NeuroPedia.net

2022 CNSI
The Conference of NeuroPedia for Students

1ST CONFERENCE OF NEUROPEDIA FOR MEDICAL STUDENTS

مؤتمر نيوروبيديا الأول للعلوم العصبية لطلبة كليات الطب في الجامعات الأردنية

25-27TH , AUGUST , 2022

2022 CNSI
The Conference of NeuroPedia for Students



Under the Patronage of The Minister of Higher Education and Scientific Research

Professor Wajih Owies,

Jordan University of Science and Technology and Jordanian Society of Neurological Surgeons

Present

1st Conference of Neuropedia for Medical Students

on 25-27th ,August2022

at Jordan University of Science and Technology - King Abdullah University Hospital – Irbid

تحت رعاية معالي وزير التعليم العالي
والبحث العلمي الأستاذ الدكتور وجيه عويس
يتشرف رئيس جامعة العلوم والتكنولوجيا
الأردنية الأستاذ الدكتور خالد السالم
وبالتعاون مع جمعية جراحي الدماغ
والأعصاب الأردنية

بافتتاح
مؤتمر نيوروبيديا الأول للعلوم العصبية "
"لطلبة كليات الطب في الجامعات الأردنية
والذي سيعقد في رحاب مستشفى الملك
المؤسس عبدالله الجامعي
25-27 / 8 /2022

PROF. KHALED AL-SALEM

THE PRESIDENT OF JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

PROF. NAIL OBEIDAT

DEAN OF FACULTY OF MEDICINE - JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

PROF. MOHAMMED AL-GHAZO

THE PRESIDENT OF KING ABDULLAH UNIVERSITY HOSPITAL

JORDANIAN SOCIETY OF NEUROLOGICAL SURGEONS

PROF. MOHAMMED BARBARAWI
PRESIDENT

DR. WALEED DABBAS
VICE PRESIDENT

DR. MOHAMMAD HIASAT
GENERAL SECRETERY

DR. RAMI ALQROOM
HEAD OF SCIENTIFIC COMMITTEE

DR. RAKAN LOZI
HEAD OF SOCIAL COMMITTEE

DR. ALAA ALMOUSA
SCIENTIFIC COMMITTEE

DR. AMER JARADAT
SCIENTIFIC COMMITTEE

NEUROPEDIA

NeuroPedia.net is an independent, non-governmental, and non-political platform for medical students, interns, residents, and specialists who are interested in neuro-related fields. NeuroPedia was founded in 2020 by a group of doctors and medical students from Jordan University of Science and Technology (JUST). It is now an open-access, educational platform designed to provide scientific content through a structured curriculum.

It is the first and only Neuro-medical website encompassing basic science, clinical procedures, the latest updates, and answers to frequently asked questions regarding different disciplines of neuroscience. NeuroPedia now has eight International Member Organizations in three countries (Jordan, Morocco, and Egypt).

As NeuroPedia initiation was from Jordan, at NeuroPedia-Jordan, we have committed ourselves to serve our community through multiple activities, by spreading knowledge and awareness. One of the aims of NeuroPedia is to motivate medical students throughout Jordan and beyond to get involved in their communities through active participation in voluntary work, and to provide them with the necessary tools and skills to become successful future doctors and health leaders; and most importantly, to provide them with the proper guidance on a how to write scientific articles and the means to conduct high-quality research.

THE CNS

The Conference of NeuroPedia for Students (CNS) is an opportunity to gather medical students, interns, residents, and specialists from all around Jordan and the globe to meet, exchange ideas, learn from the various sessions held in the event, and hopefully, get inspired to become the future physicians, leaders, and advocates of the world.

The CNS I is the first and only Neuro-related, Student-based scientific congress in the Arab World and the Middle East. It aims to be the highest quality and most internationally accessible neuro-related event possible as it will be the beginning of the annually held neuropedia Conference. The CNS is not just any regular congress, it is a non-profit congress made up of students that aims to promote student research and the international exchange of it.

PREFACE

PROF. MOHAMMAD BARBARAWI

PROF. MOHAMMAD JAMOUS

DR. OMAR JBARAH

YASMEEN ALABDALLAT

رئيس المؤتمر
الأستاذ الدكتور محمد البربراوي

رئيس جمعية جراحي الدماغ والأعصاب الأردنية
رئيس قسم جراحة الدماغ والأعصاب
أستاذ دكتور في جراحة الدماغ والأعصاب و الأوعية الدموية

يسرني ويشرفني باسمي وباسم قسم جراحة الدماغ والأعصاب في جامعة العلوم والتكنولوجيا الأردنية / مستشفى الملك عبد الله المؤسس الجامعي وجمعية جراحي الدماغ و الأعصاب الأردنية أن نرحب بكم جميعاً أجمل ترحيب بمناسبة انعقاد "مؤتمر نيوروبيديا الأول للعلوم العصبية لطلبة كليات الطب الأردنية" برعاية كريمة من معالي وزير التعليم العالي والبحث العلمي. شاكرين ومقدرين دعمه المتواصل وحرصه الدائم على رعاية ودعم الأنشطة العلمية للطلبة في الجامعات الأردنية.

إننا في قسم جراحة الدماغ والأعصاب في جامعة العلوم والتكنولوجيا نؤمن بأن عقد المؤتمرات العلمية هي الوسيلة المثلى والغاية المرجوة لتحقيق فرص تبادل المعلومات والخبرات والاطلاع على آخر المستجدات العلمية في الاختصاصات المختلفة وللتواصل مع الزملاء الأطباء ولزيادة خبرة زملائنا نظرياً وعملياً،ومما يميز مؤتمرنا (نيوروبيديا الأول للعلوم العصبية لطلبة كليات الطب الأردنية) انه يعطي مساحة اكبر لطلبة كليات الطب في كافة الجامعات الأردنية للمشاركة عن طريق الحضور وتقديم أوراق علمية ، ساهم الطلاب بشكل كبير في إعدادها ونشرها وإعطائهم الفرصة الأكبر والأشمل للتعرف على كافة تخصصات العلوم العصبية لتطوير قدراتهم العلمية والبحثية في المستقبل.

إننا في جمعية جراحي الدماغ والأعصاب الأردنية نشكل العمود الفقري لتخصص جراحة الدماغ والأعصاب من الناحية العلمية والأكاديمية والمهنية والتنظيمية أسوة بكافة جمعيات الاختصاص الأخرى إلى المضي قدماً في المسيرة العلمية وتطويرها والتطور نحو البحث العلمي، والقيام بدورها كاملاً فيما يتعلق بتنظيم المهنة والاستمرار في التعاون مع الجهات الجامعية والأكاديمية.

ولا يسعنا هنا إلا أن نثمن الجهود المضنية التي بذلها القائمون على المؤتمر من حيث الإعداد والتحضير للبرنامج العلمي والاتصالات المكثفة والتنظيم الإداري وإيجاد التمويل في هذه الظروف الصعبة، فلكم الشكر والتقدير على جهودكم الخيرة في الإعداد لهذا الحدث العلمي المميز على مستوى المملكة ونثمن دور كل فرد في انجاح هذا المؤتمر وسنبقى على العهد في التطوير العلمي وتقديم كل ما هو مفيد للبشرية والانسانية جمعاء.

وإن شاء الله سوف نستمر في العطاء للمساهمة والعمل في بناء الأردن والأمة كما أرادها صاحب الجلالة الهاشمية الملك عبدالله الثاني لخدمة الأردن والأردنيين.

حفظ الله الأردن أرضا وملكا وشعبا.

CHAIRMAN OF SCIENTIFIC COMMITTEE

PROF. MOHAMMAD JAMOUS

PROFESSOR IN PEDIATRIC AND SPINE NEUROSURGERY AT KING ABDULLA UNIVERSITY HOSPITAL.

For the first time, The Neuropedia conference gives the opportunity to medical students from all medical schools in Jordan to present their research work in the field of neuroscience. We aim to inspire medical students and promote their academic quality through an outstanding list of hands-on workshops and keynote lectures by world scientists and doctors in the field of neuroscience. The priority in this meeting was given to medical students to present their research, more than 70% of the scientific papers will be presented by medical students and for most of them it will be their first experience.

The meeting will be preceded by three workshops in medical research guidelines, neuromonitoring in neurosurgery, and management of trauma patients, which will advance the participant's knowledge of these essential topics. The scientific program is sectioned into neurosurgery, neurology, and psychiatry sessions. I hope this meeting will be a wonderful experience for all participants to share, discuss their research and enjoy the social activities of the conference.

NEUROPEDIA.NET FOUNDER

DR. OMAR F. JBARAH

VICE PRESIDENT OF THE CONFERENCE
CHIEF OF ALL THE CHIEFS AT KAUH
CHIEF OF NEUROSURGERY RESIDENTS
RESEARCH ASSISTANT

It was a dream, and it became reality two years ago; one of a kind, international initiative; leading many medical students into the pathway of scientific research in all Neuro-related fields.

Neuropedia.net is not only a website that contains a library of student-based scientific literature review topics in all neuro-related fields; it's a committee that contains more than 300 students from all over the world. We started as a small group of doctors and medical students from Jordan University of Science and Technology and we've grown into a huge fruitful society of doctors and students who works together to **learn and teach scientific research in neuro topics**.

Medical students are given the opportunity to exhibit their work, interact with keynote speakers, and sign up for practical workshops at **CNS-1**, the first conference of its kind in the Middle East.

I would like to thank everyone who contributed to this incredibly successful initiative and made it possible for every medical student's dream to come true.

PRESIDENT OF THE STUDENTS' ORGANIZING COMMITEES

YASMEEN ALABDALLAT

MEDICAL STUDENT AT THE HASHEMITE UNIVERSITY

Dear Participants,

It is with great pleasure that I welcome you to the ***1st edition of the Conference of NeuroPedia for Students (CNS 2022)***.

I hope that **CNS 2022** can be a great example that adaptability and ingenuity can be drawn from hard work and passion as our slogan presents "***Beyond Your Potential!***"

The **CNS 2022** is an opportunity to gather medical students, interns, residents, and specialists all around Jordan and the globe to meet, exchange ideas, learn from the various sessions held in the event, and hopefully, get inspired to become future physicians, leaders, and advocates of the world.

On behalf of the entire Organising Committee, I wish you all a wonderful time, and I hope you will enjoy **CNS 2022** as much as I did organizing it!

CNS 2022

MEET OUR TEAMS

- EXECUTIVE BOARD
- ORGANIZERS
- FACILITATORS
- SCIENTIFIC COMMITTEE
- UNIVERSITIES COORDINATORS

EXECUTIVE BOARD

PROF. MOHAMMAD BARBARAWI

CONGRESS PRESIDENT

PROF. MOHAMMAD JAMOUS

CHAIR OF SC

DR. MOHAMMAD MATALQA

CHAIR OF OC

DR. AMER JARADAT

CHAIR OF FC

DR. OMAR JBARAH

VICE PRESIDENT

DR. ETHAR HAZAIMEH

COORDINATOR

DR. ADAM ABDALLAH

TREASURER

EXECUTIVE BOARD

DR. MOHAMMAD SHURMAN

OC OFFICER

DR. AHMAD SHBOUL

OC OFFICER

DR. HAMMAM AL-HAOUAMDEH

OC OFFICER

DR.ESSAM ABU HASHISH

OC OFFICER

DR. EFFAT MALKAWI

OC OFFICER

DR. ABD HAKEEM DAWOD

OC OFFICER

DR.RAYA ABU GHANMEH

OC OFFICER

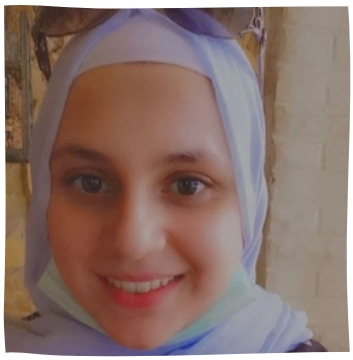
DR.HUSSIEN AYOUB

OC OFFICER

DR.SALEEM MASANNAT

OC OFFICER

EXECUTIVE BOARD



YASMEEN ALABDALLAT

PRESIDENT OF STUDENT'S OC

HATEM AL-GHARAIBEH

VICE PRESIDENT OF STUDENTS' OC

HANEEN BANIHANI

HEAD REGISTRATION OFFICER

RAGHAD SHWEIKI

HEAD SPONSORSHIP OFFICER

RAHAF NASSER

HEAD WORKSHOPS/EDUCATION OFFICER

RAMI AL-EMOUSH

HEAD SCIENTIFIC OFFICER

ALAA BARBARAWI

VICE HEAD SCIENTIFIC OFFICER

HARITH AL-AZZAWI

HEAD SOCIAL MEDIA OFFICER

IBRAHEEM ALKHAWALDEH

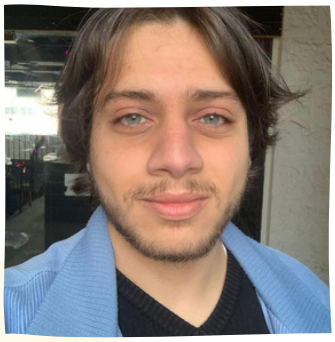
SPONSORSHIP OFFICER

ORGANIZERS

CNS 2022

SUHAIB ODAT

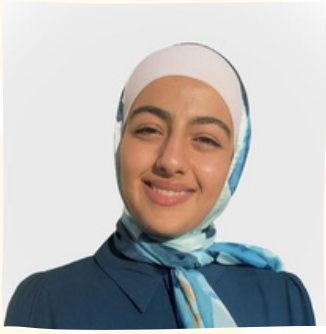
MUHANNAD DIRANEYYA



MO'ATH AZAIZEH

LUBNA AL-RAWABDEH

LOBANA MAHDAWI



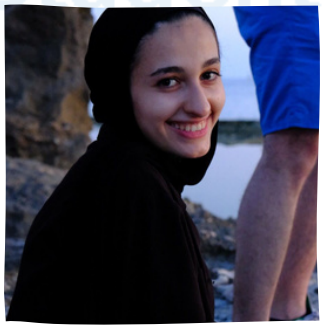
HANEEN AL-ABDALLAT

ALMUTAZBALLLAH QABLAN

ZAINA ALNAJJAR

MARIMAR HADDAD

LARA BARBARAWI



MAIS SHAWASHREH

HANAN BARBARAWI

FACILITATORS

CNS 2022

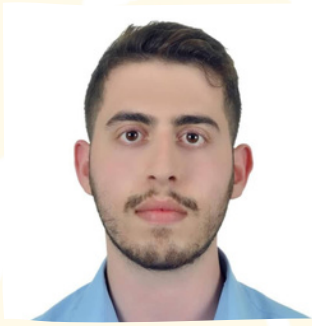
JAFAR MATALGAH

SADEEN EID

NOOR AL-SARABI

ZOHDI BADWAN

MOHAMMED BAKER



PHILIP SWEIDAN

QUTAIBA BORGHOL

LEEN SAWALHA

HABIB AL-ROUSAN

IHDAA BANI KHALAF

THE SCIENTIFIC COMMITTEE

NEUROSURGERY

PROF. MOHAMMAD JAMOUS
(CHAIR)

PROF. MOHAMMED BARBARAWI

DR. SULAIMAN DAOUD

DR. SULTAN JARRAR

DR. AMER JARADAT

NEUROLOGY

DR.MAIS SHAWAWREH

DR.SAMAH ABU RAHMEH

DR. MIRAL MOMANI

PSYCHIATRY

PROF TAWFIQ DARADKEH

DR.MAHMOUD BISHTAWI

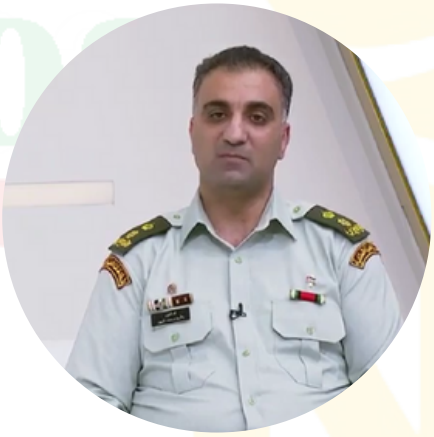
DR.AWS KHASAWNEH

COORDINATORS

UNIVERSITIES

PROF ABD RAHMAN SHDUIFAT-UNIVERSITY OF JORDAN

DR SUHAIR QUDSIA-YARMOUK UNIVERSITY



DR RAID JBOUR-MUTAH UNIVERSITY

DR. SALEM DWAIRI-HASHEMITE UNIVERSITY

DR WALEED DABBAS - BALQAA APPLIED UNIVERSITY

DR.AMIR JARADAT-JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

CNS 2022

THE CONGRESS

- CNS 2022 PROGRAMME
- KEYNOTE SPEAKERS

FIRST DAY (OPENING CEREMONY)

Place: Red Hall

THURSDAY | 25-8-2022

8:00 – 9.00	Registration	
9.00 – 9.30	Opening Ceremony	
	National Anthem	
	A verse from Holy Quran	
	The Minister of Higher Education and Scientific Research Speech	Prof.Wajih Oweis
	Jordan University of Science and Technology President Speech	Prof.Khaled Salem
	Chairman of JUST Medical Faculty Speech	Prof.Nail Obeidat
	Speech of General Director of KAUH	Prof.Mohammad Al Ghazo
	Neuropedia Founder Speech	Dr. Omar Jbarah
	Medical Faculties of Jordan Representative and a Neuropedia Organizer Speech– Student	Alaa Barbarawi
	Speech of the president of the Jordanian society of Neurological Surgery and Chairman of the conference	Prof. Mohammad Barbarawi
9.30- 10.00	Coffee break	
10.00-10.30	History of Neurosurgery in Jordan	Prof. Walid Maani
10.30 -11.00	History and Development of Transnasal Transsphenoidal Approaches	Prof. Ibrahim Sbeih
11:00 - 11:30	History of Psychiatry	Prof. Tawfiq Daradkeh
11.30-12.00	Pillars of Ethical decision Making health care	Prof. Ibrahim Faouri
12.00-12.30	Pediatrics Neurosurgery: My Experience	Dr. Nidal Khasawneh
12.30 -1.00	Neurosurgery's Tale	Prof. Mohammad Barbarawi

