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Secretariat Address:
Malaysian Medical Association
4th Floor, MMA House, 124, Jalan Pahang, 53000 Kuala Lumpur.
Tel: (03) 4042 0617, 4041 8972, 4041 1375 Fax: (03) 4041 8187
E-mail: info@mma.org.my / mjm@mma.org.my
Website: www.mma.org.my

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42-1, Level 1, Plaza Sinar, Taman Sri Sinar, 51200 Kuala Lumpur. Tel: 03-6272 3767
Email: dpsbkl@gmail.com

The Medical Journal of Malaysia

MJM

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Original Articles are reports on findings from original unpublished research. Preference for publications will be given to high quality original research that make significant contribution to medicine. Original articles shall consist of a structured Abstract and the Main Text. The word count for the structured abstract should not exceed 500 words. The main text of the articles should not exceed 4000 words, tables/illustrations/figures/images up to five (5) and references up to 40. Manuscript describing original research should conform to the IMRAD format, more details are given below.

Original articles of cross-sectional and cohort design should follow the corresponding STROBE check-lists; clinical trials should follow the CONSORT check-list.

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Papers on case reports (one to five cases) must follow these rules: Case reports should not exceed 2,000 words; with a maximum of two (2) tables; three (3) photographs; and up to ten (10) references. It shall consist of a Summary and the Main Text. The summary should be limited to 250 words and provided immediately after the title page. Having a unique lesson in the diagnosis, pathology or management of the case is more valuable than mere finding of a rare entity. Being able to report the outcome and length of survival of a rare problem is more valuable than merely describing what treatment was rendered at the time of diagnosis. There should be no more than seven (7) authors.

Please note that all Case Reports will be published in the new MJM Case Reports Journal (www.mjmcasereports.org).

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The title page should state the brief title of the paper, full name(s) of the author(s) (with the surname or last name bolded), degrees (limited to one degree or diploma), affiliation(s), and corresponding author's address. All the authors' affiliations shall be provided after the authors' names. Indicate the affiliations with a superscript number at the end of the author's degrees and at the start of the name of the affiliation. If the author is affiliated to more than one (1) institution, a comma should be used to separate the number for the said affiliation.

Do provide preferred abbreviated author names for indexing purpose, e.g. L Rampal (for Lekhraj Rampal), BS Liew (for Liew Boon Seng), B Abdullah (for Baharudin Abdullah), Hoe VC (for Victor Hoe Chee Wai).

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Scientific names, foreign words and Greek symbols should be in italic.

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A structured abstract is required for Original and Review Articles. It should be limited to 500 words and provided immediately after the title page. Below the abstract provide and identify three (3) to 10 key words or short phrases that will assist indexers in cross-indexing your article. Use terms from the medical subject headings (MeSH) list from Index Medicus for the key words where possible. Key words are not required for Short Communications, CME articles, Case Reports, Commentaries and Letter to Editors.

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Clearly state the purpose of the article. Summarise the rationale for the study or observation. Give only strictly pertinent references, and do not review the subject extensively.

Materials and Methods:
Describe your selection of the observational or experimental subjects (patients or experimental animals, including controls) clearly, identify the methods, apparatus (manufacturer's name and address in parenthesis), and procedures in sufficient detail to allow other workers to reproduce the results. Give references to established methods, including statistical methods; provide references and brief descriptions of methods that have been published but are not well-known; describe new or substantially modified methods, give reasons for using them and evaluate their limitations.

Identify precisely all drugs and chemicals used, including generic name(s), dosage(s) and route(s) of administration. Do not use patients' names, initials or hospital numbers. Include numbers of observation and the statistical significance of the findings when appropriate.

When appropriate, particularly in the case of clinical trials, state clearly that the experimental design has received the approval of the relevant ethical committee.

Results:
Present your results in logical sequence in the text, tables and illustrations. Do not repeat in the text all the data in the tables or illustrations, or both: emphasise or summarise only important observations in the text.

Discussion:
Emphasise the new and important aspects of the study and conclusions that follow from them. Do not repeat in detail data given in the Results section. Include in the Discussion the implications of the findings and their limitations and relate the observations to other relevant studies.

Conclusion:
Link the conclusions with the goals of the study but avoid unqualified statements and conclusions not completely supported by your data. Avoid claiming priority and alluding to work that has not been completed. State new hypotheses when warranted, but clearly label them as such. Recommendations, when appropriate, may be included.

Acknowledgements:
Acknowledgements of general support, grants, technical assistance, etc., should be indicated. Authors are responsible for obtaining the consent of those being acknowledged.

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The Medical Journal of Malaysia, follows the Vancouver numbered referencing style. Citations to someone else's work in the text, should be indicated by the use of a number. In citing more than one article in the same sentence, you will need to include the citation number for each article. A hyphen should be used to link numbers which are inclusive, and a comma used where numbers are not consecutive. The following is an example where works 1.3,4,5.have been cited in the same place in the text.

Several effective drugs are available at fairly low cost for treating patients with hypertension and reducing the risk of its sequelae.[1,3-5]

The list of all of the references that are cited in the article should be presented in a list labelled as 'References'. This reference list appears at the end of the paper. Authors are responsible for the accuracy of cited references and these should be verified by the author(s) against the original documents before the manuscript is submitted. It is important that the author should never place in the list of references a document that he or she has not seen. The Journals names should be abbreviated according to the style used in the Index Medicus. All authors when six or less should be listed; when seven or more list only the first six and add et al.

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Example references Journals:
Standard Journal Article
Rampal L and Liew BS. Coronavirus disease (COVID-19) pandemic. Med J Malaysia 2020; 75(2): 95-7.

Rampal L, Liew BS, Choolani M, Ganasegeran K, Pramanick A, Vallibhakara SA, et al. Battling COVID-19 pandemic waves in six South-East Asian countries: A real-time consensus review. Med J Malaysia 2020; 75(6): 613-25.

NCD Risk Factor Collaboration (NCD-RisC). Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants. Lancet 2021; 11; 398(10304): 957-80.

Books and Other Monographs:
Personal Author(s)
Goodman NW, Edwards MB. 2014. Medical Writing: A Prescription for Clarity. 4 th Edition. Cambridge University Press.

Chapter in Book
McFarland D, Holland JC. Distress, adjustments, and anxiety disorders. In: Watson M, Kissane D, Editors. Management of clinical depression and anxiety. Oxford University Press; 2017: 1-22.

Corporate Author
World Health Organization, Geneva. 2019. WHO Study Group on Tobacco Product Regulation. Report on the scientific basis of tobacco product regulation: seventh report of a WHO study group. WHO Technical Report Series, No. 1015.

NCD Risk Factor Collaboration (NCD-RisC). Rising rural body-mass index is the main driver of the global obesity epidemic in adults. Nature 2019; 569: 260–64.

World Health Organization. Novel Coronavirus (2019-nCoV) Situation Report 85, April 14, 2020. [cited April 2020] Accessed from: https://www.who.int/docs/defaultsource/coronaviruse/situationreports/20200414-sitrep-85-covid-19.

Online articles
Webpage: Webpage are referenced with their URL and access date, and as much other information as is available. Cited date is important as webpage can be updated and URLs change. The "cited" should contain the month and year accessed.

Ministry of Health Malaysia. Press Release: Status of preparedness and response by the ministry of health in and event of outbreak of Ebola in Malaysia 2014 [cited Dec 2014]. Available from: http://www.moh.gov.my/english.php/database_stores/store_view_page/21/437.

Other Articles:
Newspaper Article
Panirchellvum V. 'No outdoor activities if weather too hot'. the Sun. 2016; March 18: 9(col. 1-3).

Magazine Article
Rampal L.World No Tobacco Day 2021 -Tobacco Control in Malaysia. Berita MMA. 2021; May: 21-22.

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All tables and figures should have a concise title and should not occupy more than one printed page. The title should concisely and clearly explain the content of the table or figure. They should be numbered consecutively with Roman numerals (e.g Table I) and figures with Arabic numerals (e.g. Figure 1), and placed after the sections of the manuscript which they reflect, particularly the results which they describe on separate pages. Cite tables in the text in consecutive order. Indicate table footnotes with lower-case letters in superscript font. Place the information for the footnote beneath the body of the table. If a table will be submitted as a separate document, the filename should contain the surname of the first author and match its label in the manuscript (e.g., SMITH Table I).Vertical lines should not be used when constructing the tables. All tables and figures should also be sent in electronic format on submission of the manuscript as supplementary files through the journal management platform. Clinical Photographs should conceal the subject's identity. Tables and flow-charts should be submitted as Microsoft Word documents. Images should be submitted as separate JPEG files (minimum resolution of 300 dpi).

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BEST PAPER AWARD
All original papers which are accepted for publication by the MJM, will be considered for the 'Best Paper Award' for the year of publication. No award will be made for any particular year if none of the submitted papers are judged to be of suitable quality.

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PL-001

A health systems view of research

Khor Swee Kheng[1,2]

[1]Angsana Health, Southeast Asia, [2]Saw Swee Hock School of Public Health, National University of Singapore

ABSTRACT

Summary: Clinical research is the fundamental building block of evidence-based medicine, which is the fundamental building block of healthcare. However, the traditional model of clinical RCTs is increasingly supplemented by non-clinical real-world evidence, patient-reported outcomes and Big Data/AI/ML. Researchers using old and new research tools may benefit from integrating a health systems view into their work, by bringing together clinical, patient-reported, economic, equity, population health, policy and service delivery outcomes in an inter-disciplinary approach.

PL-002

Precision medicine versus personalised medicine

Tan Geok Chin

Department of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia

ABSTRACT

Summary: The term "personalised medicine" means tailoring of medical treatment to the individual characteristics of each patient, leading to a treatment approach of "the right drug, for the right patient, at the right time." The terms precision medicine and personalised medicine have been used interchangeably. However, personalized medicine is the older term. Actually, precision medicine is the prefer term, as the focus is on identifying which approaches will be effective for which patients based on genetic, environmental, and lifestyle factors. One of the examples is pharmacogenomics which combines pharmacology (the study of drugs) and genomics (the study of genes) to develop effective, safe medications and doses tailored to a person's genes. In cancer targeted therapy, the detection of specific molecular markers that are found only on certain types of cancer, can be used to treat cancer more effectively. For example, the presence of HER2 gene amplification in breast cancer (seen in 20% of cases, a more aggressive phenotype), can be treated by Trastuzumab (Herceptin), a monoclonal antibody with excellent outcome. The implementation required a multi-disciplinary approach involving, surgeons, oncologists and pathologists. Stem cells and regenerative medicine is another form of precision medicine. By isolating and manipulating an individual stem cells, it could be used to repair a damage organ of that individual. CAR-T therapy and PDL1 are some of the others recently established forms of precision medicine. Many researchers are investigating the role of gut microbiome in regulating our health status and brain function, and the to understand the benefit of introduction of probiotics to improve gut bacterial flora. Currently, molecular testing is still very expensive and many are not able to receive this treatment. In conclusion, to improve healthcare in the country, everyone should be given the opportunity to precision medicine therapy.

PL-003

Institute for Clinical Research as the pillar in establishment of research culture

Kalaiarasu M Peariasamy

Institute for Clinical Research, National Institutes of Health, Setia Alam.

ABSTRACT

Summary: The Institute for Clinical Research (ICR), previously known as the National Clinical Research Centre, Ministry of Health Malaysia was founded more than 20 years ago. The research areas mainly focus on clinical trials, clinical epidemiology, digital health and patient related outcomes. For an institution to improve its research culture, the most important considerations are to reflect on its organisational values and purpose. ICR's research culture is driven by research that matters to patients and to support evidence-based clinical practice founded on ethical conduct of research, data integrity and scientific validity. Whilst obstacles to developing a research culture can come in many forms, it is important that solutions are identified and implemented. For that, ICR developed a strategic framework with defined pillars of excellence in a) Clinical Research Hub, b) Technology in Clinical Research, c) Sustainable Human Capacity Building and d) Visibility. Further, the working environment reflected the concepts of research freedom, use of advanced scientific approaches, and encouraged high inflow of young talented researchers. In addition, researchers' funding requirements from internal and external grants, access to infrastructure, academic training, research collaboration within and beyond the organization were facilitated. Arguably, transforming research culture is complex, and developing a strategic framework and implementing it well most certainly helps to drive research excellence of national and international relevance.

