. *Autoimmun Rev*, 20(1), 200206. doi:10.1016/j.autrev.2021.102600
- Makhani, R., & Tremlett, H. (2021). The multiple sclerosis pandemic. *Nat Rev Neurol*, 17(8), 515-521. doi:10.1038/s41582-021-00615-3
- McDonald, W. (2011). Multiple sclerosis. *Ann Fam Phys*, 73(3), 712-714.
- Zachowski, K. M., Wang, J. J., McGready, J., Calabrese, P., & Newcombe, S. G. (2015). Quantitative sensory and motor measures reflect change over time and correlate with walking speed in individuals with multiple sclerosis. *Brain*, 138(1), 1-11. doi:10.1093/brain/awu311

Presenter Details

Name: Hesham A. Almeneif
Batch number: 16
Email: Almeneif817@ksau-hs.edu.sa

Ghadeer Aljahdali, Haya Aljurfani, Jawaher Alsahabi, Raad Madkhali, Abdulrahman Alqahtani,

Afaf Felemban

College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SA; Department of Obstetrics and Gynecology, King Abdulaziz Medical City, Riyadh, SA; Interventional Radiology Department, King Abdulaziz Medical City, National Guard of Health Affairs, Riyadh, Saudi Arabia.

Abstract

Infertility is one of the major agonies to couples and it is increasing worldwide. endometrioma affects ovarian function and the increasing pressure over the ovaries lead to diminished ovarian reserve even in young age. We present to you a 30-year-old lady complaining of secondary infertility for 7 years and chronic pain. She had multiple trials of IVF/ICSI cycles that ended with recurrent failure of implantation. Sclerotherapy showed promising results in patient suffering from endometrioma.

Introduction

Couples struggling with infertility for a long period find it hard and challenging especially if it is associated with physical pain such as pelvic pain in endometriosis. Endometriosis and endometrioma affects ovarian function and the increasing pressure over the ovaries lead to diminished ovarian reserve even in young age.

Objectives:

- To show the drastic increase in AMH and Ovarian Reserve Post-Sclerotherapy.
- To shed the light on modern and minimally invasive technique.

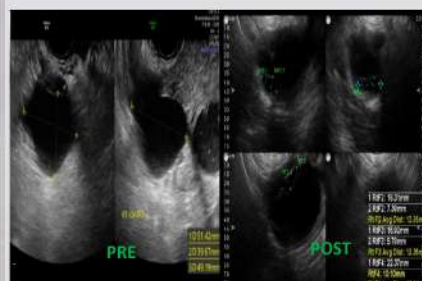
Presenter Details

Ghadeer L. Aljahdali, Batch 15
ghadeeraljahdali@gmail.com
+966541464382

Methods and Materials

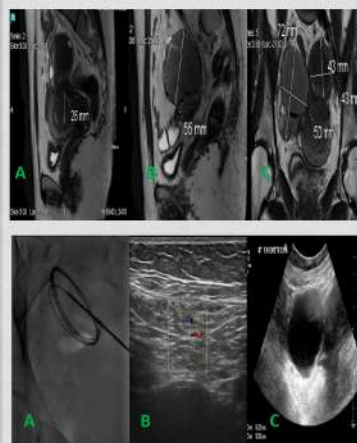
A 30-year-old lady complaining of secondary infertility for 7 years and chronic pain. She had multiple trials of IVF/ICSI cycles that ended with recurrent failure of implantation. A positive history of endometriosis and had two laparoscopic cystectomies. As per our protocol, we have made an endometrial sampling which showed (+) Chronic Endometritis and prescribed antibiotic (Doxycycline). Despite the low AMH, we given her an IVF trial with 150 Merional and 300 Gonadotropin F. Sadly, we could not find any oocytes. The patient was encouraged to undergo sclerotherapy as she had already tired surgical options and IVF cycles. A Magnetic Resonance Imaging (MRI) was done, see Figure. After that, she had undergone ovarian endometrioma sclerotherapy successfully and instant pain relief, see Figure. Two months later, she came to the clinic for follow-up; a vaginal ultrasound and AMH levels were done. The patient was enrolled to undergo another IVF/ICSI trial especially with the increase in AMH and ovarian reserve.

Item	Pre-Sclerotherapy		Post-Sclerotherapy	
Anti-Mullerian Hormone	1.41		11.62	
Estradiol	<88		248	
Antral Follicular Count	RT Ovary	LT Ovary	RT Ovary	LT Ovary
	2 <10 mm	4 <10 mm	3 >16mm	2 <10mm



Discussion

Sclerotherapy is therapeutically comparable to surgery, however there is an increase in recurrence rate. It is considered superior in terms of fertility preservation unlike surgery. The AMH and serum Estradiol instantly increase post sclerotherapy. Studies have stated spontaneous pregnancy after sclerotherapy.



Conclusion

Sclerotherapy showed promising results in patient suffering from chronic pain and secondary infertility due to ovarian endometrioma. This case opens the door for more curious questions and a hope for challenging cases of infertility secondary to endometrioma.

References





A Comparison between MRI/CT and Pathology in Ovarian Cyst Diagnosis: Tertiary Center Experience



Ghadeer L. Aljahdali, Haya Aljurayfani, Yumna Alsetary, Norah Alkeneetir, Modi Alamer, Yara Alhamad, Mohammed A.

Aldriweesh, Monira Alzahrani, Raad Madkhali, Abdulaziz Alosaimi, Haitham Arabi, Afaf Felemban.

College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SA; Department of Biostatistics, King Abdullah International Medical Center, Riyadh, SA;

Department of IVF, King Abdulaziz Medical City, Riyadh, SA; Department of Obstetrics and Gynecology, King Abdulaziz Medical City, Riyadh, SA

Abstract

Ovarian cysts represent one of the most common gynecological diseases around the world. This is a retrospective cohort study, comparing two age groups in terms of patient risk factors, radiological feature and pathological diagnosis. A total of 200 patients underwent ovarian cystectomy. The sample was categorized into two groups (Reproductive 170(85%) and Menopause 27(14%).

Methods and Materials

This is a retrospective cohort study, comparing two age groups (reproductive and menopausal age groups) in terms of patient risk factors, radiological feature and pathological diagnosis. The study took place in King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia from Jan 2016 – Dec 2021. We included all patients underwent ovarian cystectomy and had radiological evidence.

Introduction

Ovarian cysts represent one of the most common gynecological diseases around the world. Different types of ovarian masses vary in different age groups. We aim to assess patient risk factors, radiological and pathological characteristics of ovarian cyst.

Objectives:

- Assess the demographic features of women with ovarian cyst
- Establish a comparison between different age groups in terms of histopathological and radiological features.

Results

A total of 200 patients underwent ovarian cystectomy. The sample was categorized into two groups (Reproductive 170(85%) and Menopause 27(14%). BMI was higher in menopausal women 34 ± 7 . Majority of reproductive age patients were nulliparous, unlike menopausal group. In reproductive age group, only seven patients only had previous cystectomy procedure and thirty-three had ovulation induction trials (OI). Pelvic adnexa torsion showed a significant association with reproductive age group (33(19%), $P = 0.001$). Dermoid cyst accounted for the highest among other causes in reproductive age while mucinous cystadenoma in menopausal age.

Table 1: Ovarian Cyst Emergency Presentation

Variables	Reproductive Age Group N(%)	Menopause Age Group N(%)	P
Emergency	69(41%)	6(22%)	0.06
Torsion	33(19%)	-	0.001
Rupture	9(5%)	-	0.1
Hemorrhagic Cyst	2(1.2%)	3(4%)	0.4

Table 2: Ovarian Cyst Diagnosis

Variables	US N(%) / Mean \pm SD	MRI/CT N(%) / Mean \pm SD	P
Cyst Side			
Unilateral	75(49%)	77(51%)	0.2
Bilateral	16(38%)	26(62%)	
Cyst Size (cm)	7.1 \pm 8	8 \pm 4	0.4
Morphology			
Unilocular	1(2%)	-	
Multilocular	1(2%)	5(8%)	0.1
Solid	9(15%)	10(15%)	
Cystic	33(54%)	42(64%)	
Fluid			
Yes	25(54%)	38(67%)	0.24
No	21(46%)	20(34%)	
Solid			
Yes	15(41%)	22(39%)	0.44
No	32(68%)	34(61%)	
Septations			
Yes	18(33%)	35(53%)	0.02
No	36(67%)	31(47%)	
Cyst Wall			
Thin	36(92%)	11(21%)	0.07
Thick	3(8%)	42(80%)	

Conclusion

Ovarian cyst presentation, diagnosis, and management differ based on age. Younger women had acute presentation, benign types of ovarian cyst. We encourage an extensive study that accurately measure the difference of age groups.

References



Presenter Details

Ghadeer L. Aljahdali, Batch 15
ghadeeraljahdali@gmail.com
+966541464382

Ghadeer L. Aljahdali, Modi A. Alamer, Yara E. Alhamad, Norah A. Alkeneetir, Eman F. Alzahrani,

Naila A. Shaheen, Mohammed H. Arabi, Afaf A. Felemban, Monira H. Alzahrani

College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SA; Department of Biostatistics, King Abdullah International Medical Center, Riyadh, SA; Department of IVF, King Abdulaziz Medical City, Riyadh, SA; Department of Obstetrics and Gynecology, King Abdulaziz Medical City, Riyadh, SA

Abstract

Chronic Endometritis is a serious condition that affects women's fertility and ability to conceive a child. This is a case-control study included women suffering from Chronic Endometritis (CE) and infertility at King Abdulaziz Medical City, Riyadh, SA. A total of 148 patients (CE=73 vs. Non-CE=75). Pregnancy numbers increased from 3 to 15 after treatment.

Methods and Materials

A case-control study included women suffering from Chronic Endometritis (CE) and infertility. The study was conducted in the IVF unit in King Abdulaziz Medical City, Riyadh, SA (Jan 2016-Dec 2020). Patients were followed for two cycles pre- and post-treatment. Success Rates were calculated based on special formulas (LBR, PR, and IR).