SECOND DAY (SESSIONS)

DATE: FRIDAY | 26-8-2022

Place: Red Hall

9:00 - 11:00	Introduction to Medical Research
11:00 - 11:30	Coffee break
11:30 - 12:30	Medical Research in Depth
12:30 - 2:00	Launch and Friday Prayers
2:00 - 3:00	Case reports: Guidance from A to Z
3:00 - 4:00	How to begin a clinical audit, a step on the journey
4:00 - 4:15	Coffee break
4:15 - 5:00	Neurocases (Debate session)

Place: Blue Hall

9:00 - 10:00	Emergency management for Traumatic Patients
10:00 - 11:00	How to Read BRAIN images
11:00 - 11:30	Coffee break
11:30 - 12:30	Wound Management
12:30 - 2:00	Launch and Friday Prayers
2:00 - 3:00	Physiotherapy for Neurorehabilitation
3:00 - 4:00	Respiratory Therapy

Place: Green Hall

9:00 - 11:00	Neuromonitoring in Brain and Spine Surgeries
11:00 - 11:30	Coffee break
11:30 - 12:30	Basic Instrumentations in Spine Surgery
12:30 - 2:00	Launch and Friday Prayers

THIRD DAY (SESSIONS)

Place: Red Hall

SATURDAY | 27-8-2022

Moderators: Prof. Mohammad Barbarawi , Dr. Mohammad Matalqa

9:00 - 9:15	Gamma Knife Technology in Neurosciences	Prof. Abdul Rahman AL-Shudifat
9.15 - 9:30	Transforaminal Endoscopic Discectomy	Dr Taher Janbak
9:30 - 9:45	Extraordinary Neuro-surgical Injuries: Personal Experience	Dr Faiez Obeid
9:45 - 10:00	SpinoPelvic Parameters	Dr Salem Dwairi
10:00 - 10:15	The Role of MRI Tractography in Brain Tumors	Dr Mones Obeidat
10:15 - 10:30	Isolated Tectal Cavernomas: A Comprehensive Literature Review with a Case Presentation	Alaa Barbarawi
10:30 - 10:45	Unusual Epidural Hematoma Presentation, Case Study	AMER QOLAGHASSI
10:45 - 11:00	Questions and Discussion	
11:00 - 11:30	Coffee break	

Moderators : Prof. AbdulRahman AL-Shudifat , Dr. Sultan Jarrar

11:30 - 11:45	Complications and Timing of Cranioplasty Following Decompressive Craniectomy: A Retrospective Cohort	Khaled M. El-Muwalla
11:45 - 12:00	Case Report:2 Primary Skull Tumor	Ayya Al warawrah
12:00 - 12:15	Factors that Affect Citation of Articles and Gender Discrepancy in Neurosurgery Literature of Middle East and North Africa; A Bibliometric Analysis	Mahmoud Alqudah
12:15 - 12:30	Case Report: Splenic Aneurysm Rupture Post-Anterior Cervical Discectomy and Fusion	Moaiad Hussein
12:30 - 12:45	Risk of Meningitis after Posterior Fossa Decompression with Duraplasty Using Different Graft Types in Patients with Chiari Malformation Type I and Syringomyelia: a Systematic Review and Meta-Analysis	Sondos Harahsheh
12:45 - 1:00	Questions and Discussion	
1:00 - 2:00	Launch	

THIRD DAY (SESSIONS)

Place: Red Hall

SATURDAY | 27-8-2022

Moderators : Prof. Mohammad Jamous , Dr. Suleiman Daoud

2:00 -2:15	The prevalence Of Idiopathic Intracranial Hypertension in Morbid Obese Patients Who Seeks Bariatric Surgery	Dana Al-hamawi & Sarah Abandeh
2:15 - 2:30	Surgical Excision of Multilayered Scalp AVM: Case Report	Abdul rahman hijazi
2.30 -2.45	Central Neurocytoma: Case Series	Ahmad Hawarat
2: 45 - 3:00	Cranioplasty After Wound Infection: Case Study	Muntaha Al-hawajreh
3:00 - 3:15	Subcutaneous pocket compared to cryopreservation method for storing autologous bone flaps after cranioplasty: a meta-analysis	Ahmad Al Jabali
3:15 - 3:30	Unusal Hydatid Cyst Located The Cerebellum, A Case Study	Mohammad Abu-Jeyyab
3:30 - 3:45	Dysplastic Gangloctomy (Lhermitte-Duclos Disease): A Case Report	Mohammad Al Mse`adeene
3:45 - 4:00	Questions and Discussion	
4:00 - 4:15	Coffee break	

Moderators: Dr. Salem Dwiri , Dr. Waleed Dabbas

4:15 - 4: 30	Epidermoid Cyst At The Cerebellopontine Angle	Saja Zuaiter
4:30 - 4:45	Gamma Knife Radiosurgery For The Treatment Of Familial Bilateral Glomus Jugulare Tumors: Report of 2 Case and Literature Review	Loai halalsheh
4:45 - 5:00	Cervical Spine Osteophyte, Unusual Presentation, Case Study	Mohammad Al-Jafari
5:00 - 6:00	Closing Ceremony	

THIRD DAY (SESSIONS)

Place: Blue Hall

SATURDAY | 27-8-2022

Moderators: Dr. Ahmad Yassin , Dr. Feras Alfawares

9:00 - 9:15	Neurology Research Experience	Dr Ahmad Yassin
9.15 - 9:30	Genetic Diagnostics in Neurology	Dr Samah Abu Rahmeh
9:30 - 9:45	History and pathway of Neurointervention	Dr Khaled Alawneh
9:45 - 10:00	Neurolinguistics and Cognitive Impairments Associated with Neurosurgical Intervention	Dr Feras Alfawares
10:00 - 10:15	Embolic Stroke of undetermined Source	Dr Mais Shawawreh
10:15 - 10:30	Pseudotumor Cerebri in Children: Updates	Dr.Amira AlMasri
10:30 - 11:00	Discussion and Questions	
11:00 - 11:30	Coffee break	

Moderators: Dr. Samah Abu Rahmeh , Dr Khaled Alawneh

11:30 - 11:45	Deep Brain Stimulation for Parkinson's disease	Dr. Duha Shorofat
11:45 - 12:00	Artificial Intelligence and its Role in Neuro-related Fields	Dr. Serin Atiani
12:00 - 12:15	Vaccines' Role in Alzheimer's Disease	Dr Omar Rawashdeh
12:15 - 12:30	PNIN: Foot drop Intelligent Solution	Aseel Badwan
12:30 - 12:45	Prevalence of Left-Right Confusion Among Medical Students in Mutah University, Al-Karak, Jordan.	Ibrahim alkhawaldeh
12:45 - 1:00	Questions and Discussion	
1:00 - 2:00	Launch	

THIRD DAY (SESSIONS)

Place: Blue Hall

SATURDAY | 27-8-2022

Moderators: Dr Mais Shawawreh , Dr.Omar Rawashdeh

2:00 -2:15	Immunoreactivity of Dopamine D1 Receptors in An Experimental Model of Multiple Sclerosis.	Omar Jamil Hasan AlOMARİ
2:15 - 2:30	Functional Abnormalities in Pain Processing in Migraineurs: A coordinate-based Meta-Analysis of Neuroimaging Studies	Anas Al-Khalili & Ramaz Al-Mana'I
2:30 - 2:45	Structural Abnormalities Related to Chemotherapy in Cancer Survivors: An ALE Meta-Analysis of Neuroimaging Studies	Ghayda'a Al-Majali
2:45 - 3:00	Cerebrolysin Ameliorates Carboplatin-Induced Congintive Impairment in Mice: A Behavioral Study	Ayah Eyalawwad & Tasneem Alashhab
3:00 - 3:15	The Counter Effect of Exercise on Cisplatin-Induced Cognitive and Proliferation Impairments	Tala Alsharaeh
3:15 - 3:30	Deep Brain Stimulation Target in Drug-Resistant Epilepsy: Systematic Review and Meta-Analysis of Effectiveness and Predictors of Response	Leen Al-Kraimeen
3:30 - 3:45	Nanotechnology For Neuroscience : A Bird's Eye View For Breakthrough Technology	Rama Matalgah
3:45 - 4:00	Questions and Discussion	
4:00 - 4:15	Coffee break	

Moderators: Dr Duha Shorofat , Dr. Serin Atiani

4:15 - 4:30	The Utility of Fundus Images in The Assessment of Previous Optic Neuritis	Ihdaa Bani Khalaf
4:30 - 4:45	Expression, Prognosis Value and Immune characteristics of LY96 in Brain Tumors: A Bioinformatics Analysis	Obada Ababneh
4:45 - 5:00	Questions and Discussion	
5:00 - 6:00	Closing Ceremony	

THIRD DAY (SESSIONS)

Place: Green Halls

SATURDAY | 27-8-2022

Moderators: Dr Mahmoud Bishtawi , Dr Radwan Bani Mostafa

9:00 - 9:30	New Advances in Depression Management	Dr. Aws Khasawneh
9:30 - 10:00	Holistic Approach to Health and Wellness	Dr Radwan Bani Mostafa
10:00 - 10:30	ADHD and its Effect on Patients' Life	Dr.Mahmoud Bishtawi
10:30 - 11:00	Psychosurgery: Updates	Dr Amer Jaradat
11:00 - 11:30	Break	

Moderators: Dr.Aws Khasawneh , Dr. Yazan Daher

11:30 - 11:45	The Association Between Substance Use and Nicotine Withdrawal Among Patients with Mental Illness	Dr Yazan Daher Al-Mrayat
11:45 - 12:00	Stigmatizing Attitudes Towards Schizophrenia Among Students in Jordan	Mohammad Alzu'bi
12:00 - 12:15	The Prevalence of Psychosis Among Parkinson's Disease Patients: A Systematic Review and Meta-Analysis	Ahmed-Jordan Salahat
12:15 - 12:30	The Effectiveness of Medication in Dealing with ADHD Children in Jeddah, Saudi Arabia	Sadeen Zein Eddin
12:30 - 12:45	Discussion and questions	
1:00 - 2:00	Lunch break	

Moderators:Dr. Amer Jaradat , Dr.Mahmoud Bishtawi

2:00 - 2:15	Non-medical use of Amphetamine-Type Stimulants among University and Senior High-School Students	Ahmad Ahmad & Razee Kitaneh
2:15 - 2:30	Emotion Regulation Abnormalities in Bipolar Disorder: An ALE Meta-Analysis of Neuroimaging Studies	Ruaa Ibrahim & Ammar Hamza
2:30 - 2:45	The Psychological Impact of Sleep Quality on Health Care Workers During COVID-19 Pandemic in Jordan	Hamzeh Wadi
2:45 - 3:00	"Tobacco Use, Nicotine Withdrawal, and Mental Illness: A Systematic Review"	Ibrahim alkhawaldeh
3:00 - 3:15	Jordanian University Students' Stigmatizing Views on Anxiety and Depression	Jehad Al Samhori
3:15 - 3:30	Using Cigarette-Equivalents to Estimate Nicotine Consumption Among Poly Tobacco Users	Ghassan Mubaiden

THIRD DAY (SESSIONS)

Place: Green Halls

SATURDAY | 27-8-2022

3:30 - 3:45	A Hope for All: Reducing PTSD Symptoms in Refugees through a Physiologically-Driven Adaptive Home-Based Virtual Reality Exposure Therapy Treatment	Omar Dababneh & Aseel Al-Razem
3:45 - 4:00	Discussion and Questions	
4:00 - 4:15	Coffee break	

Moderators: Dr Aws Khasawneh , Dr. Amer Jaradat

4:15 - 4: 30	Psycho-Behavioural Response of residents in AL-Naser Camp During COVID-19 Pandemic: A Cross-Sectional Study	Hasan Mihyar & Huda Baidoun
4:30 - 4:45	The Efficacy of Lithium Vs. Valporate on Bipolar Patients and Their Sexual Side Effect: A Meta-Analysis of 4159 Patients.	Almutazballlah Qablan
4:45 - 5:00	Postpartum Psychosis: Keep an Eye Out	Ashaar Al-Akhras
5:00 - 6:00	Closing ceremony	

CNS 2022

KEYNOTES SPEAKERS

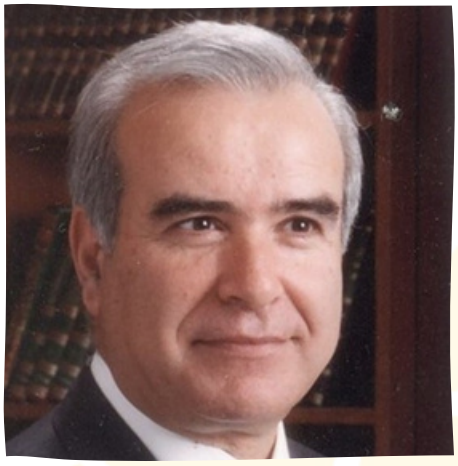
- Prof. Walid Maani
- Prof. Ibrahim Sbeih
- Prof. Tawfiq Daradkeh
- Prof. Ibrahim Faouri
- Dr. Nidal Khasawneh
- Prof. Mohammad Barbarawi
- Dr.Taher Janbek
- Prof. Abd-Rahman Shduifat
- Dr. Faiez Obeid
- Dr. Salem Dwairi
- Dr. Mones Obeidat
- Dr.Amer Akram Jaradat
- Dr. Sultan Jarrar
- Dr. Suleiman Dawod
- Dr. Ahmad Yassin
- Dr. Samah Abu Rahmeh
- Dr.Khaled Alawneh
- Dr. Feras Alfawares
- Dr. Mays Shawawreh
- Dr Amira Al Masri
- Dr Duha Al Shorofat
- Dr. Serin Atiani
- Dr. Aws Khasawneh
- Dr. Radwan Bani Mostafa
- Dr Mahmoud Bashtawi
- Dr. Yazan Daher Al-Mrayat

SPEAKERS

Place: Red Halls

KEYNOTE

Prof. Walid Maani



"History of Neurosurgery in Jordan"

EMERITUS PROFESSOR OF NEUROSURGERY

Prof. Ibrahim Sbeih

"History and Development of Transnasal Transsphenoidal Approaches ".

Consultant Base of Skull Neurosurgeon at Farah Medical Campus

Prof. Tawfiq Daradkeh

"History of Psychiatry "

Psychiatric Consultant at King Abdulla University Hospital

SPEAKERS

Place: Red Halls

KEYNOTE

Dr. Nidal Khasawneh

"Pediatrics Neurosurgery: my experience".

- **Consultant Pediatric Neurosurgeon AT Private sector**
- **Consultant neurosurgeon at Royal Medical Services - previously**

Prof. Mohammad Barbarawi

"Neurosurgery's Tale".

- **President of Conference**
- **Consultant Vascular Neurosurgeon at King Abdulla University Hospital.**
- **Professor - Head of Neurosurgery Department**
- **President of Jordanian Society of Neurological Surgeons**

Prof. Ibrahim Faouri

"Pillars of Ethical decision Making health care".

- **Vice president of King Abdullah University Hospital**
- **Professor at Jordan University of Science and Technology, College of Nursing**

SPEAKERS

KEYNOTE

Prof. AbdulRahman AL-Shudifat

"Gamma knife Technology in Neurosciences "

- **Consultant Neurosurgeon, University of Jordan Hospital.**
- **Professor, Neurosurgery Department**

Dr. Salem Dwairi

"SpinoPelvic parameters "

- **Vice dean of Medical Faculty – Hashemite University**
- **Consultant Neurosurgeon**

Dr.Amer Akram Jaradat

"Psychosurgery: updates "

- **Functional Neurosurgery consultant at King Abdulla University Hospital**
- **Member of Scientific committee**

Dr. Mones Obeidat

"The Role of MRI Tractography in Brain Tumors "

- **Consultant Neurosurgeon, King Hussein Cancer Center**

SPEAKERS

KEYNOTE

Dr. Suleiman Dawod

- **Oncology neurosurgery consultant at King Abdulla University Hospital**
- **Member of Scientific committee**

Dr. Sultan Jarrar

- **Pediatric and complex spine neurosurgery consultant at King Abdulla University Hospital**
- **Member of Scientific committee**

Dr. Ahmad Yassin

"Neurology research experience "

- **Epileptologist - Neurology Consultant at King Abdulla University Hospital**

Dr. Mais Shawawreh

"Embolic Stroke of undetermined Source"

- **Vascular and Multiple sclerosis neurologist at at King Abdulla University Hospital**
- **Member of Scientific committee**

SPEAKERS

KEYNOTE

Dr. Samah Abu Rahmeh

"Genetic Diagnostics in Neurology "

- **Pediatric Neurology Consultant at King Abdulla University Hospital**
- **Member of Scientific committee**

Dr Duha Al Shorofat

"Deep Brain Stimulation for Parkinson's disease"

- **Movement Disorder Neurology Consultant at King Abdulla University Hospital**

Dr Amira Al Masri

"Pseudotumor cerebri in children: Updates"

- **Pediatric Neurology consultant at University of Jordan**

Dr.Khaled Alawneh

"Neurointervention Pathway and challenges "

- **Interventional Neuroradiology Consultant at King Abdulla University Hospital.**

KEYNOTE SPEAKERS

Dr Mahmoud Bashtawi

"ADHD and its effect on patients' life "

- **Psychiatric consultant at King Abdulla University Hospital**
- **Member of Scientific committee**

Dr. Aws Khasawneh

New advances in Depression Management "

- **Psychiatric consultant at King Abdulla University Hospital**

SPEAKERS

KEYNOTE

Dr. Serin Atiani

"Artificial Intelligence and its Role in Neuro-related Fields "

- **Head of Data Science Department at Princess Sumaya University for Technology**

Dr. Feras Alfawares

"Neurolinguistics and cognitive impairments associated with neurosurgical intervention "

- **Speech Pathologist - Jordan University of Science And Technology.**

Dr. Yazan Daher Al-Mrayat

"The Association Between Substance Use and Nicotine Withdrawal Among Patients with Mental Illness "

- **Assistant professor at Mutah University**

SPEAKERS

Place: Red Halls

KEYNOTE

Dr. Faiez Obeid

Neurosurgery consultant - Private sector
Neurosurgery Consultant - Jordanian Royal Medical Services -previously

Dr. Faiez Obeid's keynote lecture will be about

"Extraordinary Neuro-surgical injuries: personal experience "

During the past 10 years about 25 cases of unusual head and spine injuries were treated at private hospitals under mu care; most of them are considered to be fatal injury either due severity of the injury or due to anatomical location, some of them were carries special interest in the nature and etiology of the injury, the management of such injuries and factors correlating the severity of the injury will be presented

SPEAKERS

Place: Red Halls

KEYNOTE

Dr. Taher Janbek

CONSULTANT OF NEUROSURGERY - PRIVATE SECTOR

Dr. Taher Janbek keynote lecture will be about
"**Transforaminal Endoscopic Discectomy** ".