PL-004

Managing prediabetes through digital health and pharmacy-supported program

Chong Chun Wie

School of Pharmacy, Monash University Malaysia

ABSTRACT

Summary: Pre-diabetes is defined as an intermediate state of hyperglycaemia with glycaemic parameters above normal but below the T2DM threshold. It was estimated that >25% of pre-diabetic individuals convert to T2DM within 3-5 years, and 70% of individuals with pre-diabetes will develop into full-fledge T2DM within their lifetimes. In Malaysia, the prevalence of prediabetes is estimated to be around 20-30%. There is an urgent need to address this issue to reduce the diabetes burden in the country. Leveraging the advancement of digital health technology and the readily available large network of community pharmacies, our team is piloting a digitally supported prediabetes intervention program in the community pharmacy. Our preliminary results suggested that the participants are ready to embrace mobile apps to manage their personal health. The project also enables community pharmacists to play a bigger role in chronic disease management in Malaysia.

PL-005

Do’s and don'ts in publishing in high impact journals

Lekhraj Rampal

Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

ABSTRACT

Summary: Publishing of high impact research output in a high impact factor journal is an effective strategy for enhancing the image for the Institution. For the researchers, it increases the citations frequency and career prospects. However, high impact journals seek high quality manuscripts. This paper highlights the do and don’ts in its submission. Do select a journal where your article fits its scope and objectives. Ensure your article has sound methodology, been proof read and written in good English language using short sentences. If you lack proficiency in the English language, get someone who is proficient in the language or English language editing professional to proof read and edit the article. Instructions to authors vary from journal to journal. It is vital to adhere to their guidelines, should not be a duplicate submission and avoid plagiarism. Title should be short, simple and eye catching. Writing a good abstract is crucial. The introduction must clearly establish the need for the study. The methodology must be stated in detail. The data must be presented in a logical sequence, appropriately interpretated and within the scope and objectives of the study. The tables and figures must be of high quality and self-explanatory. The discussion must be comprehensive and current. The conclusion must be based on its objectives. Cite the key scientific publications on which your research is based. It’s useful to have a senior co-author. The cover letter to the Editor is very important and should convince your editor that your article deserves to be published. Do not submit articles where the methods used are: not appropriate to meet the objectives, sample size is inadequate, response rate and sampling technique is poor, with too much missing data and analysis is inappropriate. Do not irritate or argue with a reviewer and address each of the comments from the reviewers. Look at negative reviews as opportunities for improvement.

PL-006

The use of machine learning in health research: how far have we come?

Lai Nai Ming

Taylor’s University School of Medicine

ABSTRACT

Summary: Artificial Intelligence (AI) made its first defined shape in 1956 by mathematician Alan Turing in the form of a computer that deciphered codes, and in 1959, Arthur Samuel, another pioneer of AI, defined machine learning as a field of study that enables computers to continuously learn without being explicitly programmed. Six decades on, ML is now an integral branch of AI that harnesses the use of computer technologies to handle data, using sophisticated formulae known as algorithms to solve problems that require high intelligence with far more efficiency and consistency than any individual or team of human beings. With the explosion of data, the use of ML is rapidly expanding in practice and research across all fields, including Health, in the domains of diagnosis, prediction, therapeutics and quality improvement, among others. In this talk, the speaker shares his experiences in examining the use of ML in clinical practice in the field of Neonatal Medicine, in Health Education including teaching-learning and assessment, and in systematic review, a form of research that is data-intensive. He demonstrates how ML applications work in systematic review and forecasting, and introduces Cochrane Crowd, an example of an initiative that signifies the symbiotic relationship between machine and human’s global presence in deciphering the sea of literature and arranging them in groups that can be accessed easier by researcher, practitioners and consumers.

PL-007

Creating a risk-free hospital environment for patients, healthcare workforce and visitors through technology

Kuldip Kaur Prem Singh

Hospital Sungai Buloh

ABSTRACT

Summary: Patient healthcare and management has taken leaps and bounds in advancement with the myriad technological innovations available to us now. The COVID-19 pandemic, while initially a setback, proved to be a springboard for the adoption and adaptation of cutting-edge technology that is crucial to our survival as a species. Examples of such are MySejahtera, vaccine production, genomic studies, contact tracing devices, alternative and green modes of transportation, increasing use of contactless food delivery services, and many more. The main challenges to hospital service providers are to integrate digital healthcare technologies into traditional hospital services with the aim to create a transparent and highly efficient healthcare system without walls or barriers. Hospital executives should be planning on how to integrate technology into newly built facilities and retrofit older facilities to enable a seamless integration between all components in healthcare services. As a healthcare administrator, minimization of patient safety-related risks is my foremost priority. While the benefits of health information technology are legion and can be used to enhance patient safety to an unprecedented level, I believe we should proceed with caution to ensure that patient welfare is our utmost priority, whilst also upgrading our services alongside our healthcare technology. The spread of COVID-19 stretched healthcare operational systems to their limits not only in Malaysia, but worldwide as well. Shortages and shortfalls had to be swiftly addressed, and as the director of the main COVID-19 hospital, the speaker has had a wealth of experience optimizing and modernizing response mechanisms. The speaker will share examples of improvements made for crisis response during the peak of the COVID-19 pandemic, for example, centralized clinical command centers, hospital dashboards, virtual conferences, virtual learning, and many more. The speaker will also share some of the roles that a healthcare leader must focus on to prepare an organization for the adoption and use of future technology as well as readiness of organizational capabilities for long-term success. Technology for healthcare must be balanced by an appropriate level of human clinical expertise for final decision-making to ensure that patients receive high quality and safe care.

PL-008

Sponsored research in Malaysia: The way forward

Audrey Ooi

Clinical Research Malaysia (CRM)

ABSTRACT

Summary: Since 2012, Malaysia has conducted over 1900 sponsored research in various therapeutic areas. In 2021, Malaysia has moved up the leaderboard, placing itself second among Southeast Asia countries in terms of the volume of sponsored research. Many fruitful collaborations were formed in the last few years and the achievements of investigators in patient recruitment has been acknowledged by global sponsors and contract research organizations. In progressing forward, this talk will focus on three areas to propel the clinical research industry forward; enhancing First-in-Human (FIH) capabilities, expanding medical device clinical research and opportunities to tap into decentralized clinical trials.

Utilisation of National Renal Registry in Clinical Research in Malaysia

Goh Bak Leong[1,2]

[1]Nephrology Department, Hospital Serdang, [2]Clinical Research Centre, Hospital Serdang

ABSTRACT

Summary: Registries provide consistent data for defined populations and can be used to support the study of the determinants and manifestations of disease and provide a picture of the natural history, outcomes of treatment, and experiences of individuals with a given condition or exposure. The use of disease registries for clinical studies has become increasingly common and has led to advancements in the understanding of many disease processes. The availability of demographic and disease characteristic data on large patient populations, coupled with the minimal cost and relative speed of conducting retrospective investigations, provide an attractive alternative to original data collection. However, one must be aware of the limitations inherent to the data collection process for registry which may result in the reduction of generalizability and introduce bias. One of the most important activities with greatest impact on the field of nephrology in this country is the formation of National Renal Registry (NRR), which was initially started by the pioneering nephrologists and paramedics in Hospital Kuala Lumpur. This was subsequently adopted by Malaysian Society of Nephrology which is the umbrella body to better represent the nephrology and dialysis communities for the whole country. The idea of a National Dialysis and Transplant Registry was mooted in the late 80's and early 90's with the purpose of formally looking at the data and evaluating the performance and outcomes in treating patients with end stage kidney disease. This was an important effort taken by the early pioneers who believed in continuous auditing and assessing the quality of care, besides providing invaluable information to health care providers, policy makers as well as industries. The pioneering nephrologists were keenly aware that the high cost of dialysis will come under close scrutiny of the public and policy makers due to the ever escalating cost of health care and budgetary constraints. This was coupled with the rapid expansion of private and non-governmental organization (NGO) haemodilaysis facilities. Concerns about the quality and standards of treatment provided can only be reliably monitor with good and reliable data such as NRR. The first NRR Report published in 1993 was mainly focused on the dialysis programme run by Ministry of Health. In the subsequent years, data from all dialysis units in the private, NGOs and public sectors were collected to mark the beginning of a truly "National" renal registry. Following the success of NRR, there were other offshoot or siblings of NRR developed subsequently which played equally important roles and contribution to the nephrology communities in this country. The 1st report of Malaysian Registry of Renal Biopsy was published in 2007. Another important offshoot of NRR is eMOSS which was initially established in 1999 and converted to e-version in 2006. Over the last 25 years, NRR had not only produced the annual report for local consumption but also contributed data annually to many international organisations including US Renal Data System (USRDS) and the Global Observatory on Organ Donation and Transplantation (GODT). Over the years, data from MDTR were used by professionals for research and publications, students and trainees for various professional program, basic degree, Masters and PhD thesis in Malaysia. NRR has also assisted the setting up of Brunei Dialysis and Transplant Registry (BDTR) as well as the South Africa Renal Registry. Reports from NRR on dialysis and transplantation became the basis for Q&A sessions in the Malaysian Parliament while occasional reviews and reports by the print, electronic and alternative media on Chronic Kidney Disease often cite local data traceable to the Annual MDTR reports.

SP-001

Genetic profiling in non-communicable disease

Julaina Binti Abdul Jalil

Institute for Medical Research (IMR), National Institute of Health, Setia Alam

ABSTRACT

Summary: Non-communicable diseases (NCDs) are considered a global emergency responsible for 70% of deaths which is equivalent to 40 million deaths each year globally. The epidemics of NCDs are a consequence of a complex interaction of individual genome, the microbiome, the metabolome, the immune status, and environmental factors such as nutritional and chemical exposure. Therefore, it is essential to develop an innovative, personalized, preventative, early care model through the integration of diverse molecular profiles of individuals to identify both the critical biomarkers of NCD susceptibility and to discover novel therapeutic targets. These expanding knowledge of the genetic basis, pathogenesis, and therapeutic possibilities of NCDs has provided new targets for early diagnosis of human diseases, individualised drug discovery and development and proposed strategies to translate this knowledge and information into clinical practice as clinical trials.

SP-002

How digitalisation in research promote multi-centre studies

Salmi Razali

Faculty of Medicine, Universiti Teknologi MARA

ABSTRACT

Summary: Digitalisation has revolutionised life worldwide. The advance in digitalisation including 3D printing, internet of things (IoT), artificial intelligence (AI), blockchain, and augmented and virtual reality (VR) soaring health industries, healthcare, and health research to another level of development. Digitalisation creates opportunities for multicentre research which promotes linkages between collaborative research teams involving members from various professions or disciplines, promotes the capacity, networking, and mentorship by bringing together researchers who share and leverage resources, expertise, and ideas; and opportunities for dissemination of high impact research findings and publications, best practices to and beyond network members. Deployment of digitalization for sustainable development research is crucial for the success of sustainable development goals (SDGs). Hence, it is a call for the adoption of digitalisation in local research to ensure the growth of research in Malaysia is in keeping with global development.

SP-003

Bioethics in utilisation of digital technology for clinical research

Lee Keng Yee

Ethics & Research Surveillance, National Institutes of Health

ABSTRACT

Summary: With the advancement of digital technology, the bioethics for such clinical research has become more and more challenging and requires more assessment and discussion. The development of 5G enabling faster internet connection, and hence telemedicine is now another alternative which is more feasible and practicable. Development of artificial intelligence by using big data in healthcare is now is targeting on to produce algorithms that provide predictions in myriad health conditions. However, social value of such research requires careful assessments and considerations by ethics committee. Privacy and confidentiality of such data may also raise ethical issues as some of these detailed data may question the anonymity of such data. Ample of mobile applications have been developed for health monitoring and health education, and careful examination of the validity of the usage is crucial to ensure the safety and wellbeing of their users.