Discussion

The current literature shows discrepancy in the effect of chronic endometritis and the benefit of treating this inflammation. One study showed no significant difference in terms of IVF success rate either in cured CE or non-cured. Nevertheless, another study showed a significantly higher live birth rate and implantation rate after treating infertile CE patients yet there was no difference in terms of miscarriage rate. In our study, we have seen a change in live birth rate and pregnancy rate.

Introduction

Chronic Endometritis is a serious condition that affects women's fertility and ability to conceive a child. Here, we aim to assess the relationship between infertility and CE with taking into account the success of IVF trials.

Objectives:

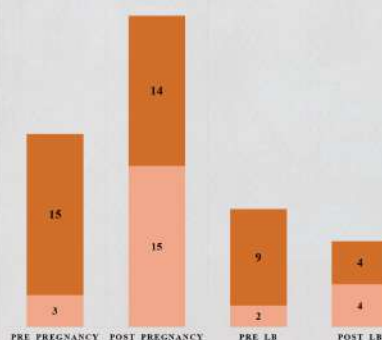
- Explore the association between CE and Infertility.
- Compare the success rates between CE and Non-CE women.

Results

A total of 148 patients (CE=73 vs. Non-CE=75). The mean age was (CE=37±4.7, Non-CE=36±4).

Chronic endometritis patients had the longest infertility duration accounted for 72 months. Majority of CE patients presented with infertility 70 (96%). Doxycycline was given for 44 (60%) of the patients while the rest were given Metronidazole. Pregnancy numbers increased from 3 to 15 after treatment.

CE Non-CE



Conclusion

Chronic Endometritis affects female infertility, and its management leads to higher pregnancy and live birth rates. We recommend a detailed and comprehensive study tackling the risk factors and efficacy of CE treatment upon fertility.

References

Presenter Details

Ghadeer L. Aljahdali, Batch 15
ghadeeraljahdali@gmail.com
+966541464382



Abdulrahman Yousef Alhabeeb^{1,2}, Ahmed Idrees^{2,3}, Thamer Saad Alhawaish^{1,2}, Moustafa Alhamadh^{1,2}, Emad Masudi^{1,2}, Abdullah Alanazi^{1,2}, Wazzan ALjuhani^{2,3}.

- 1- College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.
2- King Abdullah International Medical Research Center, Riyadh, Saudi Arabia.
3- Department of Orthopedic Surgery, Ministry of National Guard - Health Affairs, Riyadh, Saudi Arabia.

Abstract

Introduction:

Dermatofibrosarcoma protuberans (DFSP) is a rare, slow-growing, and locally aggressive soft tissue tumor with a high recurrence rate.

Methods:

This was a retrospective (case series) study that took place at King Abdulaziz Medical City, Riyadh, Kingdom of Saudi Arabia, to determine the outcomes of and appropriate margin excision for DFSP. All patients who were diagnosed with DFSP from 2016 to 2021 were included. Many variables were assessed such as demographics and whether patients were managed with an oncology-oriented approach or a non-oncology-oriented.

Results:

There were a total of 17 patients with DFSP, four of whom had fibrosarcomatous differentiation (FS-DFSP). The majority (N = 13, 76.5%) of the patients were females. Only two (11.76%) patients had metastatic disease, one of whom had FS-DFSP. The minimum resection margin was 3 cm, and the maximum was 5 cm. Thirteen (76.47%) patients were managed with an oncology-oriented approach (Group I), 23% of whom had post-excision positive margins. However, all patients who were managed with a non-oncology-oriented approach (Group II) had positive margins post-excision. More than three-quarters (76.9%) of group I underwent wide resection. Split-thickness skin grafting and primary closure were the most commonly used reconstruction methods in groups I and II, respectively. The mean planned margins in groups I and II were 3.9 cm and 1.7 cm, respectively.

Conclusion:

The findings of this study suggest that a planned wide-margin excision with a minimum safe margin of 3-5 cm should be implemented to reduce the recurrence, metastasis, and need for further surgeries in patients with DFSP.

Methods and Materials

Objective:

To determine the outcomes of and define an appropriate margin excision for DFSP and FS-DFSP.

Study Design & Settings:

This was a retrospective (case series) study that took place in the National Guard Health Affairs (MNG-HA), King Abdulaziz Medical City (KAMC), Riyadh, Kingdom of Saudi Arabia.

Data Collection:

After obtaining the ethical approval, the electronic records of all patients with a diagnosis of dermatofibrosarcoma from 2016 to 2021 were requested. Then, the required variables were collected by screening the patient's electronic records, using the KAMC electronic system Best-Care.

The following variables were collected: Patients' gender, age, location of the tumor, size of the tumor, the clinical presentation, biopsy method, margin type, planned margins in cm, pathology margin status as positive or negative, use of radiation, use of systemic therapy, metastasis, resection method, and oncology (group I) or non-oncology (group II).

The oncology-oriented approach was defined as a wide local excision, and the non-oncology-oriented approach was defined as an unplanned excision.

Statistical Analysis:

The Statistical Package for the Social Sciences (SPSS) version 22 was used for data analysis.

Discussion

We noticed in our comparison between the two groups of approaches that there was a big difference in margins between the two groups, which could be explained by the fact that most of group II (50%) had an intralesional resection.

The wide resection in group I led to fewer positive pathology margins (23%) in comparison to group II, which had 100% positive pathology margins.

The majority of group I underwent reconstruction with split thickening and a skin graft, whereas the majority of group II underwent primary closure.

This variation can be understood in the sense that patients who had an unplanned excision at first will likely undergo further surgeries, have a bigger safe margin, and likely need more extensive reconstruction.

The term "unplanned excision" is described as a tumor resection without aiming to achieve a tumor-free margin.

Unplanned excision carries more disadvantages than advantages. It influences many perspectives, which include but are not limited to patients, metastasis, reconstruction methods, and morbidity and mortality.

Many studies have found that unplanned excision led to much wider re-excision due to the spread of malignant cell contamination.

Moreover, the size of skin defects that need reconstruction afterward was found to be significantly higher (1.9 times larger) in unplanned excision compared to planned excision (16).

Unfortunately, a re-excision surgery also comes with a cost. It increases the pain, hospital stay, the chance of complication, and cost of treatment, and it also affects limb function at times.

Regarding metastasis and survival rate, a study has found that patients who underwent unplanned excision had a significantly higher metastasis rate and lower survival rate.

Conclusion

DFSP is a slow-growing tumor that has a high recurrence rate, if not treated properly, but low metastatic potential.

It seems that DFSP is best handled by an oncology team with a wide-margin excision after staging workup to mitigate its complications and improve its outcomes.

Also, the study suggests targeting a minimum safe margin of 3-5 cm.

Unplanned excision should be avoided as it increases the need for further surgeries, recurrence, and metastasis, and worsen survival and limb function.

Introduction

Dermatofibrosarcoma protuberans (DFSP) is a rare soft tissue tumor that occurs in the dermis, subcutaneous fat, and occasionally, muscle and fascia.

DFSP has a low rate of metastasis, but it is known for its high recurrence rate after surgical resection.

The diagnosis of DFSP requires a tissue biopsy and subsequent histopathology.

Surgical excision with wide margins is considered the treatment of choice for DFSP, and it is usually curative.

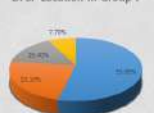
Fibrosarcomatous dermatofibrosarcoma protuberans (FS-DFSP) represents a rare form of DFSP with an unpredictable biological behavior and a poor prognosis.

Although it is well known that surgical excision with wide margins is the gold standard treatment for DFSP, the appropriate margin is still debatable.

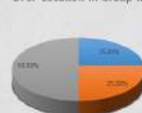
Results

	N	Percentage
DFSP-FA	4	23.5%
Gender		
Male	5	29.4%
Female	12	70.6%
Location		
Abdomen/thigh	3	17.6%
Back	4	23.5%
Upper extremities	3	17.6%
Lower extremities	8	47.4%
Positive pathology margin		
No	10	58.8%
Yes	8	47.4%
Systemic therapy		
No	17	94.1%
Yes	1	5.9%
Metastasis	2	11.8%
Resection Method		
Wide excision	10	58.8%
Intralesional	4	23.5%
Tumor bed	4	23.5%
Oncology orientated	13	76.5%
Non oncology orientated	5	29.4%
Reconstruction method		
Primary closure	6	35.3%
Breast reconstruction	1	5.9%
Split thickness skin grafting	9	52.9%
Muscle flap and skin graft	1	5.9%

DFSP Location In Group I



DFSP Location In Group II



Resection Method



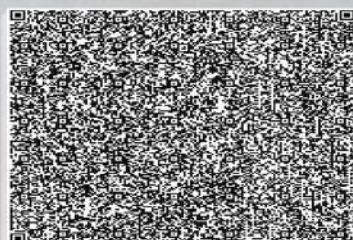
Reconstruction Method



Presenter Details

Name: Abdulrahman Alhabeeb
Batch number: 15
Email: Alhabeeb.ay@gmail.com

References



Abdulrahman Al Habeeb¹, Faisal Konbaz², Sami Al Eissa², Thamer Al Howaish¹, Ghada Al Hamed², Emad Masudi³, Majed Abalkhail², Fahad Al Helal².

¹ King Saud bin Abdulaziz University for Health Sciences, Riyadh Central, Saudi Arabia

² King Abdulaziz Medical City Ministry of National Guard, Riyadh Central, Saudi Arabia

³ Department of Medical Education, King Saud Bin Abdulaziz University for Health Science, Riyadh, Saudi Arabia

Abstract

Introduction:

Spinal cord injuries (SCI) cause significant disabilities and are devastating events for both patients and healthcare providers. Most traumatic spinal cord injuries (TSCI) are attributable to motor vehicle accidents (MVA). Neglected injuries result in complications and poor outcomes.