Percutaneous endoscopic transforaminal discectomy , experience of 300 cases
The endoscopic approach for lumbar discectomy was introduced in the clinical practice in 1980 to remove the prolapsed disc and decompress nerve using the least disruptive surgical technique. Over the years, thanks to the technical development either in the quality of images or the development of many different instrumentations there has been a huge spreading of endoscope use across the different surgical fields.As a minimally invasive spinal procedure, Percutaneous endoscopic transforaminal discectomy has gained more interest since it requires only an 8-mm skin incision, and damage of the paravertebral muscles would be the minimum, it would be the least invasive spinal surgery at present.

We presented a series of 300 cases of lumbar disc herniation managed surgically only by a percutaneous transforaminal endoscopic technique in two units and by the same team. We found by our experience that transforaminal percutaneous endoscopic discectomy as a treatment option for lumbar disc herniation is an effective option with a small incision, quick recovery, short hospital stay, and excellent clinical outcome compared to either open surgery or other minimally invasive procedures

SPEAKERS

Place: Green Halls

KEYNOTE

Dr Radwan Bani Mustafa

MD, MRCPSYCH. DPM
CHAIRMAN OF PSYCHIATRIC DEPT.
JORDAN UNIVERSITY HOSPITAL

Dr Radwan Bani Mustafa keynote lecture will be about the "**A holistic approach to health and wellness** ".

The Holistic approach is a “whole” person approach that takes into account social, mental, and physical factors. Rather than alleviating the separate symptoms of a disease, it addresses the roots of the disorders themselves. Holistic health and wellness come through an intricate balance of physical wellness, psychological wholeness, social support systems, and emotional stability everyone will have their own unique experience of mental illness and different treatments will work for different people. The journey to mental health recovery is a very personal one. The holistic approach looks at the individual needs and does not assume that “one-size fits all”, but instead incorporates a combination of techniques to improve overall mental health and wellbeing. It usually involves non-invasive, medication, and natural methods.
More details of the subject will be discussed in the presentation.

CNS 2022

THE ABSTRACTS

ORAL PRESENTATIONS:
- NEUROSURGERY
- NEUROLOGY
- PSYCHIATRY

PRESENTATIONS

NEUROSURGERY ORAL

PRESENTERS:

1. Alaa Barbarawi - Jordan University of Science and Technology (JUST)
2. Amer Qolaghassi - Mutah University (MU)
3. Khaled El-Muwalla - Jordan University of Science and Technology (JUST)
4. Ayya Al Warawrah - Balqa Applied University (BAU)
5. Mahmoud Alqudah - University of Jordan (UJ)
6. Moaiad Hussein - University of Jordan (UJ)
7. Sondos Harahsheh - Jordan University of Science and Technology (JUST)
8. Dana Al-Hamawi - Jordan University of Science and Technology (JUST)
9. Abdul rahman Hijazi - Ibn AL-Haytham Hospital
10. Ahmad Hawarat - Mutah University (MU)
11. Muntaha Al-hawajreh- Mutah University (MU)
12. Ahmed Aljabali - Jordan University of Science and Technology (JUST)
13. Mohammad Abu-Jeyyab - Mutah University (MU)
14. Mohammad Mse`adeen - Mutah University (MU)
15. Saja Zuaiter - Mutah University (MU)
16. Loai Halalsheh - Ibn Haytham Hospital
17. Mohammad Al-Jafari - Mutah University (MU)

#1

Isolated Tectal Cavernomas: A Comprehensive Literature Review with a Case Presentation

Mohammed M. Al Barbarawi 1, Suhair Qudsia 2 , Ala' Moh'D Al Barbarawi 3

1 Department of Neurosurgery, faculty of medicine, Jordan University of Science & Technology PO Box 3030 zip code 22110. Irbid-Jordan
2 Department of Obstetrics and Gynecology, faculty of medicine, Yarmouk University
3 Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan.

Introduction

Intracranial cavernous angiomas or cavernomas (ICCs) are abnormal blood-filled vasculatures made of mono-endothelial layer and characterized by their bubble-like caverns. Brainstem cavernomas (BSCs) is a critical form of ICCs since slight changes in the lesion can result in devastating or life-threatening outcomes.

Case presentation

We hereby present a rare case of BSC developed in the mesencephalic tectum with intraventricular bleeding and Parinaud's Syndrome. Our patient was managed by complete surgical resection of the lesion through an infra-tentorial supracerebellar approach. Additionally, we reviewed and analyzed the hitherto reported cases of isolated tectal cavernomas (TCs) in the literature, including our case, to elucidate the main factors associated with the management outcomes of TCs. There have been 25 cases of isolated TC reported until now. Most of the patients were adults between 18–77 y of age, except for two children (7 and 13 y). There was no sex predominance. Symptomatic patients presented with headache 56%, altered level of consciousness 24%, and/or double vision 20%. Most cases (64%) had hemorrhagic lesions at presentation, and 60% of all cases experienced recurrent hemorrhages. Parinaud's Syndrome was recorded in five cases, including the current one. All cases affected with Parinaud's were males. Lesion size was a determinant of the outcome as larger lesions were more likely to result in persistent deficits. Surgical resection of the lesion was an effective management modality with ∼79% (15/19) of patients who underwent surgery ended up with complete recovery.

#2

Unusual Epidural Hematoma Presentation, Case Study

Osama jamous 1 , Mutahr hadad 1, Amer qolaghassi 2, Mohammad-abu-jeyaab2

1 Neurosurgery Department, Al-Basheer Hospital, Jordan.
2 School of medicine, Mutah university,mabujeyyab@yahoo.com, Al-Karak, Jordan. .(corresponding author)

Introduction

Epidural hematoma refers to the bleeding between the dura mater and the calvarium, particularly in the epidural space. Most cases are traumatic. the incidence is that it occurs in approximately 10% of patients with moderate to severe traumatic brain injury and 1 % with mild head trauma. Its most seen in individuals between 20-30 years old. The usual presentation is that there is an initial loss of consciousness immediately following a head injury followed by temporary recovery of consciousness with a return to normal or near-normal neurological function (lucid interval) followed by renewal decline in neurological status and the onset of symptoms caused by hematoma expansion and mass effect mostly takes minutes to few hours but can be up to 24 hours. In addition, there are signs of associated skull fractures. e.g. otorrhea, battle sign) .

Case presentation

A 15-year-old male patient presented to the emergency department complaining of a headache that started 1 month before admission and gradually increased in severity in the last month. It was associated with nausea, vomiting, and general fatigue. The patient reported that those symptoms started to appear 1 month when he fell on his head.

On the physical examination: The patient was lying on the bed, Vitaly stable, CAO, GCS =15/15. He moves his limbs freely, power 5/5, sensation intact, reflexes +2, normal tone. No nystagmus. , normal heal to toe test, normal nose to finger test, normal speech, no dysdiadochokinesia, normal chin to foot test. Pupils are ERTL . there are no signs of skull base fracture as otorrhea, rhinorrhoea, no battle sign ,no racoon eyes)) regarding the vital sings at the time of presentation : blood pressure was 137/63 , heart rate : 82 bpm , SPO2 on room air is 97%

in addition to all of that there were normal S1 and S2 with no added sounds , good air entry bilaterally , the abdomen was soft and lax , now lower limb edema , no skin rash or ecchymosis .

Brain CT-scan shows typical findings of right frontoparietal epidural hematoma with a mass effect which is hematoma that’s biconvex in shape, sharply demarcated extraaxial lesion , hyperdense in appearance , limited by suture lines and there were no evidence of skull fracture.

The Surgical approach was craniotomy for hematoma evacuation and ligation of the ruptured blood vessels. The post op follow up went smoothly, 5 days observation in ICU then transferred to floor.

Conclusion

There’s no enough information In the literature regarding the proper approach as well as the prognosis for this unusual case of epidural hematoma.

#3

Complications and Timing of Cranioplasty Following Decompressive Craniectomy: A Retrospective Cohort

Sultan Jarrar 1, Mohammed M. Al Barbarawi 2, Suleiman S. Daoud 1, Khaled M. El-Muwalla 3, Nada Al-alem 3, Sara Hassan 3, Osama Darabseh 3, Sebawe Syaj 3, Omar F. Jbarah 4.

1 MD, Assistant professor of Neurosurgery, Neuroscience Department, Division of Neurosurgery, Faculty of Medicine, Jordan University of Science & Technology, Irbid, Jordan.
2 MD, Professor of Neurosurgery, Neuroscience Department, Division of Neurosurgery, Faculty of Medicine, Jordan University of Science & Technology, Irbid, Jordan.
3 Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan.
4 MD, PGY4, Neuroscience Department, Division of Neurosurgery, Faculty of Medicine, Jordan University of Science & Technology, Irbid, Jordan.

Background

Decompressive craniectomy (DC) is a surgical procedure used to treat refractory increase in intracranial pressure that is unresponsive to medications.[1] DC is succeeded by cranioplasty (CP), a reconstructive procedure that is crucial to protect the underlying brain and achieve proper cosmetics.[2] However, complications such as seizures, fluid collections, infections, hydrocephalus, and bone resorption are some that can arise from CP.[3] The aim of our study is to investigate these complications and to determine whether early or late CP has any effect on the outcome.

Materials and Methods

A single-center observational cohort was performed, including patients who underwent CP after DC between June 2014 and September 2020. Relevant information was collected such as: demographics, comorbidities, type of brain injury, GCS scores, materials used in CP, timing between DC and CP, and postoperative complications. Ultimately, 53 patients were included in our study and were divided into 2 cohorts, patients who were admitted with traumatic brain injury (TBI), and patients who were admitted with other types of injury like tumors, abscesses, or vascular issues (Non-TBI). In addition, early CP was defined as <90 days after DC, and vice versa in late CP.

Results

The overall complication rate was 47.2%. Most patients were male (77%) and the sample mean age was 28.3 years, with pediatric patients accounting for 40% of the sample. TBI group consisted of 36 patients, while Non-TBI consisted of 17 patients. TBI patients were significantly younger (mean difference = 16.3 years, $p < 0.001$) and male patients were at a higher risk of TBI, whereas Non-TBI group had more comorbidities such as hypertension and diabetes mellitus. Post-CP complications were seizure/epilepsy in 34.0%, fluid collection in 22.6%, infections in 17.0%, post-traumatic hydrocephalus in 9.4%, and bone resorption in 3.8% of patients. 18.9% of patients with complications required reoperation and underwent a second CP. Regarding the timing of CP, patients who underwent late CP (>90 days) had slightly higher rates of complications, but the results were statistically insignificant.

Conclusion

Despite CP being a simple straightforward procedure, it is not without complications as evident by the high complication rate of 47.2% in our study. Thus, it is crucial for the surgeon to be aware of such complications to better circumnavigate these issues. Furthermore, the timing of CP has been a topic of great contention over the years and our study found that there was no significant difference in complications with relation to the timing of CP, and this conclusion is supported by many studies such as Bender et al. and Yadla et al.[4,5] However, further decisive studies are warranted.

#4

Case Report:2 Primary Skull Tumor

Waleed Aldabbas 1, Ayya Al-warawreh 2, Razan Aburashed 2, Tarek Alkhaldi 2

1 Neurosurgery department, Neuron Clinics, Jordan.
2 school of medicine, Albalq'a Applied university

Introduction

Bone and soft tissue tumors arising from the skull bone account for less than 2% of all musculoskeletal malignancies which make them an uncommon neoplasm.

The most common primary skull tumor is osteoid osteoma which is a benign osteogenic neoplasms of the cancellous boneusually appears as a solitary lesion in the head and neck

About Primary intraosseous cavernous hemangiomas which is a rare bone tumor accounting for less than 1.0% of all bone tumors are rarely seen in the skulls.

In general, multiple primary bone tumors is uncommon and multiple lesions of different types are even less common.

case presentation

A 36-year-old female patient who was diagnosed with two primary skull tumors with different pathological type was reported.

In this case the patient was diagnosed with an osteoid osteoma arising from the mastoid part of temporal bone when she was a teenager, which was noticed as a mass in the right retro-auricular region causing no symptoms, and by doing a brain CT the diagnosis was done in that time. Regular follow up was recommended with no treatment.

4 years later and as a part of the follow up program brain CT scan was done, which shows a right parietal bony mass with no changes were noticed over the mastoid bone lesion.

In 2012, The two-mass started to enlarge with higher rate for the parietal one with no other symptoms. A few years later the parietal lesion was large enough to cause symptoms as difficult speech associated with continuous right ear tinnitus, right sided headache, with disfiguration of her skull shape.

In the last CT scan and MRI with contrast done before surgery the diagnosis was made as two ipsilateral right sided retro-auricular osteoid osteoma and parietal cavernous hemangioma.

Post-operative histological study confirmed the diagnosis.

The patient is doing well now with no recurrence, as a CT scan follow up was done in 2021.

Conclusion

Two primary skull lesions can be presented at the same time in the same side which may be with different pathological types, by reviewing the literature, this is the second documented case with two ipsilateral skull lesions with different types - retro-auricular osteoid osteoma and parietal cavernous hemangioma -. This unusual diagnosis may be due to underlying genetic issues.

#5

Factors that Affect Citation of Articles and Gender Discrepancy in Neurosurgery Literature of Middle East and North Africa; A Bibliometric Analysis

Mahmoud Alqudah 1, Tareq Kanaan 2, Alexander Duraid Rabadi 1, Sufian Abdel Hafez 1, Ahmad Saadeh 1, Lubna Haikal 1, Osama saadeh 3.

1 Faculty of Medicine, University of Jordan, Amman, Jordan
2 Department of Neurosurgery, University of Jordan, Amman, Jordan
3 Public Health, Northeastern Illinois University, Chicago, USA.

Background
Gender disparity is a persistent issue that exists throughout the world. In the medical field, surgical specialties have the most gender inequality among others with neurosurgery being among the most. This research aims to assess this topic in the context of neurosurgery in the Middle East and North Africa region.

Methods
All published neurosurgery, and neurosurgery-affiliated articles in MENA countries on PUBMED were screened. 5739 articles were included, and 491 articles were finally included after applying the exclusion, and inclusion criteria, and the second round of screening. Categorical data were expressed as percentages and underwent the Kruskal-Wallis test of variance to investigate the p-value. Linear data were shown as mean with a standard deviation. Person correlation was used to investigate the strength of correlation between variables. Linear regression was used afterward.

Results
Most article types were retrospective cohorts (58.5%). The lead in the number of publications, in general, was from Iran with 231. World Neurosurgery had the highest percentage of published articles with 11.8%. The number of women first authors appears to steadily increase over time yet when compared to men first authors and the percentage is calculated, there appear to be no observed changes.

Conclusion
The presence of the MENA region in the scientific field as a whole constitutes a finite portion of all scientific studies, is underrepresented in the neurosurgery domain, and lacks women neurosurgeons' involvement. The challenges women neurosurgeons tackle in the medical field are of paramount importance to their career prospects and scientific involvement.

#6

Case Report: Splenic Aneurysm Rupture Post-Anterior Cervical Discectomy and Fusion

Moaiad Hussein1, Mustafa Al-Mollah1, Tariq Kanaan2

1 Department of Medicine, Faculty of Medicine, University of Jordan, Amman, 11972, Jordan.
2 Department of Special Surgery, Faculty of Medicine, University of Jordan, Amman, 11972, Jordan.

Background

Anterior cervical discectomy and fusion (ACDF) is a regular surgical procedure for correcting spinal deformities and pain relief. There are several complications of ACDF. Here, we report an unexpected case of intra-abdominal hematoma after ACDF with no prior abdominal symptoms or underlying conditions identified since admission. This report will describe the events and interventions that took place for this patient.

Case description

The patient is a 44-year-old female with a history of neck pain of four-month duration. On Magnetic Resonance Imaging (MRI), a degenerative cervical disk (C5-C6) was identified. Prior surgical history is significant for a C4-C5 ACDF 3 years ago. An anterior cervical discectomy and fusion was performed and the patient was doing relatively post surgery. However, in less than 24 hours, the patient complained of severe abdominal pain. An abdominal CAT scan revealed internal bleeding and a splenic aneurysm rupture. The patient immediately underwent an urgent laparotomy and splenectomy.

Conclusion

Patients undergoing ACDF should be monitored closely following surgery for any complications. Physicians should consider the possibility of any signs of hematoma due to underlying conditions that are undiagnosed in order to treat accordingly.

#7

Risk of Meningitis after Posterior Fossa Decompression with Duraplasty Using Different Graft Types in Patients with Chiari Malformation Type I and Syringomyelia: a Systematic Review and Meta-Analysis

Baha I. Aburayya 1, Ayman R. Shatnawi 1, Mohab A. Alkhasoneh 1, Ahmad A. Toubasi 1, Sondos M. Alharahsheh 1, Saleem K. Nukho 1, Asil S. Nassar 1.

1 Faculty of Medicine, Jordan University of Science and Technology, Irbid, 22110, Jordan.

Background

Several complications have been reported after the use of grafts for duraplasty following posterior fossa decompression for the treatment of Chiari Malformation Type I. This study aims to investigate the rate of meningitis after posterior fossa decompression using different types of grafts in patients with Chiari Malformation Type I and associated syringomyelia.