SP-004

Investigation of Chikungunya outbreak in Perak, 2019-2020

Teoh Boon Teong

Tropical Infectious Diseases Research & Education Centre (TIDREC), Universiti Malaya

ABSTRACT

Summary: Chikungunya virus (CHIKV) is a vector-borne virus which is transmitted primarily by Aedes aegypti and Aedes albopictus. Between 2016 to 2020, CHIKV outbreaks were reported in several Asian countries including Malaysia. WHOCC for Arbovirus Reference & Research at TIDREC, Universiti Malaya, Batang Padang District Health Office, as well as several local clinics and community management councils have worked together to perform on-site outbreak investigations in Perak, Malaysia between October 2019 to March 2020. A total of 82 blood samples were collected and screened for CHIKV infection. The positivity rate of CHIKV infection among the specimens collected was 71.6% based on the detections by both CHIKV real-time reverse transcription polymerase chain reaction (RT-PCR) and CHIKV-specific immunoglobulin M and immunoglobulin G enzyme-linked immunoassay (ELISA). Laboratory-confirmed Chikungunya cases were notified to the Perak State Health Department for immediate vector control operation. Community talks were also organised to encourage a better understanding, mindset, and practice in preventing mosquito-borne diseases among the local community.

SP-005

Malaysia as hub for SARS-CoV-vaccine production

Poh Chit Laa, Abdul Aziz Al-Fattah Yahaya, Kanwal Khalid

Centre for Virus and Vaccine Research (CVVR), School of Medical and Life Sciences, Sunway University

ABSTRACT

Summary: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) emerged in China in 2019 and has caused a pandemic with half a billion infections and 6.46 million deaths. The accelerated development of current mRNA, viral vectored, and inactivated vaccines against SARS-CoV-2 utilized the S protein of the SARS-CoV-2 Wuhan strain. However, emergence of SARS-CoV-2 variants of concern (VOCs) with numerous mutations in the S protein considerably reduced the protective efficacies of current vaccines. Novel vaccines which utilize the mRNA or the viral-vectored vaccine have to be engineered to carry the S protein genes from the Omicron BA.4 or the BA.5 subvariants. Experimental vaccines in the Malaysian vaccine developmental landscape are the (i) modular mucosal vaccine produced in GRAS, (ii) NDV-based vaccine expressing RBD, and (iii) live attenuated Vibrio cholerae to deliver SARS-CoV-2 antigen. Next-generation vaccines that contain highly immunogenic and conserved epitopes capable of providing broader and long-lasting protection should be considered.

SP-006

Using design research to improve digital health technologies

Jessica Watterson

Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia

ABSTRACT

Summary: Digital health technologies have the potential to reduce health disparities, when well-designed. However, they can also exacerbate inequities due to challenges like digital literacy, access to mobile phones and data, and cultural or linguistic fit. Therefore, including the target community in the design process is extremely important and can lead to more effective digital health technologies. Design research methods help to uncover the community's true needs and design technologies that address those needs, improving health and addressing equity issues along the way. Specific design research methods will be described in the context of studies of digital health technologies.

SP-007

Neurorobotic in modern rehabilitation

Akmal Hafizah Zamli

Rehabilitation Medicine Department, Hospital Sungai Buloh

ABSTRACT

Summary: Neuro robotic technology has the promising potential for modern rehabilitation transformation from a human resource intensive conventional rehabilitation to a technology driven, consistent, mass, highly repetitive, intensive, reproducible rehabilitation intervention with comparable or even better outcomes. Cost effective development is warranted at the global, regional and even local avenues to make it practicable, affordable and widely accessible at various levels / settings of rehabilitation services. This session shall briefly highlight the potential development, application and integration of neuro robotic technology with that current of conventional rehabilitation practice within the Malaysian setting.

SP-008

Technology in medical laboratory: Improving turnaround time during pandemic

Thuhairah Abdul Rahman

Universiti Teknologi MARA, Selangor.

ABSTRACT

Summary: The extent of laboratory management was only related to developing, maintaining, improving and sustaining the quality of accurate test results as a way of improving clinical outcomes. This was the emphasis prior to public health emergencies such as the COVID-19 pandemic, becoming a major global challenge. In the face of such pandemic, one of the main challenges was to be able to maintain an efficient turnaround time (TAT) in the face of increased sample workload with fewer staffing per shift as a strategy to minimize overcrowding. The industrial revolution 4.0 had brought with it the change agents which are automation, internet of things (IoT) and artificial intelligence (AI), which has been timely as the recent COVID-19 pandemic emerged. Total laboratory automation, remote data access, laboratory information management systems, digital pathology are among the disruptors that have been introduced to improve workflow efficiency and ultimately TAT. This talk will focus on the history trajectory of laboratory medicine management which includes ways and means medical laboratories overcome the challenges of the impact pandemics have on TAT and how technology has shifted to improve it.

Enabling healthcare access of Deaf through digital technology

Uma Palanisamy

School of Medicine, Monash University Malaysia

ABSTRACT

Summary: The Deaf make up a unique linguistic minority of about 160,000 in Malaysia, and converse in the Bahasa Isyarat Malaysia (BIM). Far removed from the medical definition of deaf disability, the Deaf (note, with an uppercase 'D') is associated with a culture and choice of language that allows them to better navigate society. Today, the Deaf continue to face significant challenges in accessing healthcare, from systemic barriers to lesser than average health literacy levels. The provision of sign language interpreters (SLI) for healthcare consultations is not a legislation in Malaysia. Furthermore, the shortage of interpreters and communication barriers has led to their under-utilization of healthcare services in this country. To ensure a safe and effective communication modality between healthcare personnel and Deaf individuals, we proposed the DITETM app. Intended for use by Deaf, SLI and healthcare professionals it hopes to increase healthcare access, utilization, and ultimately health outcome of the Deaf.

OR-001

Chromosomal abnormalities in chronic lymphocytic leukaemia patients treated in Hospital Ampang, Selangor

Jerome Tan Tsen Chuen[1], Ho Kim Wah[1], Sharifah Shahnaz Alkudsi[1], Chow Lai Chee[1], Lee Bee Sun[2], Ong Tee Chuan[1], Tan Sen Mui[1], Syazarin Fidhora Nasution[1]

[1]Department of Haematology, Hospital Ampang Selangor, [2]Faculty of Medicine and Heath Sciences, Universiti Tunku Abdul Rahman

ABSTRACT

Introduction: Chromosomal abnormalities are seen in about 80% of Chronic Lymphocytic Leukaemia (CLL) patients and may confer prognostic information and determine potential therapeutic options. A patient's prior treatment status may offer a clue to the type of chromosomal abnormalities commonly seen in CLL. This retrospective analysis aims to look at the incidence and type of chromosomal abnormalities seen in treatment naive and previously treated CLL. **Materials and Methods:** A total of 20 CLL patients followed up in Hospital Ampang Selangor between March 2020 and September 2021 were randomly chosen for florescence in situ hybridization (FISH) testing at Subang Jaya Medical Centre prior to commencing treatment. The FISH testing was kindly sponsored by Johnson & Johnson (Malaysia). This FISH panel contains probes to 4 common abnormalities seen in CLL namely 17p13.1 (TP53), 13q14.2(D13S319), 11q22.3(ATM) and CEP12(D12Z3). **Results:** These 20 patients were diagnosed with CLL between 2002 and 2021. The median follow up is 4.3 years (0.6-19.7) at data cut-off date, death or last known follow-up. Median age at diagnosis was 56.5 years (31-80) with 70% (14) males and 30% (6) females.80% (16) of the patients had at least 1 chromosomal abnormality and among these, 70.6% (12) had Del13q, 23.5% (4) Del17p, 17.6% (3) trisomy 12(CEP12) and 11.8% (2) Del11q. These are not mutually exclusive as 4 patients had ≥2 chromosomal abnormalities. Among the 11 treatment naive patients, 54.5% (6) had Del13q, 18.2% (2) trisomy 12 and 27.3% (3) had no abnormality. Among the 9 patients who had prior therapy, 44.5% (4) had Del17p, 22.2% (2) Del11q, 22.2% (2) Del13q as the sole abnormality and 11.1% (1) had no abnormality.75% (3) of those with Del17p and 50% (1) of those with Del11q also had concomitant Del13q. Among all the patients tested, Del13q is the most common CLL chromosomal abnormality seen at 70.6%. Treatment naive patients did not harbour Del17p or Del11q. In contrast, among previously treated patients, 66.7% (6) had either Del17p or Del11q. The presence of these poor risk chromosomal abnormalities is commonly associated with prior therapy and confer chemoimmunotherapy resistance. Among the therapies received by the previously treated patients, 77.8% were exposed to Chlorambucil, 44.4% Rituximab and 33.3% Fludarabine. **Conclusion:** The findings of this study are consistent with established data. CLL patients with prior therapy are at a higher risk of developing poor risk chromosomal abnormalities, consistent with clonal evolution or selection. Genomic testing should be offered to all patients who relapse after their initial therapy and be considered for novel targeted therapies which are known to be effective against poor risk disease.

Keywords: Chronic Lymphocytic Leukaemia, chromosomal abnormalities, chemoimmunotherapy resistance, Chlorambucil, FISH.

OR-002

Effect of health education on the knowledge, attitude and behaviour of healthy snack choices in school among students of Sekolah Indonesia, Kuala Lumpur

Normawati Ahmad[1], Zahrita Hafidhah[2]

[1]Institute for Health Behavioural Research, Ministry of Health, Malaysia, [2]Faculty of Allied Health Sciences, National University of Malaysia

ABSTRACT

Introduction: Snacking, defined as the intake of foodstuffs between main meals, is among the main sources of calorie intake. Snacks should be chosen not only based on students' interests and preferences, but also on their nutritional needs. Moreover, snacks should not affect their appetite for the main meals. Consumption of unhealthy snacks can bring students different health problems such as obesity, dental caries, and chronic illnesses. In this study, a health education package is utilized to make students improve their behaviour especially in choosing healthier snack foods. The aim of this study was to assess the effect of health education on the knowledge, attitude, and behaviour of healthy snack choices in school among students of Sekolah Indonesia, Kuala Lumpur. **Materials and Methods:** This was an interventional study, with pre and post-tests without a control group. 60 students from the 4th and 5th grades were selected by universal sampling. The interventional activities which included lectures, role play, and quizzes were carried out for 21 days. The data were analysed by SPSS 22 software, using descriptive statistics, Wilcoxon test and paired t-tests. **Results:** There was a positive influence of health education on the selection of snack foods on the student's knowledge (p=0.001), attitude (p=0.001) and behaviour (p=0.001). Post-intervention also showed positive behaviour changes. **Conclusion:** Increasing the awareness of educational health in terms of knowledge, attitude, and behaviour is effective in choosing healthy snack food among students.

Keywords: Snacking, calorie, health education

A real-world study of end tyrosine kinase inhibitor in chronic myeloid leukaemia (EnTIC) in Malaysia

Siew Lian Chong[1], Asral Wirda Ahmad Asnawi[2], Tien Gen Wong[1], Ahmad Zakiyy Mohamed[1], Yea Bing Tham[1], Nur Aini Syakirah AS[1], Sharifah Shahnaz Syed Abd Kadir[1], Tee Chuan Ong[1], Jerome Tan[1], Kim Wah Ho[1], Ngee Siang Lau[1], Veena Selvaratnam[1], Sen Mui Tan[1], Dato' Ai Sim Goh[3], Ching Soon Teoh[3], Sui Keat Tan[3], Soo Min Lim[4], Azizan Sharif[4], Yang Liang Boo[4], Chin Keong Christopher Liam[4], Ahlam Naila Kori[5], See Guan Toh[6], Ee Leng Gan[6], Si Yuan Ng[7], Jenq Tzong Tan[8]

[1]Department of Hematology, Hospital Ampang, [2]Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, [3]Department of Hematology, Hospital Pulau Pinang, [4]Department of Hematology, Hospital Sultanah Aminah Johor Bahru, [5]Department of Medical, Hospital Tengku Ampuan Afzan, [6]Department of Medical, Hospital Tuanku Jaafar, [7]Department of Medical, Hospital Melaka, [8]Department of Medical, Hospital Taiping

ABSTRACT

Introduction: The practice of indefinite tyrosine kinase inhibitor (TKI) provision for Chronic Myeloid Leukaemia (CML) has remained unchallenged. Furthermore, the ability of TKIs to eradicate the CML clone is still largely unknown. A multicentred observational study involving major hospitals in Malaysia to observe the clinical practice to End TKI in CML (EnTIC) was performed. The goal of this study was to determine the molecular response to TKI cessation in CML patients by close monitoring of BCR-ABL1. **Materials and Methods:** Patients who received their first line TKI (Imatinib, Nilotinib or Dasatinib) for at least 4 years and achieved major molecular response of MR4 (IS:0.01%) with undetectable BCR-ABL1 transcripts for the two preceding years were recruited. Close clinical and molecular monitoring was performed with monthly BCR-ABL1 molecular analysis. To date, the study has observed 80 patients from January 1st to December 31st, 2021. **Results:** This interim analysis reported the outcome of 80 patients with a follow-up period of 12 months. Twenty-one patients (26.3%) experienced a molecular relapse defined as the loss of a major molecular response (MMR). Relapses occurred after a median time of 3 months (range: 1-8 months). Fifty-nine (73.7%) patients have since been in molecular remission with the longest remission duration achieved is 12 months. **Conclusion:** The preliminary findings showed that cessation of TKI in patients who achieved deep molecular response appears promising, whereby treatment-free remission can be maintained safely. Following this, we hope to develop a method/algorithm that reliably identifies candidate patients who would benefit from TKI discontinuation while safely maintaining treatment-free remission status.