Methods:

This study (case series) was performed at King Abdulaziz Medical City, Riyadh, Saudi Arabia. Of the 750 patients treated between February 2016 and February 2021, 18 patients met our inclusion criterion (neglected high-energy TSCI with neurological deficit, necessitating surgical intervention more than 14 days from the index trauma).

Results:

Of the 18 patients with neglected TSCI, 72.2% were men. Patients' mean age at the time of injury was 36.8 years, 77.8% were from outside Riyadh, and all patients had MVA-induced TSCI, which was attributable to delayed referral to a tertiary center in most (88.9%) cases. The mean duration of neglect was 43 days, and the longest duration was 125 days. The most common site of injury was the thoracolumbar region (55.5%). Bed sores occurred in 55.5% and deep vein thrombosis in 27.8% of patients. Postoperatively, 77% of patients required intensive care unit admission. Most patients (12) did not receive specialized SCI rehabilitation postoperatively.

Conclusion

Early referral of patients with TSCI is essential to prevent short- and long-term complications.

Methods and Materials

This study (case series) was performed at King Abdulaziz Medical City, a tertiary center in Riyadh, Saudi Arabia, following IRB approval from the King Abdullah International Medical Research Center.

Of the 750 patients who visited the hospital between February 2016 and February 2021, 18 patients met our inclusion criterion, which included any neglected high-energy TSCI concomitant with neurological deficit.

Neglect was defined as delay in management of ≥ 14 days after the injury. Patients aged < 18 years were excluded from the study.

Data were obtained and reviewed manually using the BESTCare system, an integrated electronic medical record system that provides patient data, including demographics, injuries, management, neglect, complications, hospital course, and consequences.

Furthermore, we evaluated neurological status using the American Spinal Injury Association (ASIA) scores pre- and postoperatively.

Discussion

The incidence of SCI in Saudi Arabia is considered one of the highest globally (62.37 cases per million).

The high incidence is attributable to the high incidence of MVAs in Saudi Arabia.

The mortality risk is higher in those who experience TSCI than in the other populations; unfortunately, MVA-induced mortality rates are as high as 254 per million compared with 95 per million in Australia and 152 per million in the United States.

Early rehabilitation is the primary goal of TSCI management.

Several studies have shown that early rehabilitation reduces the length of hospitalization and facilitates earlier restoration of functional independence

	Konbaz et al.	Chhabra et al.	Elkate et al.
Number of cases	18	61	40
Mechanism of injury	MVA 100%	39.34 %	NA
Fall from height	0%	47.54%	NA
Cause of neglect	Delay referral 68.9%	NA	NA
Premature discharge in first admission	NA	52.5%	43%
Missed diagnosis	5.6%	4.9%	17%
Duration of neglect	Mean duration was 43 days	The majority presented > 168 days	
Improvement in ASIA score ¹	11.7%	NA	52.5%
Bed sores	55.5%	62.3%	58%
DVT	27.8	8.2%	26%
UTI	27.7%	50.82%	42%
Initiation of rehabilitation	Yes 33%	6.6%	NA
No	66%	93.4%	NA

Introduction

Spinal cord injury (SCI) refers to any trauma that results in permanent or temporary alterations in the normal sensory, motor, and autonomic functions of the spinal cord.

SCIs are considered catastrophic events for both patients and healthcare providers.

Traumatic spinal cord injuries (TSCI) are attributable to several etiological factors including motor vehicle accidents (MVA), falls from heights, gunshot injuries, sport-induced trauma, and falls from a load overhead.

MVAs account for most cases of TSCI globally and are implicated as the leading cause of TSCI in Saudi Arabia.

The estimated annual global incidence of TSCI is 40–80 cases per million population per World Health Organization statistics.

TSCI leads to loss of sensory and motor function below the level of the injury, which often results in spasticity, autonomic dysreflexia, and many other SCI-induced phenomena.

Results

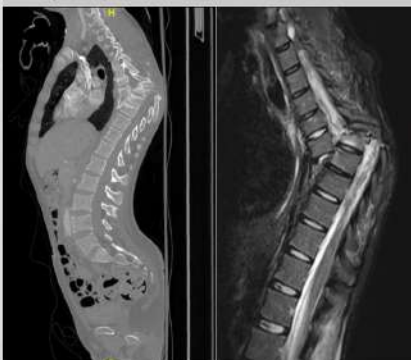
Cause of neglect	N	Percentage
Delay in referral to tertiary center	16	88.9
Patient refused surgical intervention	1	5.6
Missed diagnoses	1	5.6

	N	Minimum	Maximum	Mean	Std. deviation
Duration of neglect in days	18	14	125	43.0	31.3
Days in hospitals [day from injury to discharge]	18	42	264	126	58.4
				7	
Length of stay [from admission to discharge]	18	23	250	97.0	55.6
Days from injury to start rehab	6	33	110	64.2	27.0

ASIA at discharge. ¹			Total				
			A	B	C	D	
ASIA score at admission. ¹	A	Count	11	0	0	0	12
		% of Total	64.7%	0.0%	0.0%	0.0%	70.6%
	B	Count	0	1	1	0	2
		% of Total	0.0%	5.9%	5.9%	0.0%	5.9%
	C	Count	0	0	0	1	1
		% of Total	0.0%	0.0%	0.0%	5.9%	5.9%
	D	Count	0	0	0	3	3
		% of Total	0.0%	0.0%	0.0%	17.6%	17.6%
Total	Count	11	1	1	4	17	
	% of Total	64.7%	5.9%	5.9%	23.5%	100.0%	

Case:

Young patient with neglected T6/7 fracture dislocation with severe kyphotic deformity & overlap.



Conclusion

Early referral of patients with TSCI is essential to ensure prompt rehabilitation to prevent short- and long-term complications.

References



Presenter Details

Name: Abdulrahman Alhabeeb
Batch number: 15
Email: Alhabeeb.ay@gmail.com



Investigations on the Relationship Between the Month of Birth, Seasonality, and Age in the Incidence of Childhood Acute Lymphoblastic Leukemia in Saudi Arabia and Its Comparison with Other Geographic Regions of the World.



Abdulrahman Yousef Alhabeeb^{1,2}, Thamer S. Alhowaish^{1,2}, Khalid Al-Jamaan^{1,2,3*}, Rakan B. Alanazi^{1,2}, Shaya Fahad Aldosari^{1,2}, Azzam Abdulaziz Alrashid^{1,2}, Emad Masuadi^{2,4}, Zafar Iqbal⁵

1-College of Medicine, King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS)

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

3. Department of Pediatric Hematology and Oncology Division, King Abdulaziz Medical City, Riyadh, Saudi Arabia.

4- Department of Medical Education, Collage of Medicine, King Saud Bin Abdulaziz University for Health Science,

5-Clinical Laboratory Sciences, College of Applied Medical Sciences, King Saud Bin Abdulaziz University for Health Sciences

Abstract

Background:

Acute lymphoblastic leukemia (ALL) is the most common childhood cancer. It is associated with many environmental factors. The correlation between birth month, seasonality, and ALL has been studied with conflicting results.

Methods:

This was a retrospective cohort study conducted in King Abdulaziz Medical City, Riyadh, Kingdom of Saudi Arabia. The inclusion criteria were all patients diagnosed with ALL up to the age of 14 years. Patients with a family history of ALL were excluded. Demographic data, including the month of birth and age at the time of diagnosis (ATD), were obtained from electronic medical records and analyzed using SPSS version 27.

Results:

A total of 192 patients were found, the male-to-female ratio was 1.56:1, and mean ATD was 5.5 years. B-cell ALL accounted for 84.9%. January was the month with the highest incidence of ALL (12%), whereas February and September were the lowest (6.3% each) ($P=0.21$). Regarding ATD, Spring was found to be associated with a higher mean ATD (81.2 months) while Autumn season was associated with the lowest ATD (54.1 months, p -value=0.007).

Conclusions:

In this study, we found that ATD was significantly related to the season of birth. Some differences were found between the month/season of birth and the occurrence of ALL, but they were not statistically significant. In addition, a different association between seasonality and the frequency of ALL was found in different geographic regions of the world, which could be due to differences in weather conditions and environmental factors.

Methods and Materials

We aimed to identify if there is an association between the month/season of birth and acute lymphoblastic leukemia. For this purpose, we designed a retrospective cohort study [18]. It was conducted at King Abdullah Specialist Children Hospital (KASCH), Riyadh, Saudi Arabia. The study was approved by the Institutional Review Board (IRB) of King Abdullah International Medical Research Centre (KAIMRC).

ALL pediatric patients (age less than 15 years) diagnosed with ALL between 2007 and 2020 were included in the study [19]. Out of 227 cases, 192 were selected after excluding patients with a family history of cancer

SPSS version 27 (SPSS, Chicago, IL, USA) was used for data analysis. Qualitative variables were presented as frequencies and percentages such as gender, and ALL immunophenotypes whereas numerical variables were presented as mean \pm standard deviation. Percentages were compared using ANOVA test. P -value < 0.05 in a two-sided test was considered statistical significance. 95% confidence intervals were calculated for the results

Discussion

In this study, we carried out investigations on frequencies of pediatric ALL and their association with month/season of birth and age at the time of diagnosis.

Regarding the relation between the month of birth (MOB) and ALL, we found that January had a comparatively higher incidence of ALL cases in our region as compared to other months of the year.

Studies from England reported up to 40% higher increase in ALL cases in summer, with a peak from June to August

Another study carried out in USA showed significantly higher ALL incidences during the months of April, August, and December

In South Korea, the peak incidence of ALL was found in winter

These variations in association of seasonality with ALL incidences in different parts of the world could be caused by the varied environmental factors in different geographical areas.

This shows the interplay of biological and environmental factors in the initiation of ALL

Moreover, it shows that environmental exposure including infections in the early part of life affects the initiation of ALL which opens ways to prevent ALL through strategies avoiding or minimizing exposure to the factors that transform cells from pre-leukemic to leukemic state in ALL patients

Introduction

ALL affects both young and adults, however, the incidence peaks in young patients.