Methods

The search was conducted using multiple databases, including PubMed, Scopus, Web of Science, and Embase. Data on the rate of meningitis, syrinx change, and rate of reoperation were extracted and investigated. Quality of evidence was assessed using the Newcastle-Ottawa scale.

Results

19 studies were included in the final meta-analysis, encompassing 1404 patients and investigating autografts, synthetic grafts, allografts, and xenografts (bovine collagen, bovine pericardium, and pig pericardium). Autografts were associated with the lowest rate of meningitis (1%) compared to allografts, synthetic grafts, and xenografts (2%, 5%, and 8% respectively). Autografts were also associated the lowest rate of reoperation, followed by xenografts, allografts, and synthetic grafts (4%, 5%, 9%, and 10%, respectively). On the other hand, allografts were associated with the highest rate of syrinx improvement (83%) in comparison to autografts and synthetic grafts (77%, and 79% respectively).

Conclusion

Autografts were associated with the lowest meningitis, reoperation and syrinx improvement rates. Furthermore, synthetic grafts were associated with the highest reoperation and, xenografts with the highest rate of meningitis, whereas allografts were associated with the best syrinx improvement rate and second-best meningitis rate. Future studies comparing between autografts and allografts are warranted to determine which carries the best clinical outcome.

#8

The prevalence Of Idiopathic Intracranial Hypertension in Morbid Obese Patients Who Seeks Bariatric Surgery

Mohammad Jamous 1, Mohammad Bani Hani 2 , Hisham Al Jammal 3, Omar Jbarah4, Yousef Odeibat 4, Hamman hawamdeh 4, *Dana Alhamawi 5, Sarah Abandah 5, Rawan Alamoudi 5*

1 Department of Neurosurgery, Faculty of Medicine, Jordan University of Science & Technology, Irbid, Jordan
2 Department of General Surgery, Faculty of Medicine, Jordan University of Science & Technology, Irbid, Jordan
3 Departement of Opthalmology, Faculty of Medicine, Jordan University of Science & Technology, Irbid, Jordan
4 MD, NeurolosurgeryDepartment, Division of Neurosurgery, Faculty of Medicine, Jordan University of Science & Technology, Irbid, Jordan
5 Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan.

Background

idiopathic intracranial hypertension (lIH or pseudotumor cerebri) is one of the rare neurological disorders in which cerebrospinal fluid (SF) pressure is increased, leading to multiple findings like papilledema and visual disturbances. Patients usually present with a variety of symptoms, including transient visual obscurations (TVOs), blurred vision, tinnitus, diplopia, or headaches.
The etiology of lIH is still not known, IIH can be diagnosed based on a standard criterion for the diagnosis which is the modified Dandy criteria (1). These criteria include 1) signs and symptoms of increased intracranial pressure, 2) normal neuroimaging, 3) absence of focal neurological signs aside from cranial nerve VI paresis, and 4) elevated SF pressure with normal CSF composition.
IlH should be managed by ophthalmologists and neurologists, as untreated cases can lead to significant morbidity from visual loss, which can be in some cases severe and permanent (2-5). Which emphasize the role of early diagnosis and management
visual symptoms represent the main clinical manifestation of patient with IIH, however around 25% of patients with IIH can be asymptomatic in the early phase of the disease (6) which can delay the diagnosis, leading to higher risk of permanent visual loss. So, screening for IIH in high risk population is essential.
Overweight is a recognized risk factor for IIH .The overall incidence of pseudotumor cerebri (PTC) has been estimated at 1 per 100,000 in the general population, while it is around 19 per 100,000 among overweight patients (7,8) The aim of this study of to determine the role of BMI in the development of

Methods

200 patients will be selected upon inclusion criteria, It's a prospective study
Including criteria : 1. Female 2. BMI >40 3. Seeking bariatric surgery in General surgery clinic 4. Asymptomatic regarding high ICP
Consent form will be taken from each included patient referred from the Bariatric clinic to Neurosurgery clinic
Fundoscopic examination by Ophthalmologist to assess the optic nerves regarding Papilledema
Lumber puncture will be done under aseptic technique after taken another consent allowing us to perform it , which will be done by a Neurosurgical Doctor
Demographic data will be collected from all included patients
Control group are patients who have normal BMI and visit the ophthalmic clinic for other reasons.

Results/ outputs

As morbid obesity increasing in the last tow decades, we assume to find a higher prevalence of IIH patients among Morbid obesity patients We should have a correlation between the BMI and IP measures

#9

Surgical Excision of Multilayered Scalp AVM: Case Report

Majdi ramadan 1, Abdul rahman Hijazi 2

1 6th Year Neurosurgical Resident, Neurosurgery Department, Ibn-AL Haitham Hospital IHH, Amman, Jordan.
2 3rd Year Neurosurgical Resident, Neurosurgery Department, Ibn-AL Haitham Hospital IHH, Amman, Jordan.

Background

Scalp Arterio-Venous Malformations (AVM) are rare conditions that are congenital, traumatic, or post-infectious in nature. These lesions may be found incidentally or owing to signs and symptoms that they produce and its usually need surgical treatment. Here, we have reported our experience of the surgical management of multi-layered scalp AVM without interosseous intracranial connections with a short review of the literature.

Methods

In this case study, we describe the diagnosis, the clinical and radiological features of a patient with a multi-layered scalp arteriovenous malformation existing in the galea and pericranial layers separately who underwent surgical excision of these lesions in our hospital IHH without pre-operative embolization and follow up period of 25 months.

Results

The lesions were successfully excised surgically; Scalp cosmetic aspects were acceptable. There was no major post-operative complication or recurrence till the last follow-up.

Conclusion

With preoperative appropriate surgical planning, scalp AVM can be excised without major complication and with excellent outcome, However, Preoperative embolization is increasingly used to reduce vascularity and hemorrhage during surgery.

#10

Central Neurocytoma: Case Series

Maher Elayyan 1, Asem Mamsour 2, Maysa Al Hussaini 3, Amer Al shurbaji 1 , 'Ahmad Hawarat 4, Mohammad Abu-Jeyyab 4

1 Department of Surgery, King Hussein Cancer Center, Amman, Jordan.
2 Department of Radiology, King Hussein Cancer Center, Amman, Jordan.
3 Department of Pathology, King Hussein Cancer Center, Amman, Jordan.
4 School of medicine, Mutah, Al-Karak, Jordan.

Background

Central neurocytoma is a rare intra-ventricular tumor, compromising 0.5% of brain tumors. The management of these tumors is still controversial because most clinical series are small. Although most patients have good prognosis, some cases may still show an aggressive course. The most common therapeutic modality is surgery, with possible safe resection best predicting long term outcome. External beam radiotherapy can be added to subtotal excision, alternatively; observation until progression can be offered to patients.

In this case series we will present our experience with 12 patients with afocus on the role of surgery in the management of central neurocytoma. , in which trans-callosal approach has good outcome. External beam radiotherapy was given to three atypical central neurocytoma cases.

Case Presentation

Central neurocytoma is benign tumor, our experience in 12 cases, all the patients were female, all the patients had surgery and one case subtotal resection done, thee cases the tumor was atypical, the surgical approach was decided according to the tumor accessibility, the tumors were vascular but resection were feasible in all the cases except one because of extension of the lesion, the postoperative course of the patients was smooth except three cases, they develop memory deficit and behavioral changes, for 6 months, all the patient on regular follow up. One patient develop recurrence after one year the tumor was atypical and she received radiotherapy. No radiological sign can differentiate between typical and atypical central neurocytoma, the hydrocephalus on the preoperative scan, can resolved without shunt after surgery, in most cases, we need shunts for two cases only. All the tumors are located in the lateral ventricles, although some authors report locations like the 4th ventricle and spinal cord. We need good pathologist to differentiate between different intraventricular tumors, especially central neurocytoma and oligodendroglioma. Grading of central neurocytoma depend mainly on proliferation index Ki 67, if > 10 % it is atypical. In review of the literatures most of the authors present few cases, the main therapeutic approach is surgery, radiotherapy is given for atypical central neurocytoma, no rule for chemotherapy in central neurocytoma.

Conclusion

Central neurocytoma a disease of young age group, with female predominant, surgical resection is the most important prognostic factor, with total resection improve the survival of the patient. The approach to the tumor needs to be planned preoperatively to achieve total resection and less morbidity. The atypical central neurocytoma the surgical resection affects also the survival, radiotherapy for atypical central neurocytoma is needed.

#11

Cranioplasty After Wound Infection: Case Study

Hussein Alabbadi 1, Tariq Harb 2, Muntaha Al-hawajreh 2, Mohammad Abu-Jeyyab 2

1 Neurosurgery Department, Al-Basheer Hospital, Jordan.
2 School of medicine, Mutah university, Jordan.

Background

Cranioplasty is a frequently performed procedure in neurosurgery. It is commonly performed after decompressive craniectomy following trauma. It is a reconstructive procedure for structural, cosmetic, and physiological rehabilitation. The repair of skull defects arising from craniectomy presents a unique set of challenges.

Case presentation

A 5 year old male patient was presented to emergency department when he was 3 years old, he have had a depressed fracture and intracranial hematoma, was operated with craniotomy with part of parital bone removed at that day. After surgery, the patient started to develop abnormal movements with spastic upper and lower limbs, mainly involving the left side. Scalp necrosis was noticed. The patient was transferred to al-basheer hospital for further management. When the patient arrived his GCS was 11/15 with same status that mentioned above.

Brain CT scan revealed bulging of left cerebral hemisphere with no signs of active bleeding. There is evidence of post-operative changes in left cerebral hemisphere seen as hyperdense surgical material within left fronto-parital lobes measuring 4*4 with surrounding hypodense edematous changes with evidence of minimal effacement of left lateral ventricle. Area of hypodensity in the inferior part of left cerebellar hemisphere with thrombosed left sigmoid sinus.

In addition to that, the patient developed focal convulsions at the left arm, managed by diazepam. Occipital bed ulcers and skin ulcer with pus discharge at side of operation. On the other hand, falling down happened again and the patient developed epidural hematoma. As a result, multiple cranioplasty were done for infected wound along period of 2 years with coverage of appropriate antibiotics and follow up with lab tests and imaging.

Bone flap using 3rd model was done with wound revision and debridement of infected wound along time after procedures. On the last visit the patient was looking well, conscious and oriented, his GCS was 15/15 , and the wound was clean.

Conclusion

In children, cranioplasty is associated with high rates of surgical site infection about 8%. Infections are usually seen 3-10 months after the cranioplasty operations. In this case it was seen after 19 days from the onset of craniectomy which is a shorter than expected time. Despite the seriousness of the developed complications, The serial management procedures were optimum for the patient.

#12

"Subcutaneous Pocket Compared to Cryopreservation Method for Storing Autologous Bone Flaps After Cranioplasty: A Meta-Analysis."

Ahmed Aljabali 1, Mariam Abdelhady 2, Mohammed Altal 1, Hazem Ghaith 3, Bashar Mallouh 1, Mustafa Kiswani 1, Ahmed Negida 4.

1 Jordan university of science and technology, Faculty of medicine, Irbid, Jordan.
2 October 6 University, Faculty of medicine, Giza, Egypt.
3 Faculty of medicine, Al-Azhar University, Cairo, Egypt.
4 Harvard Medical School, Department of Global Health and Social Medicine, Boston, USA

Background

After decompressive craniectomy harvested bone flap is stored until cranioplasty. Bone preservation is achieved either with subcutaneous pocketing (SP) in the abdominal wall or cryopreservation (CP) in a freezer. The purpose of this study is to compare surgical outcomes after autologous bone cranioplasty between patients undergoing bone preservation using either SP or CP.

Methods

We systematically searched four electronic databases; PubMed, Cochrane Library, Scopus, and Web of science for eligible comparative studies. All studies till June 2022 were included. Two primary and three secondary outcomes were meta-analyzed.

Results

We included four double-arm studies with a collective total of 355 patients. Of these, 158 underwent subcutaneous pocketing and 197 underwent cryopreservation of their autologous bone flap after craniectomy. There was no significant differences between the two groups with regard of bone flap infection(OR=0.38, 95% CI [0.09, 1.58], P = 0.18)and surgical site infection (OR=1.33, 95% CI [0.72, 2.45] , P = 0.36). The SP group had a lower degree of bone resorption compared to the CP group (MD = -0.78, 95% CI [-0.97, -0.59], P <0.001). Length of hospital stay was longer (MD = 2.15, 95% CI [0.94, 3.35], P <0.001) while the duration ofautologous bone flap preservation was shorter (MD = -0.68, 95% CI [-1.02, -0.34], P<0.001) in the SP group.

Conclusion

The superiority of SP over CP in terms of reduced post-cranioplasty surgical site infection remains undetermined. However, the SP group reported a lower degree of bone resorption, a shorter duration of bone preservation, and a longer hospital stay. The best method of preservation should depend on local hospital facilities and the patient's condition.

#13

Unusal Hydatid Cyst Located The Cerebellum, A Case Study

Heba Jubarah 1, Anas Al-humaidi 2, Mohammad Abu-Jeyyab 2

1 Neurosurgery Department, Al-Basheer Hospital, Jordan.
2 School of medicine, Mutah university, Al-Karak, Jordan.

Background

Hydatid cyst disease is a parasitic infestation caused by the tapeworm Echinococcus granulosis. The incidence of the disease is 1-200 case per 100000. The usual presentation is the formation of fluid-filled cysts in the liver or lungs, less commonly in the brain. Moreover, one of the rarest sites of the hydatid cysts is the extra-cerebral cranial hydatid cysts; posterior fossa localization which usually present in the cerebellum.

Case presentation

A 7-year-old male patient was presented to emergency department complaining of headache which started 10 days before admission and increased in the severity in the last 3 days. He described it as a band like distribution with a radiation to the neck. It was associated with nausea, vomiting, dizziness, and general fatigue. Additionally, Diplopia developed 3 days prior to admission. He also developed abnormal movements, opisthotonos, during hospital stay prior to surgery. Also, the mother noticed his unsteady walking. there was no fever, no weight loss, nor any other symptoms.
On the physical examination: The patient was lying on bed Vitaly stable, CAO, GCS =15/15. He moves his limbs freely, power 5/5, sensation intact, reflexes +2, normal tone. No nystagmus. Unsteady gait, abnormal heal to toe test, normal nose to finger test, normal speech, no dysdiadochokinesia, normal chin to foot test.
Brain MRI: there was a 4.9*4.2 cm interaxial unilocular cystic lesion in the lift cerebellar hemisphere.it shows pure CSF signal intensity in all sequences. there is no contrast enhancing wall or mural nodule .no surrounding edema. It's associated with significant mass effect on the posterior fossa structures with resultant mild obstructive HCP.no enhancement post contrast makes tumors unlikely.
Abdominal CT scan: The liver measured about 13.7cm in craniocaudal dimension. there is about 3 *2.3*2.4cm well demarcated cystic lesion in right liver lobe, segment 6. No definite wall calcification, septation or detached membranes. The Surgical approach was a craniotomy then cerebellar cortectomy. The cyst delivered without rupture. The histopathological microscopical description of the cyst correlate with features hydatid cyst. The post op follow up went smoothly, 24 hour observation in ICU transferred to floor.

Conclusion

There are no enough literatures about cerebellar hydatid infestation. Most cases that were reported were diagnosed post-surgery after the definitive histopathological examinations. The preoperative diagnosis is hard to reach by the classical facilities (the history, examination, and the investigations). There is a deficiency in the information about the treatment options and the prognostic factors.

14

Dysplastic Gangloctomy (Lhermitte-Duclos Disease): A Case Report

Maher Elayyan 1, Amer Al-Shurbaji 2, Asem Mansour 2, Maysa Al Hussaini 3, Abd Alrahman Alhawamdeh 4, Mohammad Al Mse`adeen 5, Mohammad Al-Jafari 5, Mohammad Abu-Jeyyab 5

1 Department of Surgery, King Hussein Cancer Center, Amman, Jordan.
2 Department of Radiology, King Hussein Cancer Center, Amman, Jordan.
3 Department of Pathology, King Hussein Cancer Center, Amman, Jordan.
4 Neurosurgery Department, Al-Basheer Hospital, Amman, Jordan.
5 School of medicine, Mutah University, Al-Karak, Jordan.

Background

Lhermitte-Duclos disease (LDD) was firstly described in 1920, as a rare benign tumor of the cerebellum, around 70 cases were reported. LDD arises from the cerebellar cortex and results in a progressive mass effect in the posterior fossa. Patients with LDD present with symptoms of headache, vomiting, ataxia, and unsteady gait. LDD may be associated with Cowden disease or multiple hamartoma syndrome which is a rare familial disorder of an autosomal dominant inheritance manner. It`s prevalence is 1 in 200,000 to 1 in 250,000. It`s identified by a constellation of cutaneous and oral papules, with dysmorphic anomalies and a propensity for development of hamartomatous tumors and their malignant transformation in the skin, breast, thyroid, and GI tract.

Case presentation

A 30-year-old female patient with a history of total thyroidectomy presented with headache, blurred vision, and unsteady gait for 3 months. CT scan showed a large non-enhancing mass with surrounding calcification compressing the 4th ventricle, an urgent ventriculoperitoneal shunt was inserted. Brain MRI showed a large (5.2+4 cm) in the right cerebellar hemisphere, the mass was hypointense on T1-weighted images, hyperintense on T2-weighted images, with internal septation in the lesion, and there was no significant enhancement. Right suboccipital craniectomy was done with total excision of the lesion. The histology showed marked replacement of the internal granular layer cells by large dysplastic neurons with vesicular nuclei and prominent nucleoli, the hypocellular molecular layer shows prominent vacuolation, no mitotic activity seen, GFAP is positive in the fibrillary background, synaptophysin highlighted the large ganglion cells. Follow up MRI done showed no residual tumor. The patient was discharged home doing well and returned back to her work.

Conclusion

LDD disease is a rare cerebellar tumor, that has been considered a developmental abnormality but the histochemical studies favor a hamartomatous origin. The age of presentation varies from the neonatal period to sixty, but the most common age is the thirty and forty. The MRI finding in LDD which can be diagnostic, hypointense on T1-weighted images, hyperintense on T2-weighted images, with no enhancement, which is different from the other posterior fossa tumors like medulloblastoma, ependymoma and astrocytoma. Surgical excision of the lesion improves the patient's symptoms and a thorough investigation for associated hamartomas or neoplasms of other body parts associated with Cowden syndrome is required.