Keywords: TKI, CML, leukaemia, hematology

A systematic review and meta-analysis on herbal medicine for allergic rhinitis

Xin Yi Lim[1], Mei Siu Lau[1], Nor Azlina Zolkifli[1], Umi Rubiah Sastu@Zakaria[1], Nur Salsabeela Mohd Rahim[1], Nai Ming Lai[2,3], Terence Yew Chin Tan[1]

[1]Herbal Medicine Research Centre, Institute for Medical Research, National Institutes of Health, Ministry of Health, [2]School of Medicine, Taylor's University, [3]School of Pharmacy, Monash University Malaysia

ABSTRACT

Introduction: Allergic rhinitis (AR) is a prevalent condition that affects people of all ages. With the growing popularity of herbal medicine for AR treatment over the last decade, this review aimed to evaluate the efficacy and safety of single herbs for AR. **Materials and Methods:** We included randomized clinical trials (RCTs), which tested single herbs against untreated/placebo or antihistamines, in patients with clinically diagnosed AR and assessed clinically relevant nasal and quality of life outcomes. Two reviewers independently performed study selection, data collection, risk of bias and evidence certainty assessment. Pairwise meta- analysis was conducted for all quantifiable outcomes to generate pooled outcome estimates. **Results:** Twelve eligible RCTs (n=1036) contributed towards meta-analyses. Single herbs did not clearly improve total nasal symptoms (Standard Deviation of Mean -0.36, 95% CI -0.73 to 0.01; participants=199; studies=4; I2=39%) but appeared to improve rhino-conjunctivitis quality of life (RQLQ) scores (Mean Deviation -0.46, 95% CI -0.84 to -0.07; participants=148; studies=3; I2=0%) and specific symptom scores of rhinorrhoea, nasal congestion, and sneezing compared to placebo. Compared to antihistamines, moderate-certainty evidence showed no significant difference in total nasal symptoms for those treated with single herbs (SMD -0.14, 95% CI -0.46 to 0.18; participants=149; studies=2; I2=0%). Single herbs were generally well tolerated. **Conclusion:** There was no clear evidence on single herbs alleviating overall nasal symptoms of AR. However, limited evidence suggests that RQLQ and specific nasal symptoms may improve. Future clinical trials should have better methodological designs, lower risk of bias, and larger sample sizes.

Keywords: allergic rhinitis; herbal medicine; complementary therapy; hay fever

Evaluation of the filmarray blood culture identification 2 panel compared to direct MALDI biotyper sepsityper identification for rapid pathogens identification in pathology department, Hospital Sungai Buloh

Nur Izati Mustapa[1], Nur Hanani Ahmad[2], Nur Farahin Zainal Abidin[3], Sofea Syamimi Mustapa Kamal[4], Khairul Nazrin Mohd Nasori[5], Mohd Mursyid Zubir[6]

[1]Pathology Department, Hospital Sungai Buloh, Selangor, Malaysia

ABSTRACT

Introduction: Early pathogen identification is crucial for making a conclusive diagnosis and enabling focused antibiotic treatment. Technological advances allow for faster diagnosis and de-escalation of antibiotic medication. This study compares FilmArray blood culture identification 2 panel (BCID 2) against MALDI biotyper sepsityper (MBT Sepsityper). **Materials and Methods:** Twenty-five positive blood culture bottles from HSgB patients were chosen for BCID 2 and MBT Sepsityper analysis. Samples consists of 10 gram-negative, 10 gram-positive bacteria, 3 yeasts and 2 mixed gram stain samples. The positive blood culture samples were examined between June 1st and July 16th 2022. **Results:** We compared a culture-based approach to the BCID 2 and MBT Sepsityper in analyzing 27 blood culture-positive microorganisms from 25 blood stream infection (BSI) occurrences. BCID 2 was able to identify 26 (96.3%) out of 27 microorganisms as compared to MBT Sepsityper which identified 20 (74.1%) out of 27. One unidentified organism by BCID 2 was not listed in the system's target organisms and another was only detected up to species level by the BCID 2 system. BCID also identified 100% of polymicrobial blood cultures from 2 culture bottles, with an additional organism detected. In contrast, MBT Sepsityper identified only 2 (50%) out of 4 polymicrobial organisms. BCID 2 identified 5 (83%) antimicrobial resistance genes (AMR) out of 6 multidrug resistant organism (MRO) isolated. **Conclusion:** The FilmArray BCID 2 panel proved to be advantageous in establishing a definitive diagnosis to allow early targeted antimicrobial therapy, rapid identification of pathogen and AMR genes detection.

Cognitive stimulation therapy in mild to moderate dementia in Hospital Sungai Buloh

Francise Xavier M[1], Wan Zainal Abidin WN[2], Hamzah F[2], Hashim A[2], Nordin N[2]

[1]Occupational Therapy Department, Hospital Sungai Buloh, [2]Geriatric Unit, Medical Department, Hospital Sungai Buloh

ABSTRACT

Introduction: It is expected that the global burden of dementia will continue to escalate worldwide. The non-pharmacological options are becoming increasingly recognized to complement medications. CST is an evidenced -based intervention for enhancing cognition and quality of life in people with mild to moderate dementia. CST program is offered as Geriatric day care services in Hospital Sungai Buloh since August 2018. This cross-sectional study aims to evaluate the efficacy of CST at our setting. **Materials and Methods:** The CST treatment involves 14 sessions of themed activities, running twice weekly. It is carried out over 7 weeks, led by trained nurses and an occupational therapist. The clinical effectiveness of CST were assessed by cognitive functions (Mini Mental State Examination-MMSE), communication (Holden communication scale-HCS) and quality of life (Quality of Life in Alzheimer's Disease-QOL-AD). Depression (Geriatric Depression Scale-GDS), activities of Daily Living (Modified Barthel Index-MBI, Lawton) and dementia behavorial functioning (Neuropsychiatric Inventory-NPI) were also assessed. **Results:** In this study,49 participants were recruited with a mean age of 71.6 years old where 60% were male. 46% were Malays, followed by 29% Indians and 25% Chinese. Paired t-Test revealed significant improvement in quality of life (p<0.00) communication(p<0.00) and behavioural functioning (NPI), (p<0.00) Significant improvement shown across the 3 communication subcategories: conversation (p<0.00), awareness and knowledge (p<0.001); and communication(p<0.00) **Conclusion:** CST appeared to benefit communication, behavioural functioning, and quality of life in the older persons with mild to moderate dementia. This provides evidence to support the use of CST as a routine program to complement patients with mild to moderate dementia in Hospital Sungai Buloh.

Keywords: CST, dementia, cognitive stimulation therapy

OR-007

Post COVID-19 catatonia: Stuporous state in COVID-19 infection

Wan Yi Ho, Bee Cher Tan, Mohd Zarif AR, Muhammad Shafaat S, Nur Izianty ZK

Department of Rehabilitation Medicine, Hospital Sungai Buloh

ABSTRACT

Summary: Catatonia is a common, highly treatable but often unrecognized neuro-behavioral condition that is associated with a wide range of psychiatric and medical etiologies. We present a case report of a 41-year-old female with no prior medical, substance use, or psychiatric history who was brought to the emergency department due to bizarre behavior. History revealed she had fever and cough 1 week prior to onset of the symptoms and was tested positive for COVID-19 infection. She was admitted for COVID-19 infection with encephalopathy. During admission, the patient was found to be in a stuporous state with mutism and slow in response. Physical examination revealed rigidity, posturing and catalepsy. Urine toxicology, computed tomography (CT) brain, magnetic resonance imaging (MRI) brain and lumbar puncture were done and all revealed normal findings. Electroencephalogram (EEG) was performed and showed diffuse slowing of waves. Patient was seen by a neurologist and clinically diagnosed and treated as post COVID-19 catatonia. Her symptoms responded rapidly with benzodiazepine, and she was subsequently discharged home well. This case shows catatonia as the presentation of encephalopathy in association with COVID-19 infection. Saddawi et al concludes that post COVID-19 catatonia pathogenesis is related to systemic inflammation and cytokine storm. Treatment with benzodiazepines results in notable and rapid resolution of catatonia. Therefore clinician should have a high level of suspicion of possible diagnosis of catatonia when a patient in para-infectious or post-infectious states of COVID-19 infection presented with neuropsychiatric symptoms and rigidity. Catatonia is readily treatable and if left untreated, it poses significant risk of morbidity and mortality.

OR-008

Gut microbiota circumvents the oral bioavailability challenges of medicinal herbal compounds: A scoping review

Usha Sundralingam[2], Cheah Lin Jia[1], Thomas Lau Puong Yang[1], Uma D Palanisamy[1], Swarna Lata Krishnabahawan[3], Mohanambal Moorthy[1], Asly Goh Poh Tze[2]

[1]Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, [2]School of Pharmacy, Monash University Malaysia, [3]Clinical Research Center, Hospital Sungai Buloh

ABSTRACT

Introduction: Ethnopharmacological relevance: The poor oral bioavailability yet high bioactivity of herbal medicines remains an inexplicable issue. Although there have been attempts to theorise this conundrum, very few studies explained the underlying pharmacological actions and how gut microbiota directly affects oral bioavailability. Therefore, a scoping review was carried out.Our objective is to examine herbal medicines; oral bioavailability and examine its association with gut microbiota. **Materials and Methods:** A literature search was conducted on Embase, Medline and Cochrane CENTRAL to identify the related animal and human studies from 2010 onwards. Studies included were analysed from two aspects: how the medicinal herbal compounds or their metabolites influence the hosts gut microbiota and how changes in gut microbiota affect the oral bioavailability of bioactive components of herbal medicines. **Results:** Of the 13 studies found, it was revealed that consumption of certain herbal medicines modulates the abundance and diversity of gut microbiota. On the other hand, gut microbiota circumvents the poor bioavailability issue by secreting β-glucuronidase and β-glucosidase in mediating the biotransformation of the bioactive compounds. The role of gut microbiota in the metabolism of medicinal herbal compounds is displayed through double-peak phenomena. **Conclusion:** It was found that interaction between gut microbiota and herbal medicines is likely to be responsible for circumventing poor oral bioavailability issues. Nonetheless, further studies are required to establish the bidirectional relationship between gut microbiota and herbal medicines.