It is believed to be multifactorial in etiology with both endogenous and environmental factors, such as radiation, ultraviolet-light, and toxins.

In certain cases, these factors may influence a precipitating event, such as a viral infection, therefore, it is thought to be a virally induced malignancy.

The incidence of ALL differs between different countries. However, data suggests that ALL cases have been increasing globally. According to The Global Cancer Observatory (GCO) between 1990 and 2018, cases of ALL increased from 297,000 to 437,033 that makes it the 13th most common cancer worldwide.

Locally, in the Kingdom of Saudi Arabia, ALL represents 30% of malignancies among the pediatric population and is considered the 5th commonest malignancy.

Mortality incidence from ALL has been growing over the past years and recent data suggest it increased up to 16.5% globally.

Despite the progression in the number of ALL cases, the exact causes have not been well-identified although many risk factors identified.

Previous studies have tried to investigate the association between the month or season of birth and the risk of ALL development, interestingly, the findings were inconsistent.

Results

Figure 1: Incidence of ALL in each month

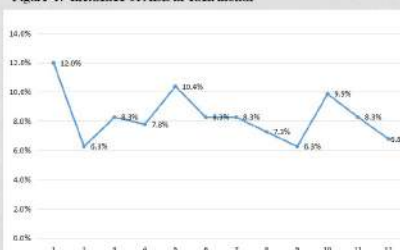


Figure 2: Mean age (in months) and each season.

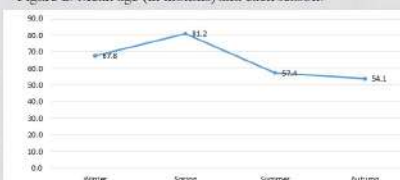
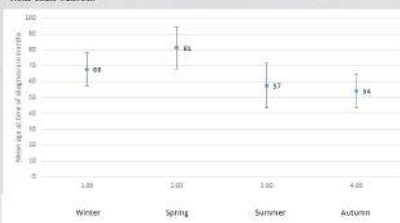


Figure 3: Simple Error Bar of the mean age at the time of diagnosis in months with each season.



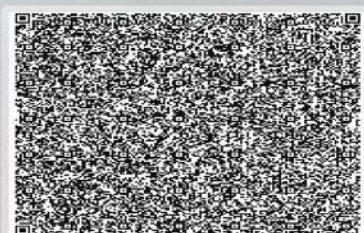
Conclusion

There is still no obvious known cause of ALL, and in order to increase the understanding of the disease, all aspects need to be examined.

In this study, we found that age at the time of diagnosis was significantly associated with the season of birth.

Furthermore, we noticed seasonal variations in pediatric ALL incidences in different parts of the world in relation to seasonality and months of birth, possibly due to variations in seasons and environmental factors globally.

References



Presenter Details

Name: Abdulrahman Alhabeeb

Batch number: 15

Email: Allhabeeb.ay@gmail.com

Khalid G. Alharbi², Mohammed N. Aldosari¹, Abdularhman Alhassan², Abdullah M. Altamimi² & Bader altulihi³

¹ Assistant professor & Consultant Family Medicine, Family Medicine & PHC Department, King Abdulaziz Medical City, Riyadh, KSA

² Medical Student, College of medicine, King Saud Bin Abdulaziz University For Health Sciences, KSU-HS Riyadh, KSA

Abstract

Background:

The novel coronavirus, officially known as COVID-19, was first reported in Wuhan, China in December of 2019. 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

Results:

439 enrolled in this study with 46% female and 54% males.. Overall level of patients' satisfaction with virtual clinic was 68.1%.

Conclusion:

This study shows a high level of satisfaction with virtual clinics in Saudi Arabia during COVID-19 pandemic

Methods and Materials

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 was sent to all participants who had at least one virtual visit between March 2020 to July 2020. 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.

Discussion

The majority of the study respondents perceived their experience with telemedicine as very convenient. This result is comparable to a study done in the US to assess the level of patients' satisfaction with virtual clinics. Their study showed the level of satisfaction as 92%. Telemedicine has benefits and advantages that outweigh those of traditional clinics. This study has its own strengths and limitations.

To our knowledge, this is the first study in Saudi Arabia to assess the level of patients' satisfaction with virtual clinics during the COVID-19 pandemic.

One of the major limitations is bias in the type of clinics available in virtual clinic service. The majority of our participants used the virtual family medicine clinics rather than the others.

Another limitation is that this study focused on PHC centers in the National Guards, Riyadh, only and did not include other PHC centers in Riyadh or any other city in Saudi Arabia

Introduction

During this pandemic, outpatient visits posed a great health risk for both the physician and the patient as this could spread the virus rapidly.[5] Therefore, there was an urgent need to divert patients from in-patient care to prevent overwhelming the healthcare services.[6] Telemedicine provided the opportunity for patients and physicians to carry out regular appointments without spreading the virus.[7] Telemedicine is defined as the use of electronic communications technologies to provide health care over long distances . COVID-19 is transforming the telemedicine landscape with breathtaking speed. Social distancing and quarantine have been important interventions, creating a compelling reason for in-person care alternatives

Results

Overall level of patients' satisfaction with virtual clinic was 68.1%. Factors that were statistically significantly associated with satisfaction were: Gender, Age group , Level of education (post-graduate and middle school) Being well-informed on the use of telemedicine. The majority of the participants viewed information given through virtual clinic as very trustworthy (79.4%). Family medicine clinics were the most commonly visited virtual clinics, whereas obstetrics and gynecology clinics were the least attended virtual clinics.

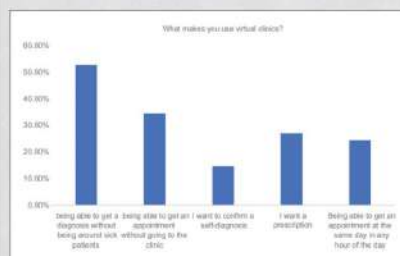


Figure 2: Advantages of virtual clinic

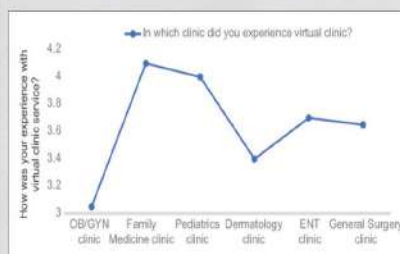


Figure 3: Patient satisfaction scores by specialties' virtual clinics

Conclusion

This study shows a high level of satisfaction with virtual clinics in Saudi Arabia during the COVID-19 pandemic despite the service being relatively new in health-care service in our country. Our study demonstrated that satisfaction was linked to age, gender, education and the type of clinic used. Telemedicine service maintain the delivery of health care at an acceptable level to patients and reduce demands on health-care services.

References

Access this article online	
Quick Response Code:	
	
Website: www.jfcmonline.com	
DOI: 10.4103/jfcm.JFCM_353_20	

Presenter Details

Name: KHALIED ALHARBI
Email: ALHARBK13@MNGHA.MED.SA
DOSARIMOH@KSU-HS.EDU.SA

Abdulaziz Ali Alnasser¹, Abdurhman Alsaif¹, Ali H. Alassiri^{1,2}, Mazyad Alenezi³, Jaber Alshammari³

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

2. Department of Pathology & Laboratory Medicine, King Abdulaziz Medical City, Ministry of National Guard - Health Affairs, Riyadh Saudi Arabia.

3. Department of Pediatric Surgery, Ministry of the National Guard - Health Affairs, Riyadh, Saudi Arabia.

Abstract

Juvenile ossifying fibromas (JOF) are rare benign tumors affecting the craniofacial area, and they present more in younger age groups. JOF, both psammomatoid and trabecular variants, are aggressive lesions and have a high tendency for recurring after surgical resection.

We are presenting a case of psammomatoid JOF found in the right anterior ethmoidal sinus of a 9-years-old female who was recently diagnosed with B-cell acute lymphoblastic leukemia (ALL) and is a known case of major histocompatibility complex class II deficiency.

Case Description

- Imaging results urged the need for a second surgery, but no recurrence was detected.
- Further imaging showed persistence of opacification despite conservative management.
- The complicated character of the case may have hindered any further invasive management.
- Unfortunately, the patient suffered from disease complication, infections, and died from multi-organ failure.

Discussion

- This case highlights the importance of a thorough diagnostic workup and management strategy for immunodeficient patients with JOF.
- In our case, the lesion's origin was near the skull base, and it was difficult to completely resect it. Thus, recurrence was highly suspected after the first surgery.
- JOF's recurrent nature along with the pre-existing immunodeficiency made this case difficult to manage as the patient had other life-threatening condition.
- This illustrates the importance of routine follow-up to detect any recurrence after surgical intervention.
- Moreover, our case together with another case in the literature both reported patients with JOF and ALL, raising suspicion of an undiscovered association between these conditions.

Case Description

- The patient was 4 years post hematopoietic stem cell transplant and was following up for regular IVIg transfusion where she had fever, otalgia, and frontal headache. CBC was alarming for leukemia, and further investigation confirmed the diagnosis of ALL.
- Sinus CT showed right anterior ethmoidal sinus complete Hyperdense opacification and mucosal thickening. (Fig.1)
- Opacification remained after initial antimicrobial therapy; MRI excluded any intraorbital and/or intracranial extension. (Fig.2)
- Endoscopic sinus surgery for specimen collection and lesion debridement was done.
- Histopathology revealed aggressive JOF, psammomatoid type. (Fig.3)
- After the surgery, there were some symptoms of sinusitis for which CT and MRI imaging was done and showed residual hyperdense opacification, and minimal enhancement post contrast more in the right side, respectively. (Fig.4)

Figures



Figure 1

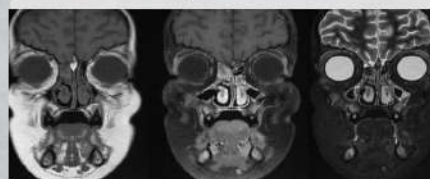


Figure 2

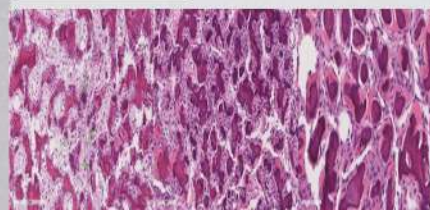


Figure 3

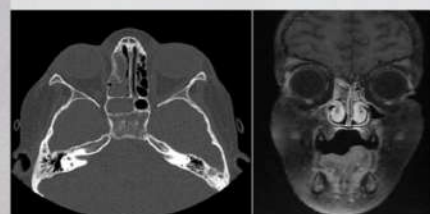


Figure 4

Conclusion

JOF is a rare condition that mainly affects the young and most require surgery. There may be a relationship between JOF and ALL, and specific considerations for the management should take place. Post-operative long-term follow-ups are needed for early detection of this lesion recurrence.