#15

Epidermoid Cyst At The Cerebellopontine Angle

Abdullah AlAkayleh 1, Saja Zuaiter 2, Sadeen Zein Eddin 2 Mohammad Abu-Jeyyab 2

1 Neurosurgery Department, Al Basheer Hospital, Amman, Jordan.
2 School of medicine, Mutah Al-Karak, Jordan

Background

The term epidermoid cyst gets its name from both epidermal and connective tissue structures growing in the form of a sac. These cysts are extremely rare, slow-growing, and painless masses that account only 1% of all intracranial tumors. They are characterized as round or oval, well-circumscribed lesions. This literature aims to review this exceptional radiographic finding of epidermoid cyst further highlighting the investigations and preoperative diagnosis.

Case presentation

The patient reported in this case study is a 42-year-old female admitted to the surgical ward as a result of a deficit in the sixth cranial nerve particularly signs of right eye abducent nerve palsy and periorbital swelling. Radiographic findings on MRI scan revealed an extensive lesion in the right cerebellopontine cistern causing an obvious brainstem compression. The lesion extended anteriorly to the right temporal lobe and posteriorly reaching the posterior fossa. Meanwhile, a brain CT showed a hypodense lesion compressing the right temporal lobe and right cerebellar hemisphere. A 4 mm midline shift to the left side is also apparent. Grossly, the cyst appeared to have a pearly, white appearance. Subtotal resection of the tumor is the indicated treatment of choice for this case.

Conclusion

This case study presents a rare incidence of an epidermoid cyst particularly occupying cerebellopontine angle and causing noticeable deterioration in neurological symptoms. Both CT and MRI play an essential role in diagnosing epidermoid cysts and determining the surgical excision procedure. Subtotal resection is the preferred treatment of choice for this case.

#16

Gamma Knife Radiosurgery For The Treatment Of Familial Bilateral Glomus Jugulare Tumors: Report of 2 Case and Literature Review

Loai Halalshe 1, Majdi Ramadan 1, Abdullrahman Hejazi 2,Abdullah Akayleh 1.

1 MD 6th neurological surgery resident, Ibn Alhaytham hospital, Amman, Jordan.
2 MD 3rd neurological surgery resident, Ibn Alhaytham hospital, Amman, Jordan.

Background

Glomus tumors are rare and benign hypervascular tumors. It could be bilateral or associated with a glomus tumor in another location. These tumors can also have a familial distribution. Complete resection is challenging due to high morbidity and mortality; therefore, Gamma Knife radiosurgery represents one of the excellent and less invasive treatment options in patients with bilateral disease.

Methods

In this article, the authors report, two sisters with bilateral familial glomus jugulare tumors, whom underwent Gamma Knife radiosurgery focusing on treatment decisions, dose plan, and patient's outcomes with long follow up period of previously treated glomus jugulare 20 years ago, including review of related literature

Results

Two sisters with bilateral familial glomus jugulare tumors underwent Gamma Knife radiosurgery. A follow-up period of 24 months showed reduction in the tumor volume without any complications.

Conclusion

Gamma Knife radiosurgery represents a safe and effective treatment for glomus tumors. GKR improved symptoms, prevented neurological progression, and achieved radiographic stability or regression in the represented cases and this confirms the findings of previously published series in the literature.

#17

Cervical Spine Osteophyte, Unusual Presentation, Case Study

Hussein Al-Abadi 1, Tareq Harb 1, Mohammad Al-Jafari 2, Mohammad Abu-Jeyyab 2, Mohammad Al Mse`adeen 2

1 Neurosurgery Department, Al-Basheer hospital, Jordan.
2 School of medicine, Mutah University, Al-Karak, Jordan.

Background

Systemic Diffuse Idiopathic Skeletal Hyperostosis (DISH) is defined by the ossification of the ligaments surrounding the spinal column for an unidentified etiological reason(1). The condition affects 7 out of every 100,000 people annually(2). Although this is frequently asymptomatic, it can occasionally result in dysphagia.

Case presentation

A 50 years old male patient was referred as an outpatient from the general surgery clinic complaining of chronic dysphagia from 2017 until 2022 to the neurosurgery clinic and then admitted to the neurosurgery ward. The patient's medical history revealed the patient suffer from multiple diseases and complaints including Benign prostate hyperplasia (BPH), Benign neoplasm of the nasopharynx, lower back pain, gout, diabetes mellitus (DM), hypertension(HTN), cerebrovascular accident (CVA), and dyslipidemia. The surgical history showed only surgery for a hernia. the patient is an active smoker. The patient is on antidiabetic medications, antihypertension medications, and hyperlipidemia drugs. on physical examination 11 and 12 cranial nerves are normal, muscle power was 5/5, the sensation is intact, negative Hoffman test, normal gait, and deep tendon reflexes are normal. The patient is conscious, alert, and oriented, with a Glasgow coma scale of 15/15 score. Cervical CT showed a huge Anterior cervical calcification at the level of C3-C4 vertebrae. C3-C4 osteophytectomy was done. The post-op follow-up went smoothly on the ward.

Conclusion

Patients with DISH may occasionally develop dysphagia due to osteophytes in the cervical spine. Surgery is occasionally required to stop the calcification processes. Surgery to remove these osteophytes typically has positive outcomes.

PRESENTATIONS

NEUROLOGY ORAL

PRESENTERS:

1. Aseel Badwan - Jordan University (UJ)
2. Ibrahim Alkhawaldeh - Mutah University (MU)
3. Omar ALOMARi - Jordan University of Science and Technology (JUST)
4. Anas Al-Khalili & Ramaz Al-Mana'I - Jordan University of Science and Technology (JUST)
5. Ghayda'a Al-Majali - University of Science and Technology (JUST)
6. Ayah Eyalawwad & Tasneem Alashhab - Jordan University (UJ)
7. Tala Saleh Alsharaeh - Jordan University (UJ)
8. Leen Al-Kraimeen - University of Science and Technology (JUST)
9. Rama Matalgah - University of Science and Technology (JUST)
10. Ihdaa Bani Khalaf - University of Science and Technology (JUST)
11. Obada Ababneh - University of Science and Technology (JUST)

#1

PNIN: Foot Drop Intelligent Solution

Aseel I. Badwan1, Hala W. Yousef 2, Manar O. Eid 2, Islam R. Abu-hilal 2, Abdul Rahman M. Maryan 2, Tasneem N. Alhosanie 3 ,Mahmoud Y. Abdallat 4,MD

1 Medical student, University of Jordan
2 engineering students ,Jordan university and Hashemite university
3 research department , Jordan university hospital
4 Schulich School of Medicine and Dentistry, Western University, Department of Clinical Neurological Sciences, London, Canada , University of Jordan, Department of Neurosurgery, Amman, Jordan

Background:

Foot drop(FD) is a neurogenic disorder characterized byinability to dorsiflex the foot part of the leg which will impair all the walking process and daily activities of the patient. The main cause of FD is common peroneal nerve injury, whichsupplies the anterior tibialis muscle.

causes of common peroneal nerve injury can be classified as centrally or peripherally causes which makes this condition very common worldwide, so we should take an action to eliminate disability. functional electrical stimulation(FES) is an alternative stimulator of the damaged nerve, we aim to develop preexisted (FES) and make it more flexible to use by applying artificial intelligence and technology through Our new intelligent solution for foot drop patients which is PNIN device with PNIN mobile application .

PNIN device is a functional electrical stimulator for denervated muscle-Anterior tibialis- in foot drop case, this device will send electrical pulses for the paralysed muscle to stimulate it and then contraction occurs, the current used is low-current that would never cause any complications or side effects.

What makes our device stand out is that it's connected with an application that is programmed from scratch in addition to using the Artificial Intelligence to increase the accuracy of simulating the gait cycle for every patient.The idea behind our application is to make it easier for patients to use the device as well as to allow the doctor to track the patient's health status any time.

This application has different modes for movement.

Methods:

We are performing a Cohort study in Jordan university hospital -neurosurgery department- to investigate the effectiveness of PNIN device, our study depends mainly on trying the device then observing group of patients who have foot drop and by comparing their performance in term of movement and daily activities before and after using PNIN we will know the effectiveness of PNIN device.

So our study is to compare the physical and psychological health of foot drop patients before and after their using of PNIN.

Result:

At this early stage of our prototype of PNIN device, we determined the stage of gait cycle in which the dorsiflexion should occur, so we use a light bulb with a buzzer that is attached to our device as an indicator to the point at which dorsiflexion should occur.The light bulb will turn on and a beeping sound would be heard when the phase of contraction is detected by our device which is contact phase of gait cycle.

This indicator will be replaced by real contraction in the common stage by changing the components of our device into more effective ones so the device will deliver the required function as accurately as possible.

Limitations:

We couldn't perform the dorsiflexion by using the prototype of PNIN device until 2 weeks ago due to limitation of access to more efficient components but now as we received fund from different organizations we are working on our device and its components in order to achieve the function desired.

Conclusion:

Our results proved the patients need a solution like our device because the world is changing into solving the problems it faces using technology and smart solutions so it's time to replace the use of wheelchairs,crutches, AFO and other inefficient supporting aids by a more effective,smart,and satisfying solution such as PNIN.

#2

Prevalence of Left-Right Confusion Among Medical Students in Mutah University, Al-Karak, Jordan.

Ibraheem M. Alkhawaldeh1, Bayan O. Masoud1, Hamzah A. Abu-Tapanjah1, Raghad S. Amro1, Mohammad S. Qawaqzeh1, Sulieman B. Mazahreh1, Sherif W. Mansour2, Nesrin R. Mwafi3, Nafe M. Al-tawarah4

1 Medical student, Mutah school of medicine.
2 Prof. of physiology, Mutah school of medicine.
3 Assist. Prof. of Biochemistry, Mutah school of medicine.
4 Assist. Prof. of Human neurophysiology, Mutah school of science, Medical lab sciences dept.

Background
The ability to distinguish left from right has been shown to vary substantially within healthy individuals, yet its characteristics and mechanisms are poorly understood.
Objective
The study was designed to spot the extent of left-right confusion (LRC) among medical students at Mutah university and to investigate the relationship between LRC and multiple health and socioeconomic variables.
Method
In this cross-sectional study, a Google form questionnaire was designed and distributed among a convenience sample of medical students from 1st year to 6th year.
The collected data were statistically analyzed using SPSS version 25
Results
Prevalence of LRC was found to be 9.6% among participants (12.6% of females, and 5.8% males, p-value= 0.004), of these participants, 21.3% reported needing less than 2 seconds to distinguish, 67.2% reported needing 2-4 seconds, and 11.5% reported needing more than 4 seconds to distinguish.
As for the relationship between LRC and the dominant hand (86.6% of participants are right-handed, 9.6% are left-handed, and 3.8% are ambidextrous), 8.9% of right-handed participants have LRC while 16.4% of left-handed have LRC (p-value= 0.165).
ADHD persons among participants proved to be 1.7% (11 cases, 45% of them have LRC, p-value <0.001).
27.9% of participants who have LRC were academically affected by having LRC, especially with regard to anatomy and radiology courses.
Conclusion
In conclusion, LRC proved to be present among our sample in similar prevalence to previous literature worldwide at 14.7%, the data suggests that LRC is associated with gender and ADHD. Further investigation about the correlation between LRC and other variables (i.e., diseases, diet, smoking, exercise) needs to be done.

#3

Immunoreactivity of Dopamine D1 Receptors in An Experimental Model of Multiple Sclerosis.

Omar ALOMARI1, Hanin HAMS1, Enes AKYUZ 2*

1 Hamidiye International School of Medicine, University of Health Sciences Istanbul, 34000, Turkey.
2 Department of Biophysics, Hamidiye International School of Medicine, University of Health Sciences, Istanbul, 34000, Turkey.

Background
Multiple sclerosis (MS) is a chronic inflammatory disease of the central nervous system that affects approximately 2.5 million people worldwide. The immune response is thought to be causing myelin sheath damage and neuroinflammation in MS. In previous studies, dopaminergic dysregulation has been observed among patients with MS. Dopamine is a catecholamine neurotransmitter that belongs to the monoamine group. Dopamine is produced in several areas of the brain, including the substantia nigra and the ventral tegmental area. Dopamine is involved in signal transmission for several functions such as voluntary movement, working memory, attention, and learning. The physiological effects of dopamine are mediated by five different but closely related G protein-coupled receptors (GPCRs), which divided into two main groups D1 and D2. The D1 dopamine receptor is a postsynaptic or heterosynaptic receptor that couples to the heterotrimeric G proteinsGs and Golf to stimulate adenylate cyclase activity and cyclic AMP accumulation. The D1 receptor is the most abundant of the D1-like receptors and appears to be the subtype responsible for most of the effects attributed to stimulation of this receptor type. This study aimed to examine the disorders caused by MS disease in the brainstem by immunohistochemical staining methods with reference to the relationship between the immunoreactivity of dopamine receptors.

Methods
Male (n=22) and female (n=22) Wistar Albino rats were used in the study. A model of MS demyelination induced by cuprizone was established. Presence or absence of demyelination in the brains of animal models was assessed by using Luxol fast blue (LFB) staining of formalin-fixed sections. After that numerical increase or decrease in the immunoreactivity of dopamine receptors in brainstem sections obtained from the MS model was determined by staining with immunohistochemical methods.

Results
When the results of our experimental studies were evaluated, it was determined that D1 expression in brainstem samples of both male and female rats was significantly increased in cuprizone groups compared to control groups. This increase was 2.11 times (**P=0.0015) in the female cuprizone group compared to the female control group and 2.14 times (**P=0.0079) in the male cuprizone group compared to the male control group.
Conclusion
Dopamine D1 receptors may play a role in the development of treatment methods for MS-related disorders. In this study we have clarified the immunoreactivity of dopamine D1 receptors in MS disease. In line with the results obtained it should be noted that dopamine D1 receptors are promising for new treatment approaches in MS. In addition, understanding the immunoreactivity changes of dopamine receptors in MS is a preliminary study in elucidating the mechanisms of various neuroinflammation diseases.

#4

Functional Abnormalities in Pain Processing in Migraineurs: A coordinate-based Meta-Analysis of Neuroimaging Studies

*Yaman B. Ahmed*1, Ayah N. Al-Bzour1, Ghayda'a N. Al-Majali1, Saja M. Alzghoul1, Ruaa B. Ibrahim1, Anas A. Al-Khalili1, Ammar I. Hamza1 ,Ramaz S. Al-Mannai1, Ahmed Yassin1, Alexandra Leffler2 , Kefah Alhayek1, Raed Kofahi1, Khalid El Salem 3 and Majdi Al Qawasmeh1*

1 Faculty of Medicine, Jordan University of Science and Technology, Irbid, 22110, Jordan.
2 Neurology Department, SRH Klinikum Naumburg, Naumburg, Germany, Email: neurologie@klinikum-burgenlandkreis.de
3 Department of Neurosciences, Jordan University of Science and Technology, Irbid, 22110, Jordan, Email: kelsalem@just.edu.jo

Background

Neuroimaging studies on migraine patients have shown structural and functional abnormalities associated with gray matter volume and sensitization of the trigeminovascular pathway. Noxious stimuli have been used to explore pain processing and perception in migraineurs during functional MRI. Thus, we aim to investigate and meta-analyze brain regions of activation and deactivation associated with pain processing in response to noxious stimuli in migraineurs compared to healthy controls across studies.

Methods

PubMed database was systematically searched for functional magnetic resonance (fMRI) studies for migraine patients and healthy control group who underwent pain stimulation tasks and reported coordinates. Title and abstract screening were done for 1080 studies, and 17 studies were eligible after full-text screening. The activation likelihood estimation (ALE) meta-analysis was done using GingerALE from brainmap.org with threshold settings of P-value < 0.001 uncorrected for multiple comparison and minimum cluster size of 250 mm3.

Results

Hundred and eleven foci from 30 experiments comprising of 395 Migraine patients and 339 Healthy controls were included in the ALE meta-analysis. (Working on gender difference using t-test). Migraine patients showed decreased activation in the Left Brainstem (Substania Nigra) [Peak Talairach coordinates x,y,z= -9, -26, -13, Cluster size=1087 mm3] and the anterior lobe of the right cerebellum [Peak Talairach coordinates x,y,z= 9, -25, -16, Cluster size=448 mm3] in comparison to healthy controls. While migraine patients showed increased activation in the Right brain stem (Subthalamic Nucleus) [Peak Talairach coordinates x,y,z= 10, -12, -7, Cluster size=168 mm3] relative to healthy controls during pain stimulation tasks.

Conclusion

Decreased activation in the brainstem and cerebellum in migraine patients observed in our study corresponds to a dysfunction in the antinociceptive network in migraineurs in response to noxious stimuli. This may also be associated with structural alterations of gray matter volume and attacks occurrence and severity in migraine patients.

#5

Structural Abnormalities Related to Chemotherapy in Cancer Survivors: An ALE Meta-Analysis of Neuroimaging Studies

Yaman B. Ahmed 1, Ayah N. Al-Bzour 1, Obada E. Ababneh 1, Ghayda'a N. Al-Majali 1, Saja M. Alzghoul 1, Ruaa B. Ibrahim 1, Anas A. Al-Khalili 1, Ammar I. Hamza 1, Ramaz S. Al-Mannai 1, Ahmed Yassin2, Alexandra Leffler 3, Belal Alddabour 4, Khalid El Salem 2 and Majdi Al Qawasmeh 2

1 Faculty of Medicine, Jordan University of Science and Technology, Irbid, 22110, Jordan.
2 Department of Neurosciences, Jordan University of Science and Technology, Irbid, 22110, Jordan.
3 Neurology Department, SRH Klinikum Naumburg, Naumburg, Germany, Email: neurologie@klinikum-burgenlandkreis.de

Background

Chemotherapy induced cognitive impairment (CICI) is a term used for the cognitive dysfunction reported with non-central nervous system cancer patients during or after chemotherapy. Recent neuroimaging studies have shown decreased activation in cancer patients during cognitive tasks post-chemotherapy. Structural changes are sought to be associated with cognitive decline in cancer survivors after chemotherapy. Here we aim to investigate the neuroimaging findings of structural abnormalities and gray matter alterations associated with chemotherapy in cancer survivors.