Keywords: Herbal medicines; medicinal herbs; gut microbiota; oral bioavailability

Kounis syndrome: A silent killer under the blanket

Noor Muhammad Azlan Shah[1], Samshol Sukahri[2], Imran Zainal Abidin[3]

[1]Cardiology Unit, Department of Medicine, University Malaya Medical Centre, Malaysia

ABSTRACT

Summary: Allergy angina syndrome or allergic myocardial infarction is an immune-mediated coronary spasm which is also known as Kounis syndrome (KS). It's not uncommon, but it's often underdiagnosed. In a typical case of allergy, a skin reaction may be preceding symptoms and shock status may be a severe accompanying symptom. KS may cause devastating events namely cardiac arrest in some extreme cases. A 40-year-old obese gentleman with underlying intrapapillary mucinous neoplasm of uncinate process of pancreas was electively admitted for pancreaticoduodenectomy. He had a past medical history of hypertension and chronic gout arthritis with no previous history of ischemic heart disease. Intraoperatively was uneventful and he was monitored in the intensive care unit postoperatively. However, due to new onset obstructive jaundice postoperatively, he was subjected to contrast-enhanced computed tomography (CECT) of the abdomen for further evaluation. Following injection of contrast, he developed generalized skin rashes followed by respiratory distress and cardiac arrest. Intravenous steroids and antihistamine were given immediately. He was resuscitated for 9 minutes, and ECG post-resuscitation showed new onset ST segment elevation V3-V6. Bedside echocardiography revealed preserved ejection function with no obvious hypokinetic segment. Repeated ECG two hours later noted resolution of the ST elevation with the absence of Q wave, T wave inversion, and return into sinus rhythm. Unfortunately, he was complicated prolonged hospital stay, seizure, hypoxic-ischemic encephalopathy (HIE), persistent abdominal sepsis and subsequently succumbed after 27 days of admission. As per the above case, cardiac arrest following contrast agent administered should ring a bell about Kaonis syndrome. Diagnosis made needs the concurrent presence of acute coronary syndrome and an allergic event. Every contrast agent has the potential to cause KS. Therefore it is very crucial to detect and treat promptly as it may also lead to death.

Keyword: allergy-angina, Kounis syndrome, hypersensitivity syndrome

Safety of favipiravir in COVID-19 patients with end stage renal disease

Koh Hui Moon, Tan Ju Nee

Hospital Sungai Buloh, Selangor

ABSTRACT

Introduction: Favipiravir is a synthetic antiviral prodrug which has been repurposed to treat COVID-19. Although widely used, evidence on the safety and tolerability of favipiravir in End-Stage Renal Disease (ESRD) is limited. Our aim is to evaluate the safety profile of Favipiravir in COVID-19 patients with ESRD and their associated clinical outcomes. **Materials and Methods:** We retrospectively evaluated records of 324 hospitalized adult patients who took at least 1 dose of favipiravir, from May 1, 2020 to February 28, 2021. With regards to safety outcomes, ESRD patients on renal replacement therapy (RRT) were compared to a control group without renal impairment who were matched 1:1 to cases for age and gender. Univariate regression analyses were performed on possible predictors for the development of Adverse Events (AE). **Results:** ESRD group had 22 times higher risk of hospital mortality (p=0.002, 95% CI 3.0-171.1) and longer median length of stay (11% vs 8%, p<0.0001) compared to control. Favipiravir was discontinued in 18 (5.6%) patients. Out of a total 81 (25% of 324) patients with AEs, 54% had ESRD. These AEs consisted of transaminitis (11.7%), nausea/vomiting/gastrointestinal pain (GI AEs) (4.9%), diarrhoea (4.6%), dizziness or headache (2.8%), and rash (0.9%). GI AEs were significantly more common in ESRD vs control arm. In multivariate analysis, the history of drug allergy was the only significant predictor of AE. ESRD status did not increase the risk of having an AE with favipiravir. **Conclusion:** Despite being a high-risk group, ESRD did not increase overall risk of AE with favipiravir use. Reported AEs cannot be solely attributed to favipiravir as the effect of disease states and concurrent medications cannot be ruled out.

Keywords: Favipiravir, COVID-19, End Stage Renal Disease

OR-011

Early hospital discharge and unplanned hospital readmission following discharge among general paediatric patients in a children's hospital

Chua Ker Yang, MPAEDS (UM)[3], Fatimah Az Zaharah Binti Suhaimi, MBBS (MSU)[2], Karuthan Chinna, PhD (MMU)[2], Shamsul Anuar B Kamarudin, MBChB (Otago)[1], Muhammad Kasyful Azim B Yahya, MHA(University of The Philippines)[1], Sabeera Begum Kadir Ibrahim, MPAEDS (UM)[3], Asiah Kassim, MPAEDS (Mal)[2,3]

[1]Directors Office, Hospital Tunku Azizah, Kuala Lumpur, [2]Clinical Research Centre, Hospital Tunku Azizah, Kuala Lumpur, [3]Peadiatric Department, Hospital Tunku Azizah, Kuala Lumpur

ABSTRACT

Introduction: Early hospital discharge and unplanned hospital readmission rate is one of the key service performance indicators measuring the quality of care in paediatric healthcare settings. We aim to explore the relationship between early discharge and readmission and their associated factors. **Materials and Methods:** Data were collected retrospectively from Hospital Information System (HIS) between 1st May 2019 to 29th February 2020. Subjects discharged within 24 hours of hospital admission were studied. Unplanned hospital readmission defined as readmission within up to 28 days according to British studies. **Results:** During study period, there were a total of 7198 admissions out of which 875(12.2%) were discharged within 24 hours. The median age was 29 months (1, 213); 207(23.7%) under 12 months, 408(46.6 %) were between 2 to 5 years, and 260(29.7 %) were above 5 years. Among patients who were discharge within 24 hours, 336(47.1%) had respiratory illnesses; 246(34.6%) infectious and 89(12.5%) were non-infectious. Among those discharged early, 836(95.5%) did not readmitted within 28 days. There were 34 unplanned readmissions; 4(11.8%) were readmitted within 48 hours, 5(14.7%) within 3-7 days, 10(29.4 %) within 8-14 days and 15(44.1%) within 15-28 days. Factors associated with unplanned readmission were chronic conditions 20(58.8%, p=0.034) and recurrent hospitalization 24(70.5%, p=0.003). Chronic conditions include Down syndrome and Global Developmental Delay. Out of 34, unplanned readmissions, 21(84%) had recurrent hospitalisation. **Conclusion:** It is important for admitting personnel to reassess the necessity of hospital admissions to avoid unnecessary readmission. Optimal disease control will help to prevent hospital admission among children with chronic illnesses.

Keywords: Early hospital discharge, hospital readmission, recurrent hospitalisation

OR-012

Evaluation on the optimal vancomycin therapeutic drug monitoring using area under the curve against trough method in the National Infectious Disease Centre, Malaysia

Adam Jaafer, Dinesh Widhiadharan, Swea Yan Phung, Syamhanin Adnan

Pharmacy Department, Hospital Sungai Buloh

ABSTRACT

Introduction: Traditionally, vancomycin troughs of 15-20 mg/L were used as surrogate for area under the curve to minimum inhibitory concentration ratio (AUC/MIC) > 400 mg.h/L. However, trough of ≥ 15 mg/L is associated with increased risk to acute kidney injury (AKI). Therefore, the new guideline advocates target of AUC/MICBMD ratio of 400 to 600. Our institution led the transition from trough to AUC guided monitoring for all Ministry of Health hospitals in Malaysia. We assessed vancomycin exposures, time-to-therapeutic range and AKI incidence in these two periods. **Materials and Methods:** A single-center, retrospective pre & post study was performed on adult inpatients with MRSA infection and treated with intravenous vancomycin of at least 3 consecutive doses. The study period was from May 2018 till May 2020. **Results:** A total of 37 patients (16 in AUC and 21 in trough period) were included. Bloodstream infection was the most common with 15 (31%) patients. Median creatinine clearance at baseline was comparable in both periods (100 mL/min in AUC versus 127 mL/min in trough period, p>0.05). Patients in the AUC period had lower vancomycin exposures (average total daily dose 1.9 g in AUC vs. 2.25 g in trough period, p<0.01). There was no significant difference in the time-to- therapeutic range between the two periods, median of 5 days in AUC versus 8 days in trough (p=0.053). There was no AKI developed during AUC however 14.3% AKI incident during trough period. **Conclusion:** Transition to AUC-based monitoring resulted in significantly lower vancomycin exposures with zero incidence of AKI.

Keywords: Vancomycin, AUC, trough, TDM, nephrotoxicity, acute kidney injury

OR-013

Reverse transcription-polymerase chain reaction based assays to detect SARS-CoV -2 variant of concern omicron among international travelers arriving in Kuala Lumpur

Mohd Ishtiaq Anasir[1], Jeyanthi Suppiah[2], Kamal Haikal Mat Rabi[3], Khayri Azizi Kamel[4], Muhammad Zulfazli Mohamad Sukri[5], Nur Rafiqah Rosli[6], Farah Amira Ahmad[7], Siti Nurhidayah Norhisham[8], Ravindran Thayan[9]

[1]Virology Unit, Infectious Disease Research Centre, Institute for Medical Research, [2]National Institutes of Health, Ministry of Health, Malaysia

ABSTRACT

Introduction: Although whole genome sequencing (WGS) is the gold standard for genomic surveillance to detect SARS-CoV-2 variants, it is expensive and time-consuming to perform. Reverse transcription polymerase chain reaction (RT-PCR) based assays which detect mutations associated with SARS-CoV-2 variants of concern (VOC) are cost-effective alternatives to whole genome sequencing. In this study, we evaluated the Omicron detection using RT-PCR-based assays at the Kuala Lumpur International Airport among the international travelers during the November to December 2021 period. **Materials and Methods:** All SARS-CoV-2 samples originated from KLIA with cycle threshold (CT) <30 were subjected to RT PCR-based assays to detect SARS-CoV-2 spike gene mutations. Subsequently, the detection of the mutations by RT-PCR was compared to VOC detection by WGS. **Results:** A total of 1764 COVID-19 positive samples were subjected to RT-PCR to detect SARS-CoV-2 variants based on spike protein mutations. Of these, 1264 samples were detected as presumptive Omicron cases with the first presumptive Omicron case detected on the 1st of December 2021. The detection of the first Omicron case and subsequent increase in the Omicron detection by RT-PCR corresponded well with data from WGS. The detection of Omicron cases using RT-PCR was significantly faster than the detection by WGS. **Conclusion:** The rapid detection of SARS-CoV-2 variants of concern using RT-PCR may have an important impact on local public health policies. In addition, the variant diversity of Omicron and non-Omicron detected among international travelers at Kuala Lumpur International Airport correlated with global diversity indicating the importance of travel hubs for SARS-CoV-2 genomic surveillance.

Keywords: COVID-19, SARS-CoV-2, VOC Omicron

OR-014

Mortality rate and associated risk factors in hospitalised COVID-19 patients with kidney disease

Hashvina Sukesh[1], Premila Arul Arumugam[1], Nurul Izzah Ahmad[1], Fairol Huda Ibrahim[1], Then Ru Fah[2], Bak Leong Goh[1]

[1]Hospital Serdang, Department of Nephrology, [2]Internal Medicine, Hospital Sungai Buloh

ABSTRACT

Introduction: COVID-19 still poses a high morbidity and mortality in chronic kidney disease. We aim to determine the risk factors for mortality amongst hospitalised COVID-19 patients with kidney disease. **Materials and Methods:** This is an observational cohort study involving all COVID-19 patients with kidney disease in the first quarter of 2021. Relevant data was extracted from the electronic medical records and statistical analysis was conducted using SPSS version 26. **Results:** Of 414 COVID-19 patients, 165 (39.9%) had kidney disease [25.5% end stage kidney disease (ESKD), 4.2% chronic kidney disease (CKD) and 70.3% acute kidney injury (AKI)). 56 of them died, giving an inpatient mortality rate of 33.9% in patients with kidney disease compared to 17.1% from all COVID-19 admissions. ESKD had the highest mortality rate at 42.9% followed by AKI, 31% and CKD, 28.6% (p=0.365). Majority of patients with kidney disease who died, were older (66 ± 10.4 vs 54 ± 14.6, p<0.001), male (78.6% vs 61.5%, p=0.035) and had category 5 infection (28.6% vs 19.3%; p=0.009). 66.1% were on mechanical ventilation while 51.8% were managed in the intensive care unit. Multiple logistic regression predicted older age, premorbid CKD & ESKD, raised peak serum sodium, admission category of illness 4 & 5, mechanical ventilation and unknown epidemiology link to increase mortality risk in patients with COVID-19 infection with kidney disease. **Conclusion:** COVID-19 mortality rate remains high amongst those with ESKD, CKD and AKI. Future studies should evaluate the incidence and outcome post vaccination.