References



Presenter Details

Abdulaziz Ali Alnasser
381110298 Batch 16
Alnasser298@ksau-hs.edu.sa



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



Rakan B. Alanazi , Moustafa S. Alhamadh , Sultan T. Alqarni , **Khaled H. Alanazi** , Basel Alheijani Sr.3

1. Medicine, College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SAU 2. Surgery, College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SAU 3. Internal Medicine, King Abdulaziz Medical City, Riyadh, SAU 4. Internal Medicine, College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SAU

Abstract

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

Methods and Materials

- A 27-year-old male, a known case of type 1 diabetes mellitus, spina bifida, repaired cleft palate, and caudal regression syndrome, was brought to emergency department by his family due to a three-day history of fatigue and decreased oral intake.
- three to five days prior to his admission, he stopped eating and drinking and later on complained of generalized fatigue with weakness in his lower limbs, restricting his ability to walk without obvious preceding event.
- past medical history was notable for poor glycemic control and multiple admissions for decreased oral intake and severe hypernatremia
- Patient was clearly confused, hypotensive and tachycardic.

Discussion

- Patient's recent presentation is suspicious for abuse or neglect, so social workers have been involved in this patient's care, but abuse or neglect could not be confirmed or excluded.
- Psychiatry was consulted, but the patient did not meet (DSM-5) diagnostic criteria.
- We believe that this case is interesting for the following reasons:
 - (1) this is the first case of adipsic hypernatremia in the Kingdom of Saudi Arabia.
 - (2) This case cannot be explained by acquired causes as no intracranial infection nor hypothalamic, or circumventricular organs lesion were found, and the patient, as well as his family, denied history of head trauma.
- Although this patient has multiple congenital anomalies, including spina bifida, cleft palate, and caudal regression syndrome with sacroccocygeal agenesis and mild truncation of the spinal cord, to the best of our knowledge, none has an association with adipsia or hypothalamus-pituitary-axis disturbances.

Introduction

- Osmoregulation is a fundamental process of homeostasis that ensures sufficient organs perfusion, thermoregulation, excretion of toxins, and electrolyte balance.
- The hypothalamus stimulates antidiuretic hormone (ADH) release in response to increased body fluid osmolarity to modulate fluid reabsorption in the nephrons, decreasing fluid osmolarity.
- Hypernatremia is one of the most frequently encountered electrolyte abnormalities with an estimated mortality that can exceed 60%.
- Adipsic hypernatremia is an extremely rare life-threatening cause of hypernatremia characterized by defective osmoregulatory mechanisms of thirst and ADH secretion.
- we report a case of adipsic hypernatremia in a 27-year-old diabetic male without history of psychiatric disorder or head trauma.

Results

- Laboratory investigations were consistent with hyperosmolar hypernatremia (Na: 196 mmol/L {136-145 mmol/L}, serum osmolarity: 450 mOsm/kg {275 to 295 mOsm/kg}).
- Chest radiograph was unremarkable, and brain computed tomography (CT) scan showed calcifications in the basal ganglia and posterior thalami with no signs of hypothalamic lesion.
- Urinalysis was notable for high specific gravity (1.053), glucose, mild ketones, and blood. Further evaluation revealed urine osmolarity of 958 mOsm/kg.

Variables	Reference value	On admission	Day 3	Day 5	On discharge
Calcium (mmol/L)	2.1-2.55 mmol/L	2.05	1.77	1.84	1.97
Sodium (mmol/L)	136-145 mmol/L	196	148	144	149
Chloride (mmol/L)	98-107 mmol/L	>150	116	112	114
Magnesium (mmol/L)	0.68-1.07 mmol/L	1.45	0.78	0.71	0.73
Potassium (mmol/L)	3.5-5.1 mmol/L	3.1	4.9	3.8	3.9
Phosphorus (mmol/L)	0.74-1.32 mmol/L	0.45	0.69	0.73	0.88
BUN (mmol/L)	3.2-7.6 mmol/L	24.4	14.9	4.4	2.2
Creatinine (umol/L)	64-110 umol/L	141	70	44	46
Uric acid (umol/L)	229-452 umol/L	806	988	212	253
Random blood glucose (mmol/L)	2.9-7.8 mmol/L	28.6	20.2	13.1	7.1

Conclusion

- Adipsic hypernatremia is a rare life-threatening condition characterized by impaired osmoregulation secondary to congenital or acquired hypothalamic lesion in the form of stroke, neoplastic infiltration, trauma, or cerebral infection.
- Ruling out serious acquired causes must be followed by a thorough psychiatric evaluation as this disease is often seen with untreated psychiatric disorders.

References



Presenter Details

Name: Khaled Halil Alanazi
Batch number: 15
Email: khaledalanazi125@gmail.com
Phone: 0530054475



Obesity and Kidney Transplant Candidates: An Outcome Analysis Based on Body Mass Index



Abdulrahman R. al Tamimi¹⁻³ • Rayan S. Bahashwan³ • Saad A. Almousa³ • Abdulaziz Aldalaan³ • Mohammed H. Almusallam³ • Nawaf K. Alawad³ • Abdullah F. Alangari³

1. Organ Transplant Surgery, King Abdulaziz Medical City,
2. King Abdullah International Medical Research Center Medical Research,
3. King Saud Bin Abdulaziz University for Health Sciences, Riyadh, SAU

Abstract

Background: Obesity is a well-established risk factor for a decline in renal function and post-operative complications. Also, obese patients suffer worse outcomes such as higher rates of wound complications, longer hospital stays, and delayed graft function (DGF). **Methodology:** A retrospective cross-sectional study was conducted using charts of nearly 142 patients from 2015 to 2022 were used. **Results:** Considering post-transplant complications, 14.1% (20) of the study cases had DM (16.8% of obese class one, 3.7% of obese class two, and none of obese class three; $P = 0.996$). All these differences according to patients' BMI were statistically insignificant. **Conclusion:** Post-transplant DM (PTDM) was the most prominent post-transplant complication.

Methods and Materials

This was a retrospective cross-sectional study, that was conducted by reviewing the charts of all the obese patients, whose BMI ≥ 30 , who underwent kidney transplantation between 2015 and 2022. The total number of patients in the study was 142. All statistical methods used were two-tailed with an alpha level of 0.05 considering significance if the p-value was less than 0.05. Descriptive analysis was done for study variables including patients' BMI, demographic data, medical history, renal dialysis duration and causes, and renal transplant-related outcome. Also, cross-tabulation for assessing the effect of patients' BMI on their renal transplant surgery outcome was conducted using an exact probability test due to small frequency distributions.

Discussion

Our data shows that the most common condition in the population's history was hypertension, yet the most common cause of ESRD was diabetes. Cardiovascular disease has the largest impact on the survival of both the graft and the patient [5]. For classes one and two, we found a significant association between BMI and the patient being hypertensive or on dialysis, but a small fraction was free of them. In contrast, class three patients all had a history of being hypertensive. This finding could justify why some centers have a lower limit for transplants. Post-transplant DM (PTDM) was the most notable complication post-transplant, and all PTDM cases were shown in obese class one patients except for one case which was in obese class 2. PTDM is documented as a frequent post-transplant complication in allograft kidney recipients. Both serum creatinine and blood urea nitrogen (BUN) have shown a significant reduction from the period preceding the surgery to the time of discharge. Following one year after renal transplant surgery, there was nearly a plateau of mean values of both entities which were within the normal ranges.

Introduction

Obesity, the incidence of which has risen sharply over the past decade encompassing 24.7% of the Saudi population [1], is a well-established risk factor for worsening kidney function in both healthy individuals and those with a history of kidney transplantation [2]. Besides the current local prevalence, it is also estimated that by 2030, 38% of the world's adult population will be overweight and 20% will be obese [3]. The correlation between having a high BMI and the postoperative outcomes of kidney transplantation has not been investigated yet in the Kingdom of Saudi Arabia. It is still little to no evidence that obese patients who have undergone kidney transplantation are devoid of any complications before, during, or after their procedure. Thus, this study's aim is to shed light on the vagueness of the topic and hopefully help provide better conclusions for medical practitioners and the patients themselves.

Results

A total of 142 patients fulfilling the inclusion criteria were included. Regarding medical history, hypertension (HTN) was reported among 121 (85.2%), followed by dialysis (77.5%; 110), diabetes mellitus (DM) (52.1%; 74). Exact 41 (39.4%) of the study patients had renal dialysis for less than two years, 41 (39.4%) for two to five years, and 22 (21.2%) for more than five years. As for the causes of ESRD, the most reported were DM (22.5%; 32), hypertension (10.6%; 15), focal segmental glomerulosclerosis (FSGS) (6.3%; 9), and IgA nephropathy (4.9%; 7). Considering post-transplant complications, 14.1% (20) of the study cases had DM (16.8% of obese class one, 3.7% of obese class two, and none of obese class three; $P = 0.996$) and UTI among 7% (10) of the cases (6.2% of obese class one, 11.1% of obese class two, and none of obese class three; $P = 0.996$). As for patients' fate, only one case (0.7%) died which was obese class one. All these differences according to patients' BMI were statistically insignificant.