Methods

A systematic search through PubMed database for peer-reviewed English-language studies yielded a total of 302 studies. Eligible studies were included in the activation likelihood estimation (ALE) meta-analysis if they reported coordinates in a stereotactic format (MNI or Talairach space) for voxel-based morphometric (VBM) studies on gray matter volume and post-chemotherapy cancer survivors (CS) compared to matched healthy controls (HC). GingerALE (3.0.2) software from Brainmap.org was used to perform the ALE meta-analysis with threshold settings of uncorrected P-value < 0.001 for multiple comparisons.

Results

The study sample included 299 patients comprised of breast cancer survivors (BCS), childhood acute lymphocytic leukemia (ALL) survivors, ovarian cancer survivors (OCS) and lung cancer with 279 matched healthy controls from 12 studies and 21 experiments. ALE-maps for post-chemotherapy cancer survivors showed reduced gray matter volume in comparison to healthy controls in the left inferior frontal gyrus, right thalamus, right superior frontal gyrus, right medial frontal gyrus and right cerebellum (peak coordinates: [-43,40,-6], [23,-29,2], [14,30,55], [9,57,-16], [9,-78,-41] respectively, and cluster size of 544 mm3, 312 mm3 and 257 mm3, 296 mm3, 297 mm3 respectively).

Conclusion

This is the first ALE meta-analysis that studied the converged areas of reduced gray matter volume in post-chemotherapy cancer survivors. Our findings of reduced gray matter volume in frontal regions and cerebellum might be responsible for the cognitive dysfunction in executive function, attention, and memory observed in cancer survivors. Further studies are needed to assess the impact of different chemotherapeutic regimens related to CICI .

#6

Cerebrolysin Ameliorates Carboplatin-Induced Cognitive Impairment in Mice: A Behavioral Study

*Ahmed Salman*1, Ayah Eyalawwad 2, Tasneem Alashhab 2, Rahaf Alhendi 2, Mohammad AbuArqob 2, Shafiq Masoud 2, Salsabeel Khaleel Shoman2, Maha El Beltagy1*

1 Depatrment of Anatomy, Faculty of Medicine, University Of Jordan, Amman, PO:11942, Jordan, ahmedsalman1971@gmail.com
2 Faculty of Medicine, University of Jordan, Amman, PO:11942, Jordan.
3 Department of Anatomy, Faculty of Medicine, University of Jordan, Amman, PO:11942, Jordan.

Background

It's believed that approximately one-third of patients treated with chemotherapy are suffering from general decline in cognition (1) .Carboplatin is known to induce cognitive deficits , while Cerebrolysin was proven to have a neuroprotective effect on the acute phase of neuronal injury. Hence there is scarce evidence regarding the role of Cerebrolysin in preventing the central side effects and cognitive impairment, so the aim of this study was to test whether Cerebrolysin will improve the neurotoxic effects caused by Carboplatin on brain cells and cognition impairment by examining short-term memory in Swiss CD1 mice.

Materials and Method

40 Mice were divided into 4 equal groups. The first group is the control group ,injected with normal saline 0.9% for 10 consecutive days . The second group was injected with normal saline 0.9% for 9 days followed by a single dose of Carboplatin injection 90mg/kg intraperitoneally on d 10. The third group was injected with Cerebrolysin with a dose of 8.98mL/kg /day intraperitoneally for 10 consecutive days .In the fourth group , both agents were administered with the same dose regimen in the 3rd group with a single dose of Carboplatin 90mg/kg on the d10 intraperitoneally . The novel location recognition (NLR) test is used to assess spatial memory following injection while immunohistochemistry for the proliferative marker Ki67 is used to assess hippocampus cell growth. The NLR test evaluates interactions with objects in either familiar or unknown novel locations inside a test arena. When animals examine two identical objects during the familiarization experiment after a 5-minute inter-trial period, one object is transferred to a new position (choice trial), and object preference is recorded. GraphPad Prism 54.0 andStudent t-test are used for statistical analysis and graph creation.

Results

Carboplatin-treated animals are unable to distinguish between the two positions . Cerebrolysin-treated animals may investigate the new position more than the previous one. Cerebrolysin and carboplatin co-administration should increase the recent memory compared with carboplatin treated mice .
Immunohistochemistry reveals an increase in the total number of Ki67 positive cells in group of Cerebrolysin and Carboplatin co administration relative to the carboplatin-treated group.

Conclusion

Since Carboplatin chemotherapy has been shown to negatively influence both cell proliferation and memory in mice, co-administration of Cerebrolysin with Carboplatin can boost proliferation in the hippocampus and the recent memory which could be useful in future cancer therapies.

#7

The Counter Effect of Exercise on Cisplatin-Induced Cognitive and Proliferation Impairments

*Maha ElBeltagy*1, Ahmed Salman 1, Tala AlSharaeh2, Ibrahim Alawaisheh2, Amro AlKhatib1, Ahmad Abuhani1, Ramzi AlHorani3.*

1 Department of Anatomy, Faculty of Medicine, University of Jordan, Amman, Jordan.
2 School of Medicine, University of Jordan, Amman, Jordan.
3 Department of Exercise Science, Faculty of Agriculture, Yarmouk University, Irbid, Jordan.

Background

Cisplatin (cis-diamminedichloroplatinum II) is a well-known chemotherapeutic drug that has long been used to treat a variety of cancers. Despite its therapeutic benefits, reduced neurogenesis and oxidative damage are common side effects after treatment, leading to cognitive impairment. One of the proposed approaches to mitigate the side effects of cisplatin is concurrent physical activity, which has been shown to promote neurogenesis and reduce oxidative stress. The purpose of this study was to investigate whether physical activity could improve the cognition of a cisplatin-induced cognitive impairment in a mouse model.

Methods

This study aimed to assess the effect of physical exercise on spatial memory and neural proliferation in the hippocampus in adult male mice treated with cisplatin. For this purpose, forty-five male mice were divided into three groups of fifteen mice each: control, cisplatin (2.3 mg/kg), and exercise with cisplatin. The mice were given fifteen intraperitoneal injections over one month duration. To test spatial memory, the mice were subjected to the novel object recognition (NOR) task 30 minutes after the last injection. Additionally, Ki67 and Glutathione peroxidase markers' was performed using immunohistochemistry (IHC) staining to examine hippocampal proliferation and oxidative stress respectively. GraphPad Prism 4.0 software was used to calculate all statistical parameters. The NOR task data was analyzed using a paired Student t-test (two-tailed) and repeated-measures ANOVA, while the proliferating cell count and animal preference index data were analyzed using one way ANOVA with Bonferroni's post hoc test. Statistical significance was defined as a p-value of <0.05.

Results

The cisplatin-treated group had a significantly lower preference index (PI) than the control ($p<0.001$) and exercise/cisplatin groups ($p<0.001$) throughout the NOR task. Furthermore, when compared to the control and exercise/cisplatin groups, IHC staining revealed that the cisplatin-treated group had impaired hippocampal proliferation and increased oxidative stress damage. In comparison to cisplatin alone, it appeared that subjecting cisplatin-treated mice to a physical exercise protocol alleviated the decline in hippocampal proliferation as well as the increased oxidative damage. Finally, the cisplatin group lost significantly more weight than the control group, while exercise halted the cisplatin-induced weight loss.

Conclusion

Mice treated with cisplatin displayed a drop in memory, hippocampal proliferation, and weight compared to the control group. Moreover, when cisplatin was given simultaneously with a moderate-intensity exercise protocol, the mice's decreased memory, reduced hippocampal proliferation, and cisplatin-induced weight loss appeared to be attenuated compared to the cisplatin-treated mice. In conclusion, it appears that moderate-intensity physical activity alleviated the cisplatin-induced cognitive decline in mice.

#8

Deep Brain Stimulation Target in Drug-Resistant Epilepsy: Systematic Review and Meta-Analysis of Effectiveness and Predictors of Response

Leen Al-Kraimeen1, Ahmed Yassin2, Aref Qarqash1, Hassan AbuShukair1, Obada Ababneh1, Salma Al-Aomar1, Mohammad Abu-Rub3, Khalid Alsherbini4.

1 Faculty of Medicine, Jordan University of Science and Technology, Irbid, 22110, Jordan.

2 Department of Neurology, Faculty of Medicine, Jordan University of Science and Technology, P.O.Box 630001, Irbid, 22110, Jordan.

3 Department of Neurology, The George Washington University, Washington, DC, USA.

4 Department of Neurology, University of Tennessee Health Science Center, Methodist University Hospital, Memphis, TN, USA.

Background

Anterior nucleus of the thalamus (ANT) is the only deep brain stimulation (DBS) target that is approved by the FDA for treatment of drug-resistant epilepsy (DRE). Hippocampus (HC) and centromedian nucleus (CMN) have been reported as potential DBS targets for DRE. This study aimed to assess the effectiveness and predictors of response among DRE patients treated with DBS in general and among ANT, HC and CMN DBS-targets. To the best of our knowledge, this is the first meta-analysis utilizing individual patient data (IPD) on this topic.

Methods

A systematic literature search by two independent reviewers was executed on studies published between Jan 1, 2000 and June 29, 2020. Patients with DRE who underwent DBS treatment with at least three months of follow-up were included.Meta-analysis was conducted on DBS studies with available IPD. Response was defined as ≥50% reduction in seizures frequency. Responders group was compared with non-responders group in terms of demographics, epilepsy/seizure characteristics, MRI findings, and DBS targets and duration of use. Subsequently, predictors of response to different DBS targets were investigated.

Results

Thirty-nine studies with a total of 296 patients (ANT: 69%, HC: 11%, CMN: 21%) were included. The responders group constituted of 209 patients (70.6%). The response was significantly higher in patients with generalized seizures compared to those with focal seizures (93.2% vs 63.9%; p<0.001). Response was significantly higher with CMN (83.9%) and HC (77.4%) compared with ANT (65.5%) as DBS targets (p=0.014). Response was also significantly associated with longer duration of DBS use (p=0.008). The responder rate was higher among the patients with lesional MRIs (76.7%) than those with non-lesional MRIs (66.7%), but with no statistically significant difference (p=0.134). Age, gender, epilepsy etiology, onset zone of focal seizures, and previous use of VNS had no significant differences between the responders and non-responders. A binary logistic regression including the seizure type, MRI findings, DBS targets, and DBS duration showed, after controlling for confounders, that the duration of DBS use was the only significant predictor of response (adjusted OR 1.061; 95% CI 1.019-1.106; p=0.005). Regarding DBS targets, the response rate in patients with symptomatic etiology was significantly higher with HC or CMN targets than the ANT (p=0.003). In patients with non-lesional MRI, response rate was significantly higher with the CMN target compared to the other two targets (p=0.008).

Conclusions

DBS is an effective therapy for DRE, especially with increased duration of DBS use. Although ANT is the most used and only FDA approved DBS target for DRE, CMN and HC probably have higher response rate than ANT. Patients with symptomatic etiology have higher success rate with HC or CMN targets. Patients with non-lesional MRI have higher success rate with CMN target. Future larger comparative studies between the different DBS targets are recommended.

#9

Nanotechnology For Neuroscience: A Bird's Eye View For Breakthrough Technology

Rama Matalgah1

1 Faculty of Medicine, Jordan University of Science and Technology, Irbid, 21410,Jordan

Background

Nanotechnology, the science that deals with materials at the Nano scale , is not a new area of science per say, but rather the intersection of several fields some of which are : chemistry, physics, mathematics, biology, healthcare,material science and engineering. In this study we aim to shine some light into the most tangible advances the convergence of nanotechnology and medicine has offered for neuroscience in terms of applications for prevention, diagnosis and treatment for a wide range of disorders of the central nervous system. In addition, the promising treatment options for neurodegenerative disorders were addressed briefly. We cannot forget to mention the valuable medical applications that this precious subject area has added to Neuro-imaging, Neuro-diagnostics, as well as Neuro-devices. The field of Nano neuroscience, let alone nanotechnology, is like walking through the desert towards a mirage, the further you read through the information the more you realize and appreciate the range and depth of details in the applications of nanotechnology for neuroscience. For that reason,
we pin pointed a concise summary of its uses. Social, economic, environmental, legal and ethical impacts were put to question. And as with everything in life there's the good and the bad, the wheat and the barley. With that being said, the advantages and disadvantages of Nano neuroscience, possibly being a double-edged sword, were outlined.

Methods

Keywords were utilized to establish a search strategy for the following databases: Google Scholar, Springer Link, EBSCO, Taylor & Francis Online, PubMed, PMC, NCBI,DynaMed, Science direct and the Royal Society of Chemistry. Search was centered on developments of the past two decades and the most recent advances.

Results

As many as 90 studies were reviewed. The results were categorized into: definitions, applications, pros and cons and impact. Sub categorization was applied for applications, namely: Nano-Neuroimaging, Nano-Neuro diagnosis, Nano-Neuro therapy, Nano-Neuro electronics. Furthermore, several neurological disorders and drug delivery systems were listed as part of Nano-Neuro therapy. We also made descriptions of Nano-Neuro imaging and Nano-Neuro diagnosis and provided examples of breakthrough Nano-Neuro electronics.

Conclusion

In conclusion, the findings prompt an appreciation of the numerous applications nanotechnology has offered for neuroscience and a re-thinking of where it will head us to in the future. The student who aspires to work in medical practice or research must be prepared with a solid base in multiple branches of science pertaining to human health. These branches of science will hopefully include nanotechnology and nanoscience as more and more applications to medicine and neuroscience emerge.

#10

The Utility of Fundus Images in The Assessment of Previous Optic Neuritis

*Ihdaa Bani Khalaf1, Saif Aldeen Alryalat*2, Ibrahim Nawaiseh3, Abdelkarim Hyari4, Wael Qadri4, Mutassim ElFalah4*

1 Faculty of medicine, Jordan University of Science and Technology 22110, Jordan
2 Faculty of medicine, Department of ophthalmology, The University of Jordan 11942, Jordan
3 Eye Specialty Hospital 11942
4 The University of Jordan 11942

Background

Optic neuritis is a condition that affects the eye and vision, it occurs when an inflammation damages the optic nerve. Common symptoms of optic neuritis include pain with eye movement and temporary vision loss in one eye. This study aims to assess the prevalence and development of optic neuritis attacks in patients with multiple sclerosis.

Methods

We recruited patients with multiple sclerosis through an invitation from the Jordanian Multiple Sclerosis Association. We included MS patients confirmed by 2017 revisions of the McDonald criteria (Reference). For each included participants, a short questionnaire asking about demographic variables, multiple sclerosis previous attack history. The patient will then undergo fundus image in a private center, which will perform such imaging free of charge. ImageJ then used to analyze red color intensity in temporal neuroretinal rim segment free of blood vessels with equal area in all eyes, after adjusting for background color. We used IBM SPSS Statistics for Windows, version 26.0 (IBM Corp., Armonk, N.Y., USA).

Results

A total of 5 patients were included in this study, each had optic neuritis attack in one eye. They were 2 men and 3 women. The mean difference between both groups was 12.1 with 95% confidence interval from 2.1358 to 22.0642 (p= 0.23). Table 1 details the characteristics of included sample.

	With optic neuritis	Without optic neuritis	
Mean	245.40	233.3000	P = 0.23
SD	5.8100	7.7200	

Conclusion

Our preliminary data showed a correlation between red color intensity in colored optic disc images and previous optic neuritis attacks. The importance of such finding is the utility of low cost fundus images to gain important prognostic information on multiple sclerosis patients.

#11

Expression, Prognosis Value and Immune characteristics of LY96 in Brain Tumors: A Bioinformatics Analysis

Obada Ababneh1

1 Faculty of Medicine, Jordan University of Science and Technology, Irbid, PO: 3030, Jordan , Email: oeababneh185@med.just.edu.jo

Background

Lymphocyte antigen 96 (LY96) is a protein associated with the activation of toll-like receptor 4 (TLR4) binding with lipopolysaccharide, thus activating innate immunity against microbial infection. In addition to its role in immune-related diseases, LY96 plays a role in modulating the immune response in solid tumors. However, its role in glioma is still unknown. Thus, I conducted a bioinformatics analysis to explore the prognostic role of LY96 in Glioblastoma Multiforme (GBM) and Low Grade Glioma (LGG).

Methods

A retrospective study was conducted based on the level-3 data in The Cancer Genome Atlas (TCGA)-GBM and TCGA-LGG. Gene expression of LY96 in GBM and LGG were compared to normal brain tissue using GEPIA2. To study the effect of LY96 expression on overall survival (OS), the median LY96 gene expression value was used as a cutoff point to stratify the patients into high and low expression cohorts. I used TIMER 2.0 for OS multivariate cox proportional hazard regression and to study the tumor immune microenvironment. To further understand the underlying function of LY96, gene set enrichment analysis of differentially co-expressed genes was performed based on the Kyoto Encyclopedia of Genes and Genomics (KEGG) database using LinkedOmics.

Results

LY96 was found to be upregulated in both GBM and LGG compared to normal brain tissues ($P < 0.001$). Higher LY96 expression correlated with worse OS in both GBM ($p = 0.009$) and LGG ($p = 0.007$) patients. Multivariate cox proportional hazard regression demonstrated that age was the independent prognostic factor for OS in both gliomas. LY96 expression was positively correlated with the infiltration of CD8+ cells (spearman's $\rho = 0.295$, $P < 0.001$), cancer associated fibroblasts (spearman's $\rho = 0.176$, $P < 0.004$) and M2 macrophage (spearman's $\rho = 0.273$, $P < 0.0013$), but negatively with myeloid-derived suppressor cells (MDSC) ($\rho = -0.395$, $P < 0.001$) in GBM. LGG was similar in terms of CD8+ cells (spearman's $\rho = 0.215$, $P < 0.001$), cancer associated fibroblasts (spearman's $\rho = 0.372$, $P < 0.001$), M2 macrophage (spearman's $\rho = 0.752$, $P < 0.001$), and MDSC ($\rho = -0.351$, $P < 0.001$). The top 3 gene set enrichment analysis results based on KEGG database in GBM were ribosomal genes, hematopoietic cell lineage and staphylococcus aureus infection. While they were autoimmune thyroid disease, antigen processing and presentation, and staphylococcus aureus infection in LGG.