Keywords: mortality, kidney, nephrology, COVID-19, morbidity

OR-015

Quadriceps tendon rupture in an end-stage renal failure patient mistaken for a soft tissue injury: A case report

Muhammad Nazim Bin Othman, Lynn Azura Binti Md Sham, Felix Loong Yew Seng

Hospital Ampang

ABSTRACT

Summary: Quadriceps Tendon Rupture (QTR) incidence is low, though this entity is well established it continues to be missed by clinicians. The rarity of this pathology is further supported by a meta- analysis study done in 2007 showing that 30% out of 105 cases referred with QTR in a span of 50 years (1949-2004) revealed a diagnosis was either missed or delayed. We report a case of a 19-year-old male, with underlying end-stage renal failure (ESRF) on regular haemodialysis presented with two separate episodes of unilateral QTR within 2 years where the first injury was initially diagnosed as a simple soft tissue injury resulting in delay of treatment. The second injury occurred a year later which involved the contralateral limb with similar impression in the acute setting. ESRF patients with QTR have a correlation with the duration of dialysis and the pathophysiology is due to impaired metabolism of collagen and persistent metabolic acidosis leading to tendon weakening. In conclusion, we proposed that all patients with underlying ESRF presented with a trivial fall or minor sports injury in an acute setting, the attending clinicians must have a high index of suspicion of a QTR and a thorough physical examination must be followed by routine imaging such as a plain radiograph with an additional supplementary imaging via an ultrasonography or a magnetic resonance imaging to avoid miss diagnoses in the future.

OR-016

Forgotten but not disappeared: Erythropoiesis stimulating agent induced pure red cell aplasia

Jerome Tan Tsen Chuen[1], Andy Tang Sing Ong[1], Yip Kam Hoo[1], Ganesh Kasinathan[1], Tanusha Kunju[1], Norazinizah Ahmad Mizwan[2], Kong Su Shan[3]

[1]Hospital Ampang,Department of Hematology, [2]Hospital Ampang, Nephrology Unit, [3]Hospital Ampang Selangor,Department of Pharmacy

ABSTRACT

Summary: Erythropoiesis Stimulating Agent (ESA) induced Pure Red Cell Aplasia (PRCA) is caused by the development of neutralizing antibodies against exogenous ESA, cross-reacting with endogenous erythropoietin resulting in PRCA. Here we report a case of a 45 years old gentleman who was initially referred to the Nephrology Unit in 2019 for Chronic Kidney Disease (CKD) Stage 4 with estimated Glomerular Filtration Rate (eGFR) of 24ml/min. He is a known diabetic and hypertensive who progressed to CKD stage 5 with estimated eGFR of 12ml/min. His Hb was 9.5g/dL without any ESA support hence was counseled for Continuous Ambulatory Peritoneal Dialysis (CAPD) and in January 2021 his Hb deteriorated to 6.6g/dL. Oesophagogastroduodenoscopy (OGDS) and colonoscopy did not have evidence of overt gastrointestinal bleeding. He was then commenced on s/c Epoetin α 2000 IU 2x a week from Aug 2021 till Nov 2021. In Dec 2021, his Hb reduced further to 3.0g/dL despite Epoetin α support. Repeated scopes did not reveal any gastrointestinal bleeding. His serum erythropoietin (EPO) level in Jan 2022 was undetected (normal range 3.22-31.9 mIU/mL). His ESA was then switched to s/c Epoetin β 4000 IU 3x a week. He received packed cell transfusions 2-3 weekly. A repeated serum EPO level after 3 months of Epoetin β therapy was performed and level was still undetected. A bone marrow examination was consistent with pure red cell aplasia. The patient was not on any medications known to cause marrow aplasia but had detected IgG antibodies to B-19 parvovirus and EBV. Further Epoetin β therapy was discontinued. His serum was sent for anti-EPO ELISA assay to a reference laboratory in Germany courtesy of Roche (Malaysia) and the result confirms the presence of anti-EPO antibody with a titre of 7648. ESA induced PRCA is reportedly more common in subcutaneous compared to intravenous administration. Host cell contamination, protein modifications in the manufacturing or leaching of compounds from prefilled syringes of rHuEPO have previously been implicated. With the increasing use of ESA with intravenous iron as therapy for iron deficiency anemia, clinicians need awareness of this potential rare serious adverse event. Currently there is limited access to EPO antibody testing which hinders a confirmatory diagnosis. Surveillance for PRCA should continue especially with the differing manufacturing practices.

OR-017

Spuriously raised serum creatinine, why?: A case report

Sharifah Khairul Atikah, Nor Adilah Abdul Rahman, Rozita Abdullah, Nur Amalina Yusoff, Adibah Nasir, Norjana Mohd Jais, Nadratul Hanim Mohd Drauff, Suzana Ismail, Mohd Zakiuddin Sahlani, Aminatul Alisya Ahmad Saifuddin

Department of Pathology, Hospital Sungai Buloh, Selangor, Malaysia

ABSTRACT

Summary: Excipients are inactive ingredients that the American Food and Drug Administration (FDA) defines as any component of a drug product other than an active ingredient. They are used to aid the manufacturing process, to protect, support or enhance stability, or for bioavailability or patient acceptability. This is a case report of spuriously high serum creatinine due to an excipient found in intravenous Penatone (Dexamethasone Sodium Phosphate). There were four cases of spuriously raised serum creatinine levels in the Pathology Department of Hospital Sungai Buloh. All cases had normal baseline serum creatinine and spurious creatinine results were ranging from 200 to 2058 umol/L. Few investigations had been done to ascertain the possible root cause. Quality control, current used lot verification of creatinine test and different method analyses (Jaffe and enzymatic method), all showed acceptable results. Based on clinical records, all patients received intravenous Penatone once daily. When we analyzed 1 vial of Penatone (8 mg/2 ml), it contains approximately 42,000 umol/L creatinine. This certified that the Penatone used contains creatinine as an excipient. Spuriously raised serum creatinine in these cases was due to sample contamination by Penatone. It is possible to happen if blood is taken either from the same intravenous line used for medication infusion or from the same limb immediately after medication is served. It clearly implies the significance of pre-analytical factors on result accuracy.

OR-018

Rett Syndrome - Beyond the ordinary stereotypies in autism

Siti Aminah Binti Rodzlan Akib, Shirley Chan Huey Ling, Helen Catherina Anak Kemei, Thay Wee Ying, Nur Rashidah Bt Zaini

Department of Paediatrics, Hospital Shah Alam, Selangor

ABSTRACT

Summary: Rett syndrome is a neurodevelopmental disorder, mainly in girls, characterized by neuro-regression, stereotypic hand movements and recurrent seizures. It could be misdiagnosed as autism spectrum disorder (ASD) and primarily due to methyl-CpG binding protein 2 (MECP2) gene mutation, which occurred sporadically or inherited in an X-linked dominant pattern. A 4 years old Malay girl, who was born term with an uneventful birth history, was initially followed up for Autism Spectrum Disorder (ASD) from the age of two. She fulfilled the Diagnostic and statistical manual mental disorder (DSM V) criteria for ASD. During her follow up, she was also found to have global developmental delay with neuroregression since the age of 18 months old. Subsequently, she developed recurrent afebrile seizures since the age of three. She was thriving well with no dysmorphic features. She had a broad based gait with frequent hand flapping. Neurological examination revealed power of 4/5 in all 4 limbs with hyperreflexia. Her muscle tone was normal without wasting. Inborn error of metabolism (IEM) screening was negative. Magnetic Resonance Imaging (MRI) of the brain was normal. Electroencephalogram (EEG) revealed mildly slow background for age, burst of 3-3.5Hz spike predominantly at the right hemisphere during awake, and generalised spike discharges predominantly in sleep. She was started on syrup Sodium Valproate to control her seizures. Correlation with the history, Rett syndrome was suspected. MECP2 gene mutation was detected. Rett syndrome should be suspected in child, especially girls, with neuro-regression, stereotypic hand movements and seizures. Early recognition is important for timely management of the disease and subsequent genetic screening and counselling.

Keywords: Rett syndrome, Autism spectrum disorder, MECP2 gene mutation

OR-019

A catastrophic case of Multisystem inflammatory syndrome (MIS-C) with small bowel obstruction

Syamsul Azwan Abdullah, Mohd Fazrul Mokhtar, Mohamad Iqhbal Bin Kunji Mohamad, Mohd Amin Mohd Mokhtar

Department of Emergency Medicine, Universiti Teknologi MARA

ABSTRACT

Summary: There is no definitive guideline to distinguish multisystem inflammatory syndrome in children (MIS-C) associated with gastrointestinal symptoms from surgically-based pathologies such as volvulus. A 9-year-old boy presented with periumbilical abdominal pain and non-bilious vomiting. A week prior, he and his family had fever. He arrived at the emergency department dehydrated and in shock. His abdomen was soft, non-tender and non-distended. Abdominal x-ray showed faecal loading and no dilated bowel while ultrasound showed features of enterocolitis. The polymerase chain reaction was positive for SARS-CoV-2. He was treated for MIS-C and intravenous immunoglobulin and methylprednisolone were administered. Later, there was progressive abdominal distention where CT angiography of abdomen demonstrated ascites and generalized small bowel dilatation and thickening. Exploratory laparotomy found small bowel volvulus and anomalous bands (AB). SARS-CoV-2 has been speculated to trigger dysregulation of the immune response resulting in multiorgan failure. Around 68.3% - 73.7% of MIS-C patients had gastrointestinal symptoms. Small bowel obstruction secondary to AB is a rare entity contributing only about 3% of the total cases2. AB may be acquired as a result of an infection or inflammatory condition, or it may be congenital. The diagnosis of obstructed congenital AB was based on the exclusion of acquired cause 3. Recent SARS-CoV-2 infection may have contributed to this patient's condition. As immunomodulatory therapies are required, it is crucial to consider MIS-C in the diagnostic process. This case illustrates the complexity in attaining a diagnosis. COVID-19 can cause a myriad of inflammatory dysregulation which in turn, present as a multitude of symptoms. Physicians in all time should always think of other possible causes of the symptoms to ensure the best course of management for the patient.

OR-020

Diagnostic dilemma in febrile children: Multisystem inflammatory system in children (MIS-C) versus dengue fever

Hairul Anuar Mahat, Safreeda Sf Salim, Sabariah Faizah Jamaluddin, Ab Halim Sanib

Hospital Universiti Teknologi MARA, Selangor

ABSTRACT

Summary: Multisystem inflammatory syndrome in children (MIS-C), emerged from late April to early May 2020 and affected clusters of children in Europe and North America. In dengue-endemic regions like Malaysia, MIS-C is likely to cause a diagnostic dilemma with dengue fever due to overlapping clinical and laboratory features, especially in the Emergency Department (ED). A healthy 10-year-old boy, who completed vaccination for COVID-19 presented to the ED with a 3 days history of fever associated with vomiting and loose stool. The patient was lethargic with skin rash, buccal mucosa redness and dry lips. Dengue virus antigen detection (NS-1) antigen test was positive. Subsequently, he was diagnosed with dengue fever with warning signs. Laboratory investigation shows White blood cells 4.0 x 10^9/L, Hemoglobin 10.5g/dL, Hematocrit 34 % ,Platelet 198 x10^9/L and CRP 19 . Serial electrocardiogram shows ischemic changes,Q wave and U wave on lead II and III,T inversion V1-V4. Thorough bedside echocardiography by a paediatrician discovered mild pericardial effusion and dilated both left coronary artery and right coronary artery with perivascular cuffing. The patient was diagnosed with MIS-C with gastrointestinal and cardiovascular involvement. COVID-19 antibody screening was positive for Immunoglobulin (IgG) N protein. However, dengue serology was negative. He was treated with intravenous immunoglobulin for two days and started on a tapering dose of steroids. Finally, he improved and was discharged well after seven days in the hospital. Oral mucosal findings, raised inflammatory parameters, anaemia and bedside echocardiography findings can differentiate MIS-C from dengue fever in the emergency department. This case highlights the need for Emergency Department doctors to have vast knowledge and patience to do a meticulous clinical evaluation, correctly interpret laboratory investigation and do thorough bedside echocardiography in febrile children with suspicious evidence of MIS-C.