Conclusion

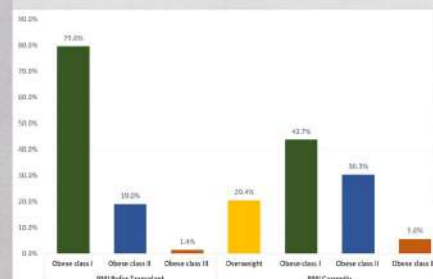
Our paper highlights the interrelation between successful transplantation and change in BMI classes post-op as an alteration in said classes was noted in most of our patients. However, no correlation has been established about obesity class and length of hospital stay. Hypertension was the most common comorbidity in our sample, yet diabetes was more likely to be the cause behind ESRD. PTDM was the most prominent post-transplant medical complication. DGF was infrequent and has been noted in only a handful of cases.

References

1. Althumiri NA, Basyouni MH, AlMousa N, et al. Obesity in Saudi Arabia in 2020: prevalence, distribution, and its current association with various health conditions. *Healthcare (Basel)*. 2021; 9(311). [10.3390/healthcare9030311](https://doi.org/10.3390/healthcare9030311)
2. Eruruk T, Berber I, Cakir O. Effect of obesity on clinical outcomes of kidney transplant patients. *Transplant Proc*. 2019; 51(1983-5). [10.1016/j.transproceed.2019.07.012](https://doi.org/10.1016/j.transproceed.2019.07.012)
3. Fellmann M, Balasa L, Clement E, et al. Effects of obesity on postoperative complications and graft survival after kidney transplantation. *Transplant Proc*. 2020; 52(1153-9). [10.1016/j.transproceed.2020.02.178](https://doi.org/10.1016/j.transproceed.2020.02.178)
4. Dickey RA, Bachusko DO, Bray G, et al. AACE/ACE position statement on the prevention, diagnosis and treatment of obesity. *Endocr Pract*. 1998; 4:297-303.
5. Glicklich D, Lantini R, Pawar R. Hypertension in the kidney transplant recipient: overview of pathogenesis, clinical assessment, and treatment. *Cardiol Rev*. 2017; 25(102-9). [10.1097/CRD.0000000000000126](https://doi.org/10.1097/CRD.0000000000000126)

Presenter Details

Name: Rayan Saleh Bahashwan
Batch number: 16
Email: Bahashwan518@ksau-hs.edu.sa
Phone: +966502131118





Mohammed Abdulaziz Alfurayh^{2,3}, Nawaf Khaled Alawad^{2,3}, Abdulaziz Mohammed Bin Akrish^{2,3}, Awad Saad Alharbi^{2,3}, Ahmed Ali Sharnili^{2,3}, Abdulaziz Suliman Bin Saleem^{2,3}, Muhammad Talal Akrafai, MD^{1,2,3}.

1. Division of Neurology, Department of Pediatrics, King Abdullah Specialized Children's Hospital, King Abdulaziz Medical City, Ministry of the National Guard Health Affairs Riyadh, Saudi Arabia
2. College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia
3. King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

Abstract

NF1 exists as an autosomal dominant inherited disorder caused by NF1 gene mutations on chromosome 17q11.2. One of the most important magnetic resonance imaging findings in patients with NF1 is the presence of unidentified bright objects (UBO), mostly affecting the brain structures. An optic pathway tumor will develop in around 15–20% of children with NF1. [1]

This study included 148 patients, with a mean age of 8.2 years (± 5.08). Moreover, 97 (65.54%) had foci of abnormal signal intensities (FASI) in T2-weighted MRI, and 48 (32.43%) had demonstrated the presence of a tumor. Optic pathway glioma was found in 29 (19.59%) patients, and 27 (18.24%) patients were identified to have a non-optic pathway glioma. The basal ganglia was the most common location for UBOS.

Introduction

An optic pathway tumor will develop in around 15–20% of children with NF1 [2]. Only 30–50% of children with OPG may experience symptoms, and only one-third will require therapy. NF1-OPGs are most prevalent in young children, with most cases occurring in children under the age of seven [3]. OPGs may be found throughout the optic pathway, including the nerves, chiasms, post-chiasmatic tracts, and radiation. The presenting signs and symptoms are mostly determined by the tumor site, with optic nerve gliomas frequently causing unilateral proptosis, decreased visual acuity, various defects in the visual field, strabismus, a relative afferent pupillary defect (RAPD), and optic disc atrophy or swelling [4]. Baseline screening with MRI for OPG is not recommended since these tumors often do not affect treatment plans due to the lack of clinical symptoms or signs. However, neuroimaging screening may function in children in whom accurate visual evaluation cannot be conducted or if the patient reports worsening symptoms [5].

This study aims to identify common MRI findings in patients with NF-1. Also, one of the main goals of this study is to report the nature of OPG and NOPG occurrence as well as their prevalence among Saudi pediatric patients with neurofibromatosis type 1.

Presenter Details

Name: Abdulaziz Mohammed Bin Akrish
Batch number: 16A
Email: akrish689@ksau-hs.edu.sa

Methods and Materials

This study was conducted at the Ministry of National Guard Health Affairs (MNGHA), Saudi Arabia, including three tertiary hospitals, using the retrospective cohort method. Electronic charts were reviewed to extract the variables. All Saudi pediatric NF1 patients aged less than 18 years who underwent MRI were included. Consecutive sampling was used due to the limited number of patients.

Results

T2W MRI Findings (N = 148)	Frequency (%)
Normal MRI	26 (17.57)
Presence of a tumor	48 (32.43)
Unidentified Bright Objects (UBOs)	97 (65.54)
Tortuosity of optic nerves	24 (16.21)
Hydrocephalus	5 (3.38)
Localizer infections	4 (2.70)
Moya-Moya Pattern	5 (3.38)

Table 1: T2W MRI findings among patients with neurofibromatosis type 1

OPG (N = 29)		Frequency (%)
Site	Left	23 (79.31)
	Right	4 (13.79)
Location	Bilateral	12 (41.38)
	Pre-chiasmatic	11 (37.93)
	Chiasmatic	12 (41.38)
	Post-chiasmatic	8 (27.41)
Size	< 2 cm	12 (41.38)
	> 2 cm	17 (58.62)

Table 2: Optic pathway glioma among patients with neurofibromatosis type 1.

UBO Location	Frequency (%)
Cerebral hemispheres	25 (25.77)
Cerebellum	31 (31.96)
Pons	27 (27.66)
Midbrain	27 (27.66)
Medulla oblongata	14 (14.36)
Thalamus	30 (30.61)
Hypothalamus	5 (5.05)
Basal ganglia	70 (71.43)
Cerebral peduncle	18 (18.37)
Optic chiasm	8 (8.16)
Hypocinephalus	5 (5.05)

Table 3: Location of UBOS on T2W MRI.

Furthermore, out of 148 patients, 27 (18.24%) were identified as having non-optic pathway glioma (NOPG) in T2W MRI. The presence of NOPG simultaneously with OPG was observed in 8 (5.40%) patients. The mean age at which NOPG was discovered was 10.03 years. The cerebellum was the most frequently encountered location of non-optic pathway gliomas as demonstrated by 8 (29.62%) patients, followed by the hypothalamus in 6 (22.22%) patients, then the spinal cord as shown in 4 (14.81%) patients, after that the brainstem and cerebral hemispheres follow, with each one found in 3 (11.11%) patients.

Discussion

This study reports the neuroimaging findings among pediatric patients with neurofibromatosis type 1. We found that 97 (65.54%) had evidence of unidentified bright objects (UBOs) on T2-weighted MRI, and 48 (32.43%) had evidence of tumor presence on T2W MRI, of which 29 (19.59%) were optic pathway gliomas.

UBOs were identified by T2W MRI in almost all 148 NF1 patients. The commonly named "unidentified bright objects" (UBO) are regions of foci of abnormal signal intensities evident in T2W MRI scans, most seen in the cerebellum, basal ganglia, thalamus, and brainstem of pediatrics and adolescents with neurofibromatosis type 1 [6]. Multiple studies have found that the most common locations of UBOS are the cerebellum, brainstem, and basal ganglia [6].

Non-optic pathway gliomas (NOPG) are a clinical entity that is underdiagnosed in pediatrics with neurofibromatosis type 1 [7]. Despite accounting for nearly a third of all CNS tumors in the juvenile NF1 population, few studies have thoroughly defined these tumors in terms of prevalence and location. Several studies have found that NOPG occurs in 33–57% of children with NF1 [7, 8]. Our study showed that the prevalence of NOPG among Saudi pediatric patients is 18.24%.

Conclusion

All in all, contrary to some previous reports, our results show that OPGs and NOPGs in patients with NF1 are often present in older children. Despite UBOS not being on the diagnostic criteria for NF1, they highly indicate the presence of the disorder. Most importantly, educating the patients more about the nature of the disorder and emphasizing the importance of continuous follow-ups is vital for the purpose of close monitoring and early detection of any new tumors.

References

1. Fournier PJ, Walker SM, Bruce NA, Seckl GR, Morris AD, Gaudin H, et al. Physical mapping of a translocation breakpoint in neurofibromatosis. *Science*. 1993;260(5102):1081–7.
2. Lewis RA, Gerson LP, Axelson EA, Edwards VM, Whitford RP. von Recklinghausen neurofibromatosis. II. Incidence of optic gliomas. *Ophthalmology*. 1991;98(5):828–32.
3. Lisenberg R, Fournier PJ, Liu CF, Gaudin H. Optic pathway gliomas in neurofibromatosis I: controversies and recommendations. *Ann Neurol*. 2007;61(2):155–64.
4. Legal L, Davidkin-Sager M, Dierker M, Odenberg J, Polakowski R. Optic pathway gliomas in patients with neurofibromatosis type 1: follow-up of 10 patients. *J Neuro-Oncol*. 2011;102(1):15–9.
5. King A, Lisenberg R, Chawar J, Pennell L, Gaudin H. Optic pathway gliomas in neurofibromatosis type 1: the effect of presenting symptoms on outcome. *Ann J Med Genet*. 2003;122A(2):95–9.
6. Lopez Ferrer F, Barba JR, Adams NP, Suarez Ibarra JA, Sanchez JA, Otero-Santalla EM, Paredes-Santalla SC. Unidentified bright objects (UBOs) in children as a diagnostic criterion for neurofibromatosis type 1. *Progr Radiol*. 2008;3(3):345–50. doi:10.1007/s00121-007-0124-4. Epub 2008 Jun 30. PMID: 1821186.
7. Chawar J, Gerson LP, Gaudin H, et al. Prognostic factors of CNS tumors in neurofibromatosis I (NF1): a retrospective study of 104 patients. *Brain*. 2003;126:112–100.
8. Smith A, Morris SM, Mahdi J, et al. Increased prevalence of brain tumors identified on T2 hyperintensity in neurofibromatosis I. *Neurology*. 2003;61:1035–39.