Conclusion

LY96 expression is associated with worse overall survival in gliomas. The unique microenvironment of high CD8+, cancer-associated fibroblast and M2 cells with low MDSC when LY96 is highly expressed. Thus, LY96 might serve as an important predictive and prognostic biomarker in glioma patients treated with immunotherapy.

PRESENTATIONS

PSYCHIATRY ORAL

PRESENTERS:

1. Dr.Yazan Al-Mrayat - Mutah University (MU)
2. Mohammad Alzu'bi - Hashemite University (HU)
3. Ahmed-Jordan Salahat - University of Jordan (UJ)
4. Sadeen Eddin - Mutah University (MU)
5. Ahmad Ahmad & Razee Kitaneh - University of Jordan (UJ)
6. Ruaa Ibrahim &Ammar Hamza - Jordan University of Science and Technology (JUST)
7. Hamzeh Wadi - Mutah University (MU)
8. ibraheem alkhawaldeh - Mutah University (MU)
9. Jehad Al Samhori - University of Jordan (UJ)
10. Ghassan Mubaiden - Mutah University (MU)
11. Omar Dababneh &Aseel Al-Razem - Jordan University of Science and Technology (JUST) & Hashemite University (HU)
12. Hasan Mihyar &Huda Baidoun - Jordan University of Science and Technology (JUST) & University of Jordan (UJ)
13. Almutazballah Qablan - Jordan University of Science and Technology (JUST)
14. Ashaar Al-Akhras - Jordan University of Science and Technology (JUST)

#1

The Association Between Substance Use and Nicotine Withdrawal Among Patients with Mental Illness

Yazan Daher Al-Mrayat1.

1 Assistant professor, PhD, MSN, RN, Faculty of Nursing, Mutah university

Introduction

People with mental illness (MI) are twice as likely to use tobacco compared to the general population, ostensibly consuming roughly 44% of all cigarettes produced annually in the United States. Nicotine Withdrawal (NW) is associated with the likelihood of unsuccessful quit attempts in the MI population. Given the high rates of co-occurring substance use among patients with MI, the purpose of this study was to examine the nature of the relationships between psychiatric diagnoses and substance use classes with NW severity among psychiatric inpatients, in the context of a tobacco-free psychiatric hospitalization.

Methods

Moderation analyses of retrospective longitudinal data, using secondary analysis approach was conducted to examine whether certain substance use classes moderate NW severity among tobacco-free psychiatrically-hospitalized inpatient.

Results

Lower NW severity was observed among patients with psychotic disorders who reported using hallucinogens; inhalants; opiates; sedatives, hypnotics, and anxiolytics; stimulants; or poly-substances over the past year. Moreover, higher NW severity was noticed among patients with mood or anxiety disorders who reported using hallucinogens or sedatives, hypnotics, and anxiolytics over the past year as well.

Conclusion

Our results show that patients with different MI diagnoses may have different NW experiences during hospitalization, based on the concurrent substance use class. Future research should study NW severity for different MI diagnoses and used substances over the duration of hospitalization.

#2

Stigmatizing Attitudes Towards Schizophrenia Among Students in Jordan

Yasmeen Jamal Alabdallat1, *Mohammad jafar Alzu'bia1, Sarya Swed 2.*

1. Faculty of Medicine, Hashemite University, Zarqaa, Jordan.
2. Faculty of Medicine, Aleppo University, Aleppo, Syria.

Background

Schizophrenia is a psychiatric disorder that is a combination of psychotic symptoms, including hallucinations, delusions, disorganization, and dysfunctions in motivation and cognition. Stigma is a sign that differentiates a person in a wrong way. This study aims to offer evidence of Jordanian students' awareness and attitudes concerning Schizophrenia as a mental ailment by defining stigmatization as a social rejection based on specific personal qualities.

Methods

This is a cross-sectional study. Data were collected from undergraduate medical students using a validated questionnaire regarding Schizophrenia. A convenience sampling method was used to acquire the responses from the participants via online distribution of Google form.

Results

Female consists 59.4. the age ranged from 18-27 with a mean of 20.78 ± 1.946. the majority of responders were medical students (70 %), in second-year students had the most responders regarding the year of study (42.6%). Moreover,(30.9%) had been a person facing Schizophrenia. Furthermore, most responders had not taken any psychologic or medical treatment (97.3 & 92.8 respectively). The majority of responders disagreed with the following statement; "schizophrenia is a sign of weakness, "is not a real problem," and " we should avoid people with it "(76.2 %, 76.7 % & 75.8 %, respectively). Responders who had not Schizophrenia in the past (34.5 %) had been more significant difference than those who had (11.7%) regarding their disagreement that people with Schizophrenia actions are unpredictable. (p=value =0.009). Responders who had not had Schizophrenia in the past (45.3 %) had been more significant difference than those who had (17.0%) regarding their disagreement about If the responder had Schizophrenia, he/she would not tell anyone. (p=value =0.000). There was a significant difference between the medical students (45.3%) and non-medical students (14.8 %) regarding their disagreement that they would not vote for someone with Schizophrenia. (p-value =0.002). Responders who had not had Schizophrenia in the past (35.9 %) were more significantly different than those who had (24.2 %) regarding their disagreement that they would not vote for someone with Schizophrenia. (p-value =0.001). Responders who had not taken any medical treatment (53.4%) had been more significant difference than those who had (6.7%) regarding their disagreement that they would not vote for someone with Schizophrenia. (p-value =0.016). There were significant differences between the medical students (29.6%) and non-medical students (13.9 %) regarding their disagreement about whether they will not employ someone with Schizophrenia. (p-value =0.006).

Conclusion

The current study found that a high proportion of Jordanian college students showed stigma toward people with Schizophrenia, Students who do not have a history of Schizophrenia or who did not have past medical or psychological treatment showed higher stigma in some subscale items toward people with Schizophrenia. The present results suggest that more anti-stigma actions should be applied to Jordanian college students to help prevent or reduce stigma attitudes toward people with Schizophrenia.

#3

Parkinson's Disease-Induced Psychosis Incidence and Associated Factors: A Systematic Review and Meta-Analysis

Ahmed-Jordan Salahat 1, Tala Alsharaeh 1*, Abdulrahman Alhajahjeh 1, Mohammad Khudirat 1, Ali Alashoor 1, Leith Shuriquie 1, Batool Alquabeh 1, Saif Aldeen AlRyalat 2*

1 School of Medicine, The University of Jordan, Amman, Jordan

2 Department of Ophthalmology, The University of Jordan Hospital, Amman, Jordan

* Authors contributed equally to this work.

Background

Parkinson's-induced psychosis is rather prevalent, and it has continuously been linked to poor outcomes, in addition to causing disruption in patients' daily lives and lowering their quality of life. As a result, detecting this manifestation early on, and thus enhancing the quality of life of Parkinson's disease patients is a clinical and societal necessity. This systematic review and meta-analysis aimed to estimate the pooled incidence of induced or psychosis associated with the neurodegeneration of Parkinson's disease**.**

Methods

The study was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guideline. PubMed, Scopus, and The Cochrane Library were searched to identify appropriate studies reporting the incidence of psychosis in Parkinson's disease patients. A random-effect meta-analysis was used to pool data from the included studies depending on the anticipated heterogeneity. The objectives, inclusion criteria, and methods of analysis for this review were specified in advance and submitted to PROSPERO (reg. num. CRD42022318920). A subgroup and sensitivity analysis were also conducted and Cochran's Q- and the I2 test were employed to compute heterogeneity. Finally, publication bias was assessed through the Rank correlation test and a Funnel plot.

Results

Twenty studies including 5,123 Parkinson's disease patients exploring the association between Parkinson's disease and the incidence of developing psychosis met the inclusion criteria and were included in the final analysis. The meta-analysis showed that the incidence of psychosis among Parkinson's disease patients was 35% (95% CI: 28.0 – 43.0, I2 = 96%; $p < 0.01$).A subgroup analyses was performed showing that both the disease duration and levodopa-equivalent dose could explain the statistical heterogeneity in this meta-analysis.

Conclusion

This systematic review and meta-analysis revealed that psychotic disorders are highly prevalent among Parkinson's disease patients, indicating an urgent need for further studies to help develop better mechanisms of prevention, detection, and treatment of those disorders among PD patients to improve their quality of life.

#4

The Effectiveness of Medication in Dealing with ADHD Children in Jeddah, Saudi Arabia

Sadeen K. Zein Eddin 1, Suhair Balkhy 2, Kamel H. Zein Eddin 3.

1. Medical student at Mutah School of Medicine, Al-Karak, Jordan
2. Developmental-Behavioral Pediatrician at King Faisal Specialist Hospital and Research Center (KFSHRC) in Jeddah, Saudi Arabia
3.Pediatrician at King Faisal Specialist Hospital and Research Center (KFSHRC) in Jeddah, Saudi Arabia

Background

As a newly emerging condition, Attention Deficit Hyperactivity Disorder (ADHD) is questioned in many ways. However, when doctors are prescribing ADHD medication now more than ever before, the question of the medication's effectiveness becomes in need of an urgent answer. The aim of this research is to investigate the extent of helpfulness and effectiveness of medication as a way of child ADHD therapy chosen by many professionals in Jeddah, Saudi Arabia.

Method

A cross sectional survey study that was started on the 5th of February, 2018 till 10th of March, 2018. Data was collected from parents and healthcare professionals who have dealt with ADHD children, in Jeddah, Saudi Arabia.

Results

The results of the present study showed that 63% of the cases recorded had their education strongly impacted by ADHD. It also revealed that general behavior (48.6%) and social skills(42.9%) are majorly affected. 65.7% of the children portrayed disorganization, and 57.1% portrayed aggressiveness. As a form of treatment, 82.9% of the ADHD children targeted take medication (stimulants and non-stimulants). It was proved that the aspect of the children's life that depends onmedication the most is education. 54.5% of participants rated the helpfulness of ADHD medication as 80%, while 30% rated it as 60%. Regarding additional therapy methods, the study showed that 65.7% of participants resort to child behavioral therapy, 54.3% resort to parental training, and 54% resort to schoolaccommodations. The participants recorded that the medication was the more effective treatment method in only 29% of the cases. On the other hand, 43% chose behavior therapy as more effective in their child's case, and 28% recorded that both are equally effective.

Conclusion

It was clearly apparent that the medication for ADHD in children is widely used and is effective. However, in the majority of the cases, it cannot stand alone as the only way of treatment. The recommended treatment of ADHD is the multimodal method, and this includes medication, behavioral therapy, and school interventions. When medication is combined with these other approaches to therapy, treatment would lead to considerable progress in the life of an ADHD child

#5

Non-medical use of Amphetamine-Type Stimulants among University and Senior High-School Students

Sadan Abdulfattah 1, Ahmad Rafiq 1, Razi Kittaneh 1, Toqa Alsharaydeh 1, Farah Almudallal 1, Raha Alzoubi 1, Rama Abbady 1, Tala Haddad 1, Zaid Alkayed 2, Radwan Bani Mustafa 3, Mayyada Wazaify 3, Jeanette Tetrault 4.

1School of Medicine, University of Jordan, Amman, PO: 11942, Jordan.
2Department of Internal Medicine, School of Medicine, University of Jordan, Amman, PO: 11942, Jordan.
3Department of Internal Medicine, School of Medicine, University of Jordan, Amman, PO: 11942, Jordan.
4Department of Internal Medicine, School of Medicine, Yale University, New Haven, PO: CT 06520, USA.

Background

Misuse of amphetamine-type-stimulants (ATS) is an increasingly common phenomenon worldwide. Motivated by enhancing academic performance, peer pressure, and seeking pleasure, students in the Middle East are thought to be a high-risk population especially in times where political instability of the region facilitates production and trafficking of such substances. We conducted a nationwide survey to unveil the burden of ATS misuse among university and senior high-school students in Jordan.

Methods

An online survey of university and senior high-school students in Jordan was conducted during the period of January to April 2022. Participants were asked to complete a questionnaire covering sociodemographic characteristics, history of ATS misuse, and motives for misuse among other correlates such as attitudes and perceived effects. Data were coded and entered into SPSS (version 26) for analysis. Univariate and multivariate logistic regression models were used to identify predictors of misuse, in addition to categorical comparisons.

Results

A total of 8,739 students completed the questionnaire with a mean age of 20.40 ± 2.45 years. Of the total respondents, 5.1% reported a lifetime misuse of ATS, whereas 2.1% and 1.3% reported past-year and past-month uses, respectively. Captagon was the most widely reported ATS (2.6%) to be used, followed by cocaine (2.3%). The strongest positive predictors of use included having a positive attitude towards non-medical stimulant use, misuse of other specified substances, being diagnosed with a personality disorder and living in southern governorates. The most frequently reported motive for use was enhancing academic performance and prolonging studying time.

Conclusion

This study highlights the prevalence of misuse of ATS among students in Jordan, identifying the characteristics and behaviors that predict students at an increased risk. Efforts should be directed towards raising awareness, increasing access to effective intervention, and implementing necessary policy changes.

#6

Emotion Regulation Abnormalities in Bipolar Disorder: An ALE Meta-Analysis of Neuroimaging Studies

Yaman B. Ahmed 1, Ayah N. Al-Bzour 1 ,Ghayda'a N. Al-Majalia1 , Saja M. Alzghoula, Ruaa 1. Ibrahima, Anas A. Al-Khalilia 1, Ammar I. Hamzaa, Ramaz Al-Mannaia 1, Ahmed Yassin2, Raed Kofahi 2, Khalid El Salem 2, Majdi Al Qawasmeh 2.

1 Faculty of Medicine, Jordan University of Science and Technology, Irbid, 22110, Jordan

2 Department of Neurosciences, Jordan University of Science and Technology, Irbid, 22110, Jordan.

Background

Bipolar disorder (BD) is a psychiatric disorder characterized by episodes of depression and mania, associated with impaired emotion processing. Several functional MRI (fMRI) studies have been used to investigate the structural and functional alteration in BD. Here, we aim to investigate the current fMRI findings of brain activation during emotion-regulation tasks between BD patients and healthy controls (HC).

Methods

A systematic search through PubMed database for fMRI studies on bipolar patients and HC yielded 685 studies. We performed an activation likelihood estimation (ALE) on 21 studies for emotion regulation in BD patients and HC. Furthermore, we performed subgroup analyses for task performances in response time and accuracy between bipolar patients and HC.

Results

The total sample included 21 fMRI studies, comprising 543 BD patients, compared to 565 HC. ALE maps for emotion-related tasks showed hyperactivation in BD patients in the caudate, amygdala, precentral gyrus, middle frontal gyri, and sub-gyrus. Whereas hypoactivation was seen in the inferior frontal gyrus and anterior cingulate gyrus.

Limitations

We could not apply a correction for p-value thresholds, as it needs large number of foci. Second, functional abnormalities were investigated for adult BD patients only, as BD patients have functional differences correlated with age.

Conclusion

Our results represent a potential biomarker for the diagnosis and management of BD, by showing clustered brain regions of abnormal patterns of activation between BD patients and HC. Further studies are required to establish how these functional and structural changes can be used to observe disease progression or used in therapeutic interventions.

#7

The Psychological Impact of Sleep Quality on Health Care Workers During COVID-19 Pandemic in Jordan

Hamza Wadi1, Rabab Shannaq 2, Tareq Abu-Libdeh1, Rama Hailat2, Sajeda Albustanji3, Radi Tofaha Alhusseini1, Amer Rawajfeh4, Zidan Alsaleh4, Ghina Zaidan5, Anas Hassouneh1, Salsabeel Abughanmi1, Lina Al-Twal7, Ala' Dandis8, Shorooq Almaaitah 5.

1 AlBashir Hospital, Medicine, Amman, Jordan
2Princess Basma Teaching Hospital, Medicine, Amman, Jordan
3 Assalt Governmental Hospital, Medicine, Amman, Jordan
4 Mutah University, Psychiatry, Amman, Jordan
5 Mutah University, Faculty of Medicine, Amman, Jordan
6 Prince Rashid Ben Al-Hasan Military Hospital, Medicine, Amman, Jordan
7 Alnadeem hospital, Medicine, Madaba, Jordan
8 Applied science private university, Amman, Jordan

Background

Sleep quality is a key aspect of the overall psychological health. Sleep quality can affect mental health in many aspects, causing major psychological disorders, such as: depression and anxiety. To assess the overall psychological impact of sleep quality on health care providers in Jordan during COVID-19 pandemic.

Methods

This is a descriptive cross-sectional multicenter hospital-based study conducted in Jordan from the period of 2/7/2021 to 12/7/2021. 418 participants were included in the study. Data collection was done online via Google form. A questionnaire was used containing 4 validated scales, the insomnia severity index (ISI), Epworth sleepiness scale (EPS), generalized anxiety disorder-7 (GAD-7), patient health questionnaire-9 (PHQ-9).

Results

(56.7%) were males, (43.3%) were females. (28.8%) were residents, followed by (20.3%) were nurses, (19.7%) were general practitioners, and (16.8%) were specialists. About (44.8%) of the participants were diagnosed with COVID-19 and (75.4%) managed patients with COVID19. (32%) suffered from moderate difficulty falling asleep, and (30%) have moderate difficulty staying asleep. About (21.2%) said that there sleep problems much interfere with their daily functioning. (34.4%) feel nervous and anxious more than half of the days, while (26%) had the same problem nearly every day. (34.5%) feel tired more than half of the days, while (26%) suffered from the same issue nearly every day.

Conclusions

The results of this study support the view that poor sleep quality can affect the overall mental health dramatically. Poor sleep quality can cause a psychological problem, such as: depression, and anxiety.