OR-021

Office based non-invasive diagnostic technique for acquired tracheoesophageal fistula

Nesha Rajendram[1], Muhammad Ariff Sobani[2], Noor Shairah Mat Barhan[2], Masaany Mansor[1]

[1]Department of Otorhinolaryngology, Hospital UITM, Sungai Buloh Campus, [2]Department of Otorhinolaryngology, Hospital UITM, Puncak Alam Campus

ABSTRACT

Summary: This is a case report of a new, less-invasive, office-based technique in diagnosing a tracheoesophageal fistula (TOF) utilizing a nasogastric tube and methylene blue dye. This nasogastric tube methylene blue technique is able to localize and delineate TOF precisely despite being a simple inexpensive clinic procedure that is comfortable for the patient. With the nasogastric tube in-situ and functioning, a flexible nasopharyngolaryngoscope is introduced until the laryngeal structures. The nasogastric tube is slowly withdrawn until only the tip remains just under the hypopharynx. 20 mls of saline mixed with methylene blue is then passed through the nasogastric tube slowly to ensure there will be no spillage of the dye around the hypopharyngeal and the laryngeal structures. Subsequently, the flexible nasolaryngoscope is then passed through the tracheostoma site and manoeuvred to examine the subglottic and trachea region, to visualise for any dye leak which could demarcate clearly of any TOF. Any leakage of dye could be visualised directly and the location of TOF could be delineated. Tracheoesophageal fistula (TOF) although rare is difficult to diagnose. The nasogastric tube methylene blue technique we describe above spares patients from general anaesthesia. It is a simple office-based procedure that can diagnose TOF accurately. This non-invasive technique is practical, utilizes instruments in the clinic itself and is comfortable for the patient, most importantly it's inexpensive.

OR-022

Complete tracheal ring - Diagnostic dilemma of hypercarbia in ventilated children

Siti Hajar Noordiana[1], Shifa Zulkifli[2], Nor Hafizah Saifuddin[3], Carren The[3]

[1]Department of Otorhinolaryngology, Head and Neck Surgery, Faculty of Medicine, Universiti, Kebangsaan Malaysia, [2]Department of Otorhinolaryngology, Women and Children Hospital Kuala Lumpur, [3]Department of Otorhinolaryngology, Hospital Sungai Buloh.

ABSTRACT

Summary: Complete tracheal rings are a rare pathology that affects 1 in 100,000 live births. It is a rare isolated tracheal or tracheobronchial anomaly caused by abnormal cartilage growth that forms a complete ring and causes airway stenosis. Symptomatic newborns with complete tracheal rings frequently show up in a critical condition, indicating a mortality rate of 70% to 100%. Some of these anomalies might be identified after unsuccessful intubation attempts or failure to wean the patient from ventilation. We report a rare case of complete tracheal ring in an infant, which presented with history of fever and upper respiratory tract infection symptoms and failure to thrive, which progress into respiratory distress and requiring intubation. It was a difficult intubation with multiple attempts, and finally when managed to intubate; only a small endotracheal tube were able to pass through. Despite that, patient appeared to have obstructive breathing even on ventilator. Patient was ventilated with high setting, but there was persistent hypercarbia in blood gas investigation, which raised suspicion of foreign body inhalation but history and chest X-ray was not suggestive. Subsequently, flexible endoscopic was performed which revealed a long segment of complete tracheal ring. However, the child succumbed to death before we were able to intervene. In this case report, we discussed about the diagnostic dilemma of a child with multiple attempts of intubation and requiring high setting of ventilator. In a child with recurrent episodes of upper respiratory tract infection, noisy breathing and failure to thrive, it is crucial to suspect congenital tracheal stenosis or anomalies as early diagnosis is critical to allow for monitoring and multi-disciplinary planning for intervention.

OP-001

Carbapenem stewardship tool: Impact on carbapenem usage and clinical outcome

Tan Wai Leong[1], Izyana Munirah Idha[1], Mariah Zakaria[2], Ng Ruiyi[2], Adam Jaafer[1], Syamhanin Adnan[1], Hannah Mahir[1], Fong Siew Li BPharm[1], Benedict Sim Lim Heng[1]

[1]Antimicrobial Stewardship (AMS) Core Committee, Hospital Sungai Buloh, [2]Pharmacy Department, Hospital Sungai Buloh

ABSTRACT

Introduction: Gram-negative bacteria are becoming increasingly resistant to carbapenems and are related to the use of carbapenem. Justification on the use of carbapenem may reduce the unnecessary carbapenem usage. The aim of this study is to evaluate the effectiveness of Carbapenem Initiation & 72H Review Form (CBP Form) in reducing the carbapenem usage in hospital and its impact on mortality. **Materials and Methods:** A single center, retrospective cross-sectional, pre- and post-enforcement of CBP Form was conducted. Data were obtained by reviewing the hospital's electronic medical database. All patients who were ≥ 18 years old and initiated on empirical therapy of carbapenems, from April to May 2022 (pre) and June 2022 (post) were included. The primary outcome was to compare the amount of cabapenem prescriptions continued more than 72 hours pre- and post-enforcement of CBP Form. The secondary outcome was to evaluate the impact of all-cause crude death after enforcement of CBP Form. **Results:** A total 83 (55 (Pre) vs 28 (Post)) carbapenem prescriptions were started as empirical therapy. The amount of carbapenem prescriptions (>72 hours) was higher prior the enforcement of CBP Form (58.2% vs. 32.1%, χ^2=5.033, p=0.025). In addition, the mortality rate of patients did not differ significantly between groups (40.0% vs. 39.3%, χ^2=0.004, p>0.05). **Conclusion:** CBP Form is an effective stewardship tool to reduce the inappropriate use of carbapenem in hospital while not jeopardized patient's clinical outcome.

Keywords: Carbapenem, antimicrobial stewardship, carbapenem usage, mortality

OP-002

Aromatic spices harbour potential novel antibacterial compounds against ESKAPE pathogens

Tanessri Muni Peragas[1], Muhammad Shahid[2], Chandrajit Lahiri[3], Jactty Chew[3]

[1]Department of Biological Sciences, Sunway University, [2]Department of Biological Sciences and Biotechnology, Universiti Kebangsaan Malaysia, [3]Department of Biological Sciences, Sunway University

ABSTRACT

Introduction: Spices including cumin (Cumminum cyminum), fennel (Foeniculum vulgare) and Vietnamese coriander (Persicaria odorata) are widely used for their culinary and traditional medicinal purposes in South East Asia. However, their antibacterial potential has not been fully investigated. Herein, we determined the antibacterial activity of these species against ESKAPE pathogens and explored potential bioactive compounds that may be contributing to the observed antibacterial properties. **Materials and Methods:** Solvent-based crude extracts of spices were prepared and assessed for their preliminary antibacterial activity, followed by chemical profiling using GC-MS (Gas chromatography-mass spectrometry) analysis. The chemical constituents obtained from GC-MS analysis, were docked against selected target proteins of the six ESKAPE pathogens based on their functional relatedness to MDR. Pharmacological assessment and further molecular dynamics simulation was taken to reveal the top-ranked bioactive compound having the most potential as new antibacterial drugs against selected virulent proteins from the ESKAPE pathogens. The antibacterial activity of selected bioactive compounds was assessed using broth-dilution method and SEM (Scanning electron microscope) analysis. **Results:** Hexane, ethyl acetate, acetone and methanol extracts of all spices showed promising antibacterial effects against ESKAPE pathogens. GC-MS and bioinformatic analyses showed that Phenol, 2,4-bis(1,1-dimethylethyl)-, -(-)-carvone, carveol and estragole were found to be the top potential antibacterial molecules. Further analysis confirmed the antibacterial activity of these compounds on E. faecium, MRSA, A. baumannii and P. aeruginosa. **Conclusion:** Our data showed that spices harbour bioactive compounds that are effective in inhibiting MDR growth and support the notion that natural products are sources of valuable antibacterial compounds.

Keywords: aromatic, spices, cumin, fennel, coriander, ESKAPE, pathogen

OP-003

Elucidating the sensitivity and specificity of reverse transcription–polymerase chain reaction (RT-PCR) and rapid test kit (RTK) Antigen test in diagnosing COVID-19 status in Hospital Shah Alam

Muda Salihah[1], Saharudin Siti Nurhafizah[2], Mohd Dani Nurul Husna[1], Lim Jia Min[1], Umur Nurulhuda[1], Yakub Ahmad Fakri[1], Salehuddin Nur Aqila Syafiqa[2], Mohd Lootfi Alya Nazirah[2], Yamang Haizat[2]

[1]Pathology Department, Hospital Shah Alam, [2]Clinical Research Center, Hospital Shah Alam

ABSTRACT

Introduction: RTK-Antigen and RT-PCR-Antibody tests are the two most common diagnostic methods for detecting SARS-CoV-2 infection. Both tests are equally essential and widely applied. **Materials and Methods:** This is a retrospective, cross-sectional observational study involving data collection of specimen results for RTK-Antigen and RT-PCR-Antibody for detecting COVID-19 infection in Hospital Shah Alam from 1st January 2021 until 31st July 2021. Secondary data is collected using electronic medical records from the pathology department database and Hospital Information System (HIS). **Results:** During the study period, 1,961 patients were tested using both RTK-Antigen and RT-PCR-Antibody tests to diagnose COVID-19 infection. Out of these 1961 patients, 684 (34.88%) tested positive and 1277 (65.22%) were negative for SARS-CoV-2 RNA by RT-PCR assay. The RTK-Antigen detection test's sensitivity and specificity were 74.56% (95% CI, 71.30 - 77.86%) and 98.98% (95% CI, 98.43 - 99.53%), respectively. The positive predictive value was 97.51% (CI 95%, 96.18 - 98.85%) and the negative predictive value was 87.90% (CI 95%, 86.21 - 89.59%). **Conclusion:** The RTK-Antigen detection showed low sensitivity but very high specificity compared with the RT-PCR assay. Despite these results, RTK-Antigen is largely recommended for the early detection of patients suspected of having COVID-19, particularly in densely populated and isolated locations. It is also useful for prompt diagnosis in central cities or rural areas. Ideally, the negative RTK-Antigen samples still need to be further analyzed using molecular tests to confirm the results. However, with the rapid development of vaccines, the requirement to definitively confirm the diagnosis has loosened and become less stringent.

Keywords: RTK-Antigen, RT-PCR, COVID-19

OP-004

Seizure in acute COVID-19 infection: Not just a meningoencephalitis

Abdullah Arief Aminuddin, Mohd Fazrul Mokhtar, Julina Md Noor, Nurul Huda Ahmad, Muhammad Nur Azmi Baharuddin

Hospital Universiti Teknologi MARA, Selangor

ABSTRACT

Summary: Seizure is rarely a presenting symptom of COVID-19 infection. Neurological manifestations happen through direct invasion into the nervous system or through activation of the systemic inflammation. A healthy 13-year-old boy presented with one episode of seizure and fever for 2 days. On arrival, he was in post-ictal, febrile with stable haemodynamics. In view of poor Glasgow coma scale recovery, he was intubated and antibiotics were also given. Computed tomography brain contrast showed meningoencephalitis changes. Biochemistry tests from lumbar puncture revealed viral pictures while cultures were negative. The polymerase chain reaction was positive for COVID-19. While in the intensive care unit, he had hypotension and echocardiogram demonstrated pericardial effusion and reduced ejection fraction. He was treated for multisystem inflammatory syndrome (MIS-C) and given immunoglobulin and methylprednisolone. His condition improved and no seizure reported. After 7 days, he developed another seizure which then he was decided for plasma exchange therapy. He recovered well and was discharged after 31 days of admission. The incidence of encephalitis amongst COVID-19 patient was 0.215%. Less than 1% of paediatric population with confirmed SARS-CoV-2 infection is prone to develop MIS-C as a consequence of hyperinflammatory state. It typically occurs within 2-6 weeks after SARS-CoV2 infection. This case depicts otherwise as this patient developed MIS-C during his active SARS-CoV2 infection. Our case highlights the need to look for indicators of MIS-C particularly in COVID-19 individuals who do not present with typical symptoms as the treatment is substantially different.