Prevalence and awareness of dietary supplements Use among Saudi adult female attending fitness centers in Riyadh, Saudi Arabia.



Saeed Alqahtani, Nouf Ababtani, Reem Albuhaireen, **Shahad Aljebeli**, Taima Almazroa, Winnie Philip

1. Department of Medical Education, College of Medicine, King Saud bin Abdulaziz University for Health Sciences Riyadh, Saudi Arabia.
2. King Abdullah International Medical Research Center, Riyadh, Saudi Arabia.

Abstract

Background : Dietary supplements are used for a wide variety of reasons, some of which are for ,medical conditions, to compensate for dietary insufficiency, to improve physical performance ,and to boost immunity.

Aims: This study is designed to assess the prevalence and awareness of dietary supplements use among Saudi adult females attending fitness centers

Methods A cross-sectional study was conducted among adult female gym-attenders in Riyadh, Saudi .Arabia. The sample consisted of 355 participants, all of which were females from Saudi Arabia .Statistical Analysis Used: SPSS5

Results The majority of the 355 female participants consume dietary supplements (68.7%). Most used supplements are vitamins (82.8%), amino acids and proteins (30.3%), minerals (22.1%), and fatty acids (3.3%).

Methods and Materials

- A cross-sectional questionnaire-based study.
- The sample consisted of 355 participants.
- Statistical Analysis Used: SPSS.

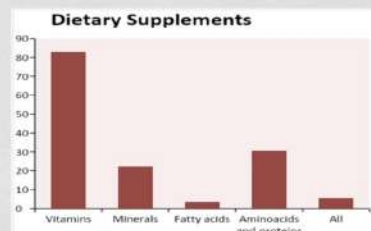
Discussion

- There has been an increase in supplement use throughout the past years due to many factors, the most important being the rising trends by giving false impressions or ideas
- During the COVID-19 pandemic, many people have grown to be concerned about their health and well-being, which led them to augment the dietary supplement market dramatically.
- The results of the study showed that vitamins are the most commonly used supplements among the participants, which differs from the findings of another study done in both males and females.

Introduction

- Dietary supplements are used for a wide variety of reasons, medical conditions, to compensate for dietary insufficiency, to improve physical performance, and to boost immunity.
- Individuals who attend sports facilities seek different benefits, it could be for health and well-being, to achieve the desired body shape, for enjoyment purposes, or as a way to socialize.
- This study is designed to assess the prevalence and awareness of dietary supplements use among Saudi adult females attending fitness centers in Riyadh, Saudi Arabia.

Results



Conclusion

- Dietary supplements use is common among female gym attendees in Saudi Arabia.
- Vitamins were the most used supplements which imply that users were more concerned about general health and diet deficiency than anything else.
- The participants use dietary supplements cautiously, the majority consume dietary supplements under a doctor's prescription and after reading the leaflets.

References



Presenter Details

Name Shahad Aljebeli
Batch number 17
Email: Aljebeli313@ksau-hs.edu.sa
Phone optional
0556955765

Variable	Use of Supplements		
	Yes	No	Total
Age in years			
18-25	161 (69.1)	72 (30.9)	233 (100)
26-33	51 (60)	24 (32)	75 (100)
≥34	32 (68.3)	15 (31.9)	47 (100)
Total	244 (68.7)	111 (31.3)	355 (100)
Marital Status			
Single	188 (68.1)	88 (31.9)	276 (100)
Married	47 (68.1)	22 (31.9)	69 (100)
Divorce	9 (90)	1 (10)	10 (100)
Education			
general Education	61 (62.9)	36 (37.1)	97 (100)
High Education	183 (70.9)	75 (29.1)	258 (100)
BMI (kg/m sq)			
Underweight	22 (62.9)	13 (37.1)	35 (100)
Normal	151 (71.6)	60 (28.4)	211 (100)
Overweight	39 (58.2)	28 (41.8)	67 (100)
Obese	32 (76.2)	10 (23.8)	42 (100)
Total	244 (68.7)	111 (31.3)	355 (100)



Awareness of Cervical Cancer Screening and Early Prevention among Saudi Women



Seham Alsalamah 1, Lama Alharbi 2, Manal Almasary 3, Amna Alharthi 4, Dr. Atal Abdusanad 5

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

2 College of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia

3 Faculty of Medicine, Umm Al-Qura University, Al-Qunfudah, Saudi Arabia

4 College of Medicine, King Khalid University, Abha, Saudi Arabia

5 Oncology Department, King Abdulaziz University Hospital, Jeddah, Saudi Arabia

Introduction

Cervical cancer is the **9th** most prevalent cancer in Saudi Arabia, primarily caused by the human papillomavirus (HPV). Fortunately, both HPV infection and cervical cancer are preventable by effective methods of screening and a successful HPV vaccine. This study aims to evaluate the awareness of cervical cancer and HPV infection among women in various regions of Saudi Arabia.

Methods and Materials

- Cross-sectional study
- Self-administrated questionnaire
- Distributed to Saudi women in various locations of the Kingdom of Saudi Arabia
- Sep 2022 - Jan 2023
- Measures the amount of knowledge and awareness of cervical cancer and HPV and the attitudes toward its vaccination.
- Data was collected on demographics, cervical cancer, Papanicolaou (Pap) smear, and HPV vaccine awareness.

Presenter Details

Seham Alsalamah, Batch 18
Seham1alslamh@gmail.com
+966580270627

Results

Table 1. Sociodemographic data and awareness level (n=2539)

	Awareness level					
Characteristics	N	%	Inadequate	Adequate	p-value	
Age						
18-25	1041	41	864	177	0.064	
26-30	245	9.6	205	40		
31 and above	1253	49.4	1083	170		
Region						
Central	773	30.4	655	118	0.02	
Eastern	498	19.6	399L	99		
Northern	212	8.3	182	30		
Southern	307	12.1	264	43		
Western	749	29.5	652H	97		
Educational level						
Not educated	3	0.1	3	0	0.412	
Elementary	15	0.6	15	0		
Intermediate	37	1.5	33	4		
High school	477	18.8	408	69		
University	1856	73.1	1570	286		
Master's	104	4.1	87	17		
PhD degree	47	1.9	36	11		
Marital status						
Single	1135	44.7	951	184	0.061	
Married	1263	49.7	1073	190		
Widowed	39	1.5	38	1		
Divorced	102	4	90	12		
Occupation						
Housewife	598	23.6	527H	71	<0.001	
Freelancer	247	9.7	235H	12		
Student at medical field	486	19.1	342L	144		
Student at non-medical field	368	14.5	344H	24		
Worker at medical field	175	6.9	123L	24		
Worker at non-medical field	665	26.2	581H	84		
Family monthly income						
Less than 5K SR	287	11.3	254	33		<0.001
More than 5K SR	562	22.1	499H	63		
10-20K SR	1078	42.5	911	167		
More than 20K SR	612	24.1	488L	124		

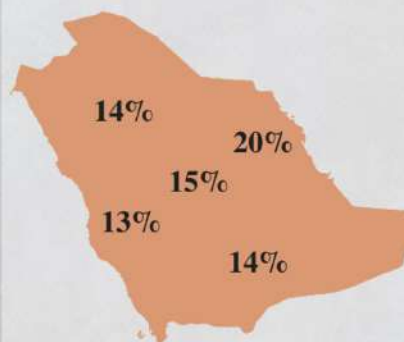


Figure 1. Awareness levels in regions of Saudi Arabia

Table 2. Predicting the awareness score

Variable	B	95% CI	p-value
Age	0.013	[-0.101, 0.127]	0.821
Family income	0.073	[-0.082, 0.096]	0.872
Educational level	0.007	[0.019, 0.126]	0.007

Table 3. Predicting performing a Pap smear

Variable	B	95% CI	p-value
Age	0.17	[0.803, 0.933]	0.0001
Family income	0.003	[0.155, 0.185]	0.592
Educational level	-0.005	[-0.012, 0.002]	0.155

Discussion

- **2539** participants
- **85%** inadequate awareness
- Median awareness score: **5** out of 15 (33.3%)
- **20%** had a Pap smear
- **2%** taken HPV vaccine
- **Eastern** region citizenship, **medical** field occupation, and **income** higher than 20K per month were associated with higher awareness levels
- **Age** and **educational** level were significant predictors for performing a Pap smear

Conclusion

There is a lack of knowledge regarding cervical cancer and HPV in Saudi Arabia. This is the **largest** study that assesses knowledge and practices related to cervical cancer and HPV among Saudi women.

References



New-Onset Chronic Myeloid Leukemia in a JAK-2 Positive Patient: Do Persistent Mutations Predispose to Radiotherapy-Induced CML?