#8

"Tobacco Use, Nicotine Withdrawal, and Mental Illness: A Systematic Review"

Ibraheem Al-khawaldeh 1, Yazan Daher Al-Mrayat 2.

1 Faculty of Medicine, Mutah University

2 Assistant professor, PhD, MSN, RN, Faculty of Nursing, Mutah university.

Background

The percentage of current smokers with serious psychological distress in 2018 was 31.6%, which is greater than that among the public 30 years ago. This gap may be attributed to the relatively high relapse rate -related to Nicotine Withdrawal (NW) syndrome- among people with serious psychological distress who attempt to quit. NW syndrome is a concern to people with mental illnesses (MIs), given the potential associated mood changes, functional impairments, and risk for relapse. Moderate to severe NW symptoms are reported in nearly two-thirds (65%) of psychiatric inpatients, which could hinder treatment, care, and quitting if left untreated. To the best of our knowledge, no systematic reviews of NW among tobacco users with MI have been published. Therefore, the purpose of this scholarly endeavor was to synthesize the existing NW research literature among tobacco users with MI over the past 12 years, to outline the findings of the most recent literature addressing NW effects and correlates in this population, address the gaps in knowledge, and direct future research endeavors.

Methods

The PsycINFO, PubMed, and CINAHL databases were separately searched using Boolean logic (e.g., AND, OR) with a combination of medical subject headings, indexed terms, and keywords pertinent to this systematic review's topic. PRISMA guidelines and checklist for synthesizing and reporting evidence were adopted in this systematic review.

Results

A total of 15 articles were included in this systematic review after reviewing the titles and/or abstracts for the participants inclusion criteria and primary and secondary outcome measures. Factors correlated to greater NW experience during hospitalization included: greater psychiatric symptoms severity; greater nicotine dependence; alcohol and drug use; race (i.e., African American); sex (i.e., women); timing of receiving nicotine replacement therapy (NRT); low confidence in quitting; and providing tobacco treatment medication (i.e., varenicline) and counseling during the hospital stay.

Greater pre-quit NW was found among those with panic attacks, generalized anxiety, or social anxiety disorders. Further, a significant positive association was found between post-traumatic stress disorder and NW symptoms. Depression was associated with greater likelihood of having NW and NW-related relapse during a quit attempt. Further, smoking cessation counseling and NRT administration decreased NW severity in a sample of tobacco users with substance abuse disorders.

Conclusions

Several NW correlates were determined among people with MI in a variety of settings and across different psychiatric diagnoses. Recognizing NW in this population can help health care professionals identify patients of higher risk for developing NW and NW-related distress. These findings can also help tobacco treatment specialists develop and tailor evidence-based practices for patients. More research is needed to scrutinize nature and correlates of this phenomenon for more evidence-based recommendations.

#9

Jordanian University Students' Stigmatizing Views on Anxiety and Depression

Jehad Samhouri1, Yasmeen Jamal Alabdallat2, Sarya Swed 3.

1 Faculty of Medicine, University of Jordan, Amman, Jordan.

2 Faculty of Medicine, Hashemite University, Zarqaa, Jordan.

3 Faculty of Medicine, Aleppo University, Aleppo, Syria.

Background

One of the most prevalent mental health conditions, depression affects more than 300 million people worldwide and significantly contributes to disability. Anxiety is characterized by disruptive feelings of dread, concern, and uncertainty. Rejection and intolerance toward psychiatric patients are part of the stigma associated with mental illness, which reduces their prospects of leading more fulfilling lives. We conducted this study to come up with valuable evidence concerning the awareness of depression and anxiety as mental disorders among university students in Jordan.

Methods

This cross-sectional study collected data from all Jordanian universities via Google forms. The survey contains two validated questionnaires concerning anxiety and depression associated with Stigmatization separately.

Results

507 people completed the survey, which consisted of two questionnaires, one for anxiety, with 203 responses, of which (66.5 %) were female. The age had arranged from 18 -29 with a mean of (20.88 ± 2.157), .while the other contained 307 responses, and 72.4% of them were women. The mean age was 20.07 ± 2.307, ranging from 18 to 40.

The majority of respondents disagree with the following claims: "Won't vote for someone with anxiety" (75.9 %) and "Anxiety is an unreal problem" (72.9 %). However, roughly 50% of respondents concur that the person can become less anxious (53.7 %). Most disagreed regarding the following: depression is a sign of weakness, not a real problem, and they won't vote for someone with it. (82.2%, 80.3% and 83.4 % respectively)

Being a responder with a history of anxiety had been significantly different than those who hadn't regarding their disagreement about the following; anxiety is a sign of weakness. (p-value = 0.007) Anxiety is an unreal problem. (p-value = 0.000) And people with anxiety are dangerous. (p-value = 0.039). On the other hand, regarding the other survey, responders who hadn't had depression in the past (29.9 %) had been more significant difference than those who had (20.4 %) in terms of the agreement that people with depression can snap out. (p-value =0.017). However, regarding their disagreement about if they were depressed, they won't tell anyone, there was a significant difference between the two groups (29.9 % and 18.4 %, respectively). (p-value =0.002)

Conclusion

The current study found that many Jordanian college students have a stigma toward people with depression and anxiety. In addition, students with no history of depression or anxiety showed higher stigma in some subscale items toward people with depression and anxiety. The present results suggest that more anti-stigma actions should be applied to Jordanian college students to help prevent or reduce stigma attitudes toward people with depression.

#10

Using Cigarette-Equivalents to Estimate Nicotine Consumption Among Poly Tobacco Users

Ibraheem Al-khawaldeh1, Ghassan Mobaydeen1, Yazan Daher Al-Mrayat2.

1 Faculty of Medicine, Mutah University

2 Assistant professor, PhD, MSN, RN, Faculty of Nursing, Mutah university.

Background

In the U.S, 19.3% of adults use tobacco products, with 3.7% are poly-tobacco product (PTP) users. Around 14% of U.S adults have used e-cigarettes, hookahs, cigars, and/or smokeless tobacco in the past 30 days. PTP use hinders tobacco treatment by adding difficulty in estimating the amount of nicotine the tobacco user is ingesting. To the best of our knowledge, there is no clinical practice protocol to guide tobacco treatment specialists on estimating the appropriate dosages for nicotine replacement therapy for PTP users. The purpose of this study was to develop an estimate of the consumed/ingested nicotine amounts from different forms of tobacco using the number of cigarette-equivalents.

Methods

We conducted a literature search for nicotine content (NC), nicotine yield, cotinine level, and plasma nicotine concentration (PNC) for cigars, cigarillos, snus, smokeless tobacco, hookahs, pipes, and e-cigarettes. Average NC, yield, or plasma concentration found in one cigarette was used to estimate the number of cigarette-equivalents for each of these products.

Results

On average, the PNC of a can of loose, and a can of pouched snus were 14.3ng/ml and 12.1ng/ml respectively, representing 32 and 27 cigarette-equivalents. NCs of one cigar was on average 88 mg, 13.7 mg for one cigarillo/little cigar, and 114mg for one bowl of pipe tobacco, which have an estimated 5, 0.74, and 6 cigarette-equivalents, respectively. The nicotine yield of 1 can of smokeless tobacco was 8.4 mg, representing an average of 124 cigarette-equivalents. One session of flavored hookah (with a NC of approximately 67mg) was comparable to smoking 20 cigarettes; and an e-cigarette, considering medium liquid strength (18mg/ml) ad libitum smoking for 10 minutes, was equivalent to smoking 0.3 cigarettes.

Conclusion

Knowledge of cigarette-equivalents estimations may be useful for tobacco treatment specialists in establishing appropriate nicotine replacement therapy dosage for PTP users. Additionally, cigarettes-equivalents is an objective approach for researchers to assessing nicotine consumption for PTP users.

#11

A Hope for All: Reducing PTSD Symptoms in Refugees through a Physiologically-Driven Adaptive Home-Based Virtual Reality Exposure Therapy Treatment

Omar Dababneh1, Aseel Razem2, Basma Al-Kilani 3, Hazem Hamdan 4

1 Department of Medicine, Faculty of Medicine, JUST, Amman

2 Department of Medicine, Faculty of Medicine, HU, Amman

3Teacher at jubilee school.

4 Clinical psychologist at maria den braven center in jabal amman

This study aimed to examine the efficacy of A Hope for All (AHA) System on reducing Post- Traumatic Stress Disorder (PTSD) symptoms in refugees with combat related traumas through a physiologically-driven adaptive home-based Virtual Reality Exposure Therapy (VRET) treatment. The study's methodology contained three phases. First,two different screening instruments were used to screen a sample of 40 refugees aged 7 to 15 for symptoms of depression and PTSD. Those who have fit the criteria were given a third instrument to further analyze their traumatic memory. Seven patients were worked with under the supervision of a team of psychologists. Second, AHA System was designed to enhance the conditions of patients by constructing an application that includes the exposuresimulations for each patient individually according to the stages of exposure and connecting the application to a device that operates under specific body rates associated with the physiological and emotional arousals. The device measures the sweat gland activity and the pulse rate for each patientthroughout the session.If the rates became abnormal,the application would take the required measures to calm the patient down. Third, the patients were given the PTSD screening instrument post-treatment after 5 sessions. The results show that the PTSD symptoms were reduced with an average rate of 20.8% from pre-treatment to after five sessions of the treatment duration. Moreover, there was a statistically significant moderate relationship between the severity of PTSD symptoms and the average maximumpulse rate reached,which was (r = 0.76) and severity of PTSD symptomsand the average time needed for the pulse rate to go back to normal, which was (r=0.66). Finally, according to Cohen's d Effect Size,there was a statistically significant large effect size of (1.03)from pre-treatment to after 5 sessions. Further therapy sessions had yet to be given and a follow-up of 1 month had to be conductedin order to sum up the treatmentprocess for the patients. As a conclusion, AHA System is expected to be a high effective methodat reducing PTSD symptoms.

#12

Psycho-Behavioural Response of residents in AL-Naser Camp During COVID-19 Pandemic: A Cross-Sectional Study

Hasan Mihyar1, Huda Baidoun2, Merei AlMadani3, Marwa Qadoura1, Maysam Obeidat, Issa Shirri1, Faris Marji1.
1 Faculty of Medicine, Jordanian University for Science and Technology, Irbid, Jordan.
2 Faculty of Medicine, Univeristy of Jordan, Amman, Jordan.
3 Faculty of Medicine, Mutah University, Amman, Jordan.

Background
COVID-19 pandemic, declared on March 11, 2020, constitute an extraordinary health, social and economic global challenge. The impact on people's mental health is expected to be high. This paper sought to assess the levels of Depression, Anxiety, and Stress, in AL-Nasr camp, which is located on the outskirts of Amman, Jordan. This demographic was selected due to it being under represented in the general research surveys, while also suffering from generalized low income and overcrowding, and so aforementioned mental parameters were expected to be high, and even more so with the rise of the pandemic in these areas. This study aims to measure the prevalence of depression, anxiety and stress levels in AlNaser camp in Jordan Amman during the pandemic of COVID19.

Methods
This cross-sectional designed study that was conducted between December 4th and March 22th has included 372 participants of the camp's residents. Data was collected using an interviewer administered questionnaire that captured general demographic parameters, and integrated the DASS scale (Depression Anxiety Stress Scales-21) which is 21 item standardized questions to assess the depression, anxiety and stress. The items were translated to Arabic. Data were then analyzed using SPSS version 25 for descriptive and inferential statistics.

Results
A high percentage of respondents reported Extremely Severe levels of Depression (74.3%) according to the DASS scale, 70% reported "Extremely Severe" Anxiety Levels, and around 69% had "Extremely Severe" levels of stress. Around 32% of participants stated they had COVID19 in the past 2 years, data also showed there is no significant association between COVID diagnoses and DASS scores. Unlike what was expected, the data showed no significance association between the level of income and the levels of Depression, Anxiety, and Stress at 95% confidence interval, even though the level of income across the participants was low in which 67% of participants stated that their monthly income for the household was less than 300JD per month. However, the data showed statistical significance in the levels of depression and anxiety in the participants that stated that they have persisting COVID symptoms after the initial 2 weeks period otherwise known as "long covid"

Conclusion
Overcrowded camps such as AlNasr camp suffer from elevated levels of Depression, Anxiety, and Stress. And would benefit greatly from organized counselling programs, and raising awareness about mental illness and work toward stigmatizing them in such communities.

#13

The Efficacy of Lithium Vs. Valporate on Bipolar Patients and Their Sexual Side Effect: A Meta-Analysis of 4159 Patients.

Yasmeen Jamal Alabdallat 1, Ihdaa Mahmoud Bani Khalaf 2, Almutazballlah Bassam Qablan 2, Obada Ahmad Al Jayyousi 2, EmanAlshial 3, Mohamed Elsayed 4.

1 Faculty of Medicine, Hashemite University, Zarqa 13133, ORCID: 0000-0001-6855-3718.
2 Faculty of Medicine, Jordan University of Science and Technology, Irbid 22110.
3 Faculty of science, Damanhur University, Al Buhayrah Egypt
4 Department of Psychiatry and Psychotherapy III, University of Ulm, Leimgrubenweg 12-14, 89075, Ulm, Germany. And Department of Psychiatry, School of Medicine and Health Sciences, Carl von Ossietzky University Oldenburg, Oldenburg, Germany. ORCID: 0000-0002-0011-7837

Background
Bipolar disorder, formerly called manic depression, is a mental health condition that causes extreme mood swings that include emotional highs (mania or hypomania) and lows (depression). This systematic review and meta-analysis aim to assess the safety and efficacy of the lithium verses valproate among bipolar patients.
Methods
A computer literature search of PubMed, Scopus, Web of Science, and Cochrane Central Register of Controlled Trials was conducted from inception until June 2022. Studies comparing lithium versus valproate among bipolar patients were selected for the analysis, and all relevant outcomes were pooled in the meta-analysis using Review Manager Software.
Results
11 Randomized Clinical Trials were included in this meta-analysis with a total of 4159 patients. Our meta showed that lithium was superior to valproate in terms of Young Mania Rating Scale (YMRS) (MD = 0.00 with 95% CI, (-0.55 – 0.55; I2 = 0%), P = 1.00).
The results of the Hamilton Depression rating Scale (HDRS) showed that the overall effect favored the valproate treated group (MD = 1.41 with 95% CI, (-0.15 – 2.67; I2 = 0%), P = 0.03). Concerning the results of the Montgomery-Asberg Depression Rating Scale (MADRS), the results showed that the lithium was superior to valproate (MD = 0.03 with 95% CI, (-0.80 to 0.87; I2 = 40%), P = 0.94). In terms of the sexual side effect, we found that the valproate was superior to lithium (RR 1.19 with 95% CI, (0.74 to 1.91; I2 = 0%), P = 0.47). The lithium treated group was superior in comparison to valproate treated group in terms of Abnormal Involuntary Movement Scale (AIMS) (MD = -0.03 with 95% CI (-0.38 to 0.32; I2 = 0%), P = 0.87). The lithium was more favorable in terms of Simpson-Agnes scale (MD = -0.40 with 95% CI, (-0.86 to 0.06; I2 = 0%), P = 0.09).The results of the Barnes akathisia scale showed that the overall effect of the valproate was more favorable in comparison to lithium (MD = 0.05 with 95% CI, (-0.12 to 0.22; I2 = 0%), P = 0.57).
Conclusion
Our study revealed that on the scales of efficacy Lithium treated group surpassed Valproate treated group in terms of Young Mania Rating Scale (YMRS), Abnormal Involuntary Movement Scale (AIMS) and Simpson-Agnes scale, but valproate surpassed it in Barnes Akathisia scale. Furthermore, on the scales of depression Hamilton Depression Rating Scale (HDRS) showed that the overall effect favored Valproate treated group, but Lithium surpassed valproate in terms of Montgomery-Asberg Depression Rating Scale (MADRS). Valproate surpassed Lithium in terms of sexual side effects.

#14

Postpartum Psychosis: Keep an Eye Out

Ashaar Al-Akhras1, Enas Al-Huwari 2.

1 Faculty of Medicine, Jordan University of Science and Technology, Irbid, P.O. 22110, Jordan, analakhras19@med.just.edu.jo
2 Pediatrics, Jordan University of Science and Technology, Irbid, P.O. 22110, Jordan, enas.huwari@yahoo.com

Background
Childbirth is a potent trigger for the first onset of psychiatric disorders, including maternity blues, postpartum depression (PPD), and postpartum psychosis (PP). PP affects 1-2 per 1000 women and is considered a true psychiatric emergency that requires prompt hospitalization and treatment. PP has a sudden onset, most commonly in the first two weeks postpartum. A history of bipolar disorder is found to be a strong risk factor for PP, yet about two-thirds of women presenting with PP have no prior psychiatric history. While psychiatric admission typically occurs days or weeks after the onset of symptoms, early recognition and immediate intervention are crucial to avoid serious consequences on the mother and child.

Methods
Description of a typical case of postpartum psychosis that had no prior psychiatric history. She experienced excessive anxiousness and anxiety towards childbirth, displayed hyperactivity and insomnia immediately after childbirth, and symptoms of psychosis within the first week postpartum.

Results
A primigravida woman in her early thirties experienced symptoms of insomnia, irritability, hyperactivity, and rapid mood swings which started on the fourth day after an uneventful birth of a healthy baby. She became delusional, more talkative, and sociable, experienced high mood, and was described to having racing thoughts and a busy mind. She showed indifference towards her baby and delegated care to family members. After PP was suspected and confirmed at a psychiatric visit, she was admitted to the ED and treated with IV haloperidol on the 15th day postpartum. She was then hospitalized for 2 weeks and started on olanzapine and sodium valproate during the hospital stay. She was discharged upon remission of psychiatric symptoms and continued medication and regular follow-up at the psychiatric clinic.

Conclusion
Suspicion of PP calls for a thorough psychiatric evaluation as early as possible to ensure early initiation of treatment, and reduction of risk to the mother and her children and family. As PP has a high rate of recurrence in subsequent deliveries, the recommendation is to initiate pharmacologic prophylaxis, preferably with lithium, immediately after each subsequent delivery for relapse prevention.

MEET OUR SPONSORS