Faris Alsalamah¹, Eman Balahmar¹, Seham Alsalamah¹, Dr. Nahlah ALGhasham², Dr. Gamal Gmati^{2,3}

1. College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS)

2. Department of Hematopathology, King Abdulaziz Medical City, Riyadh, Saudi Arabia

3. Department of Hematology & Oncology, King Abdulaziz Medical City, Riyadh, Saudi Arabia

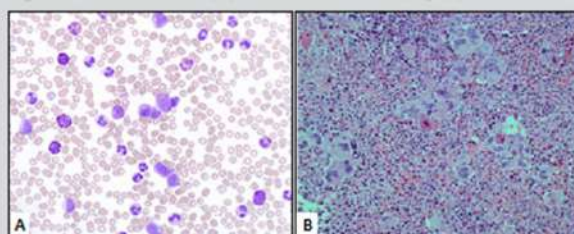
Background

Chronic myeloid leukemia (CML) is a myeloproliferative neoplasm (MPN) that is typically JAK2-negative. Only a handful of cases described BCRABL1-positive CML in JAK2 mutation presence or reported the occurrence of secondary CML after receiving radiotherapy. However, to the best of our knowledge, this is the first case in which JAK2 mutation could be a possible predisposing factor for the rapid development of radiotherapy-induced CML. This report describes a patient with JAK2-positive MPN who progressed to acquire CML shortly after receiving radiotherapy for breast cancer.

Case Description

This is a case of a 63-year-old woman who has had uncomplicated JAK2-positive MPN for 16 years. In 2021 unexpectedly, she was found to have a sudden increase in her white blood cell (WBC) count on a routine blood test, reaching $39.6 \times 10^9/L$ (normal $4.5-11 \times 10^9/L$). Therefore, she underwent a bone marrow biopsy, chromosomal analysis, and Fluorescence In Situ Hybridization (FISH). Consequently, a diagnosis of CML in the chronic phase was established. During the Leukemia Board, her case raised multiple inquiries regarding its unusual presentation. Therefore, we extensively reviewed her past medical history in search of a possible explanation.

Figure 1 Blood smear (A). Bone marrow biopsy (B)



(A) Leukocytosis, neutrophilia, and basophilia. (B) Megakaryocytes with significant atypia.

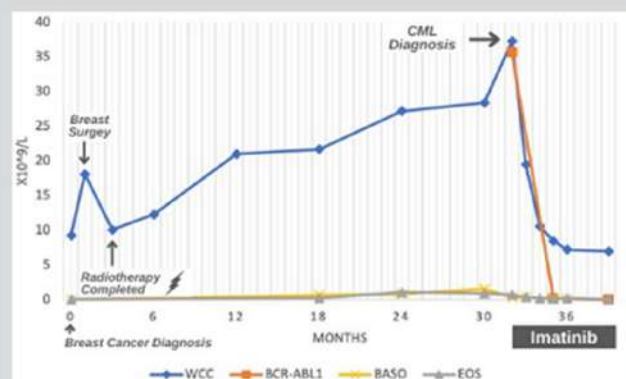
Table 1 Complete blood count (CBC) at diagnosis (Reference $\times 10^9/L$)

Parameter	Result	Normal Range
White blood cells	37.3	4-10
Platelets	373	150-400
Absolute neutrophil count	NA	2-7
Lymphocytes	NA	1-3
Basophils	0.75	0-0.1
Eosinophils	0.37	0-0.5

Results

The past medical history was noteworthy in that she was diagnosed with breast cancer three years ago. She completed 42 Gy in 16 fractions of radiotherapy to the right breast with no complications reported. Only 30 months after receiving radiotherapy, her WBCs spiked, which was the first alarming sign leading to her CML diagnosis. Two months after she was switched to imatinib to manage her CML, her BCRABL was detected at 0.16%. She was started on hydroxyurea again to control the suspected MPN JAK2 clone, which was confirmed by a repeated JAK2 test that revealed a persistent JAK2 mutation. Currently, the patient is under frequent follow-ups with no complications reported.

Figure 2 CBC and BCRABL Levels throughout the clinical course



Conclusion

This is a unique case of rapid-onset radiotherapy-induced BCRABL CML in a patient with a history of persistent JAK2 mutation. Physicians should be aware of this unusual presentation of CML, as detailed evaluation and appropriate interpretation of clinical and laboratory data are essential in establishing the diagnosis and providing appropriate management for such patients. We recommend additional consideration when providing radiotherapy to patients who demonstrate a history of persistent genetic mutations such as JAK2 in our patient.

References

Kindly scan the QR Code for all references, tables, and figures.





Red Blood Cell Distribution Width (RDW) as a Predictor Biomarker for Postoperative Infections in Children Who Underwent Cardiac Surgery- Retrospective Cohort Study, Single-Centered Experience



Duha Khalid Alghamdi ¹, Khawla Khaled Almarshad ¹, Noura Abdullah Alrazook ¹, Sundos Abdullah Almarshad ¹, Tayf Hamad Bin-Sheeha ¹, Dr. Mohammed Salim Kabbani ²

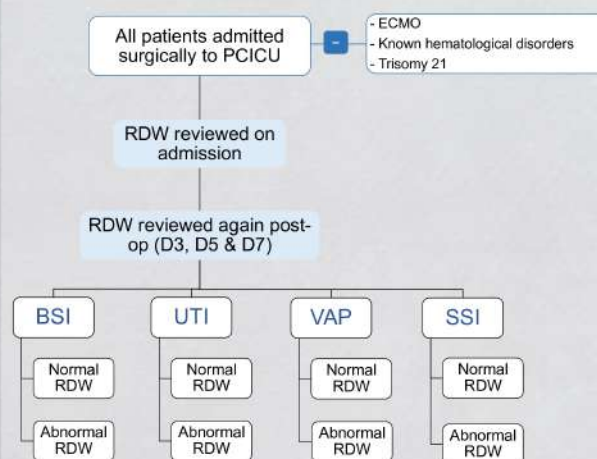
1. Medical Student, College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KSU-HS)
2. Consultant, Pediatric Intensive Care Unit, King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia

Introduction

It has been investigated that Red Blood Cell Distribution Width (RDW) is associated with the clinical outcomes of patients following surgeries and used as a prognostic biomarker for postsurgical complications. Thus, this study aimed to assess the value of RDW as a predictor for bloodstream infections (BSI), ventilator-associated pneumonia (VAP), urinary tract infections (UTI), and surgical site infections (SSI) in children admitted to pediatric cardiac intensive care (PCICU) after cardiac surgery in this retrospective cohort study.

Methods and Materials

- A total of 355 pediatric patients who underwent cardiac surgeries between 2017 and 2018 were enrolled.
- Patients with hematological disorders were excluded.
- RDW levels were measured pre-operatively then post-operatively at Day1 (D1), Day 5 (D5) and Day 7 (D7).
- Data collected included demographics, the incidence of postsurgical complications BSI, UTI, VAP, SSI, as well as the length of hospital and pediatric intensive care unit stay and ventilator duration.



Results

Significantly higher postoperative RDW levels were observed in cases having bloodstream infections on D3 (p-value=0.028), D5 (p-value=0.041) and D7 (p-value=0.042). For UTI cases only high preoperative RDW levels (p-value <0.001), and postoperative D3 (p-value =0.049) were significantly higher than their counterparts. Patients who were found to have VAP had raised RDW levels both pre-operatively (p-value=0.002) and post-operatively on D3 (p-value=0.033), D5 (p-value=0.031) and D7 (p-value=0.031). SSI cases had higher pre-operative RDW levels (p-value= <.001) D3(p-value= 0.001) and D5 (p-value=0.014).

Relationship between RDW levels and BSI, UTI, VAP and SSI

Organisms	Mean preop RDW	p-value	Mean postop RDW D3	p-value	Mean postop RDW D5	p-value	Mean postop RDW D7	p-value
BSI								
*Yes	16.47 ± 2.11		16.52 ± 1.84	.028	16.66 ± 1.66	.041	16.79 ± 2.05	.042
*No	15.74 ± 2.31		15.94 ± 2.10		16.04 ± 2.12		15.89 ± 2.11	
UTI								
*Yes	17.17 ± 1.79	<.001	16.55 ± 2.09	.049	16.35 ± 2.15		15.98 ± 2.02	.921
*No	15.66 ± 2.30		15.93 ± 2.06		16.05 ± 2.09		15.96 ± 2.13	
VAP								
*Yes	16.80 ± 2.04	.002	16.64 ± 2.50	.033	16.89 ± 2.70	.031	16.85 ± 2.76	.021
*No	15.68 ± 2.31		15.91 ± 2.01		15.98 ± 1.99		15.83 ± 1.98	
SSI								
*No	15.66 ± 2.31	<.001	15.89 ± 2.07	.001	16.01 ± 2.14	.014	15.92 ± 2.19	.116
*Suspected	17.60 ± 1.23		16.69 ± 1.55		16.57 ± 1.54		16.14 ± 1.03	
*Infected	16.68 ± 2.03		17.44 ± 2.03		17.04 ± 1.66		16.54 ± 1.80	

Relationship between RDW levels and ICU stay

Variables	Beta	t	Sig.	95.0% Confidence Interval for B	
				Lower Bound	Upper Bound
Pre-op RDW	.234	3.034	.003	0.685	3.221
Post-op RDW D3	-.068	-.553	.581	-3.037	1.706
Post-op RDW D5	.099	.564	.573	-2.334	4.208
Post-op RDW D7	.090	.667	.505	-1.676	3.392

Relationship between RDW levels and duration of mechanical ventilation

Variables	Beta	t	Sig.	95.0% Confidence Interval for B	
				Lower Bound	Upper Bound
Pre-op RDW	.282	3.530	.001	.549	1.938
Post-op RDW D3	-.148	-1.150	.251	-2.036	.536
Post-op RDW D5	-.117	-.605	.546	-2.446	1.298
Post-op RDW D7	.294	1.886	.061	-.066	2.992

Conclusion

This study found that RDW was a significant factor in predicting complications in pediatric patients post cardiac surgeries including bloodstream infections, UTI, and VAP. This would consequently anticipate the clinical state of patients after cardiac procedures.

References



Presenter Details

Name: Tayf Hamad BinSheeha
Batch number: 16
Email: binsheeha014@ksau-hs.edu.sa
Phone optional: 0550289642