OP-005

Recurrence rate of ocular surface squamous neoplasia post wide excision, cryotherapy and post operative Mitomycin C

Rebecca Jennifer Mary Louis[1], Fazliana Binti Ismail[1], Chandramalar Santhirathelagan[2]

[1]Pusat Perubatan Universiti Malaya, [2]Hospital Sungai Buloh

ABSTRACT

Introduction: Ocular surface squamous neoplasia (OSSN) is a spectrum of malignancy that includes intraepithelial dysplasia, carcinoma in-situ (CIS) of conjunctiva and cornea, and squamous carcinoma (SCC). This study was aimed to investigate the predictors related to increased risk of recurrence. **Materials and Methods:** This is a retrospective review of patients from corneal centre Hospital Sungai Buloh taken from 2011-2020. **Results:** There was a total of 78 patients who presented with clinically suspicious OSSN between 2011 and early 2020. Average age of OSSN occurrence was 61.47 and 55.1% were patients aged above 60. 74.4% patients were male and 87.5% of patients who had recurrence were male. Demographically, 55.1% patients were Malay, 32.1% were Chinese, 9.0% were Indian and 3.8% were others. The risk of recurrence were higher in the Chinese race (p=0.018). 30.8% presented with both conjunctival and corneal involvement. 59% of patients presented with tumour larger than 5mm (T2) and of those, 75% patients had recurrence. 35.9% patients were of squamous cell carcinoma (SCC) and 34.6% were of carcinoma in-situ (CIS). Higher grades of OSSN has higher risk of recurrence. Risk of recurrence in patients with positive margin is 22.7% compared to 5.9% in negative margin. The main predictors for recurrence is race, grade, dimension and positive margin. **Conclusion:** OSSN requires adequate excision and cryotherapy followed by thorough follow up to monitor any recurrence.

Keywords: OSSN, recurrence

OP-006

Frailty assessment in the emergency department to predict mortality and morbidity in older adult patients pdmitted with sepsis

Nur Adileen Mohd Adam Vailaidam

Emergency Department, Hospital Sungai Buloh

ABSTRACT

Introduction: Older adults are at an increased risk of contracting infectious pathogens due to their declining immune system, in addition to other age-related changes throughout all body systems. Elderly patients represent the largest demographic group at risk of sepsis and sepsis-related adverse outcomes. Systemic inflammatory response syndrome (SIRS), Sequential Organ Failure Assessment (SOFA) and Quick sequential organ failure assessment (qSOFA) may identify patients with suspected infection who are at greater risk for a poor outcome. But neither qSOFA or SIRS at admission were strong predictors of mortality in a geriatric acute care setting. This study was regarding the use of frailty assessment in the Emergency Department of University Malaya Medical Centre to predict mortality and morbidity in older adult patients admitting with sepsis. The aim of this study is to determine the value of frailty as defined by Rockwood Clinical Frailty Scale (RCFS) as a predictor of mortality and morbidity in older adult patients admitted with sepsis in the emergency department. **Materials and Methods:** A prospective cohort study using older adult patients that present to the Emergency Department of University of Malaya Medical Centre who were treated as sepsis and admitted to the ward were carried out. Continuous data was reported as mean ± standard deviation. Meanwhile the categorical data was analyzed using odds ratio test. **Results:** Based on the sample of 204 patients that were recruited, RCFS was not significant in predicting mortality and morbidity for older adult patients presenting to the emergency department with sepsis. The prevalence of frailty in patients presenting to the emergency department was 193 patients out of 216 (89.4%). Only 23 were found to be well (10.6%). When comparing the RCFS with SIRS and qSOFA, for in-hospital mortality it was found that RCFS was not significant with an OR value of 0.282 (0.063 – 1.259), and p value of 0.097. SIRS was also not significant with an OR value of 1.105 (0.590 – 2.068), and p value of 0.756. However, qSOFA proved to be significant in predicting in-hospital mortality with an OR value of 0.290 (0.149 – 0.566), and p value of 0.000. However, all three scales were found to be insignificant when it came to predicting mortality within 30 days and readmission to the hospital within 30 days for older adult patients with sepsis. **Conclusion:** In conclusion, we found that RCFS was not significant in predicting mortality and morbidity for older adult patients presenting to the emergency department with sepsis.

Keywords: SIRS, SOFA, qSOFA, emergency department, elderly patients

OP-007

Predictors of the length of stay in an intensive care unit and the intracranial pressure in severe traumatic brain injury

Moventhiran R, Saiful Azli, Azmin Kass

Department of Neursurgery, Hospital Sungai Buloh

ABSTRACT

Introduction: The purpose of this study was to investigate the relationship between intracranial pressure (ICP) and the length of stay in the intensive care unit (ICU) in a large cohort of patients with severe traumatic brain injury and to identify the contributing factors. **Materials and Methods:** This was a single-centre database review of identified data that had been prospectively collected from 2015 to 2022; setting: Neurosurgical Unit and ICU, Sungai Buloh,Selangor. **Results:** In a cohort of 120 severe traumatic brain injury (TBI) patients, 85 (70.9%) had a motor Glasgow Coma Scale score of 1 to 3 on admission and 35 (29.1%) had 4 to 5. Intracranial pressure during the ICU course was 18.8±11.9 mm Hg. Favourable outcome was obtained in 45 (37.5%), and unfavourable, in 75(62.5%) patients with a mortality of 39%. ICU length of stay (LOS) was 21.4±13.9 days. A higher ICP was not significantly associated with longer ICU LOS (p=0.4). However, presence of a mass lesion on admission head computed tomography was strongly correlated with a prolonged ICU LOS (p=0.0008). Diffuse injuries with basal cistern compression or midline shift were marginally associated with a longer ICU LOS (p=0.056). **Conclusion:** ICP is not related to the length of stay in the ICU when handled and monitored in accordance with BTF standards. Independent of other indications of injury severity and intracranial pressure history, patients with severe TBI and a mass lesion on entry head computed tomography were observed to have extended ICU LOS.

Keywords: Computed tomography; Intensive care unit; Intracranial pressure; Length of stay; Mass lesions; Traumatic brain injury

OP-008

Biomarkers for glutaric aciduria type 1 on high risk screening by tandem mass spectrometry

Muhd Irfan Bukhari Ahmad Nazri, Nurul Aina Aqilah Rosli, Anasufiza Habib, Azzah Hana Abu Yamin

Biochemistry Unit, Specialized Diagnostic Centre, Institute for Medical Research, National Institute of Health, Ministry of Health, Selangor, Malaysia

ABSTRACT

Introduction: Glutaric aciduria type I (GA1; OMIM 231670) is a rare autosomal recessive disorder that usually presents with macrocephaly, motor disability or acute encephalopathy. Deficiency in glutaryl-CoA dehydrogenase enzyme results in accumulation of glutarylcarnitine (C5DC) which can be measured by tandem mass spectrometry (MS/MS). This study aims to compare C5DC and its secondary biomarkers in the screening of GA1 with inclusion of new potential biomarkers. **Materials and Methods:** A retrospective study of blood spot high risk screening by MS/MS (non-kit derivatized method) from 2017 to 2021 at Institute for Medical Research identified 17 samples with GA1 (positive rate of 0.06%; 17/26,363). Diagnosis is confirmed with urine organic acid and/or molecular study. 19 randomly selected false positive screening and normal controls were included, respectively. The outcome is to compare the values of currently used biomarkers (C5DC and C5DC/C4 ratio) and new potential biomarkers (C5DC/C8 and C5DC/C16 ratio) between groups. Statistical analysis was performed using Microsoft Excel. **Results:** The C5DC and C5DC/C4 values in false positive patients ranged from 0.21-0.44 µmol/L (reference range <0.20 umol/L) and 0.14-2.23 (reference range <0.95), respectively. There was an overlap of C5DC/C4 ratio values between true GA1 and false screening groups. Post-hoc analysis of C5DC/C8 and C5DC/C16 values showed significantly different (p<0.003) between 3 groups (true GA1, false screening and normal control). **Conclusion:** Additional biomarkers C5DC/C8 and C5DC/C16 ratios could increase the confidence of GA1 detection.

Keywords: Glutaric aciduria type 1, C5DC, MS/MS, macrocephaly

OP-009

The descriptive study of monitoring the utilisation of pharmacy value-added services in Melaka public health facilities before and during the COVID-19 pandemic

Norvena Hisyam[1], Loh Wan Ting[1], Hazlinda Abu Hassan[1], Nur Wahida Zulkifli[2]

[1]Melaka State Health Department, Ministry of Health Malaysia, [2]Department of Pharmacy Practice, Faculty of Pharmacy, Universiti Teknologi MARA, Puncak Alam Campus, Selangor

ABSTRACT

Introduction: Increasing the usage of pharmacy value added services (PVAS) would help limit contact and alleviate hospital congestion as part of a strategy to combat the spread of COVID-19. The aim of this study is quantified the usage of PVAS in public health care facilities in Melaka before (2019) and during the COVID-19 pandemic (2020 & 2021). **Materials and Methods:** The retrospective study in 36 public health facilities of Melaka. The total number of value added services (Drive-Through Pharmacy (DTP), Prescribed Medication Courier Service (PMCS), Integrated Drug Dispensing System (IDDS), and Pharmacy Appointment System (PAS) utilisation were extracted from Statistics Report of Melaka State Pharmaceutical Services 2019-2021. The percentages differences in PVAS utilisation were calculated between before pandemic year (2019) with pandemic year (2020 and 2021). **Results:** The findings showed 15.9% (2020) increment of utilisation of PVAS in Melaka and 24.1% (2021) compared with the 2019. The most increment utilisation of PVAS in Melaka from 2019 are; for year 2020; PMCS (226.6%), DTP (219.2%), IDDS (40.3%) and for year 2021; DTP (285.3%), PMCS (252.4%), IDDS (46.2%). All of the percentages difference if compared with the pre pandemic year with pandemic year it showed significantly difference $p<0.05$. **Conclusion:** The utilisation of various type of PVAS are increase during the COVID-19 pandemic. This demonstrated that these strategies could assist patients in reducing their visits to health care facilities during a pandemic.

Keywords: Pharmacy value added services; COVID-19; continuity of care; health facilities, utilisation

OP-010

Evaluating the risks of adverse maternal and neonatal outcomes among unvaccinated pregnant mothers admitted with COVID-19 in Ampang Hospital, Malaysia

Nurul Sakinah Binti Anuar, Lee Yeh Han, Lavitha Sivapatham, Carol Lim Kar Koong

Department of Obstetrics and Gynaecology, Ampang Hospital

ABSTRACT

Introduction: COVID-19 infection during pregnancy has been associated with increased risks of maternal and neonatal adverse outcomes especially for unvaccinated pregnant mothers. There is a paucity of comparative local data demonstrating these elevated risks. To evaluate the risks of COVID-19 related maternal and neonatal adverse outcomes among unvaccinated pregnant mothers in Ampang Hospital, Malaysia. **Materials and Methods:** This was a retrospective cohort study of all COVID-19 positive pregnant mothers who were admitted to Ampang Hospital from January 2021 to October 2021. Data was collected from the hospital electronic records on vaccination status, COVID-19 severity, ICU admission, intubation, maternal mortality, mode of delivery, poor APGAR score at delivery (<5 at 10 minutes), and preterm delivery. Chi-squared analysis was performed to detect statistically significant associations. Relative risk was then calculated to measure the strength of the associations. **Results:** A total of 795 pregnant mothers were included. More than half 53.46%(425) were unvaccinated. The majority 73%(581) were admitted with COVID-19 Category 2. 88(11.07%) eventually required intensive care while 69(8.68%) required intubation. All 6(0.75%) patients who died were unvaccinated. Out of the 168 deliveries, 54.8%(92) were delivered via caesarean section. 4%(23) of babies delivered had poor APGAR scores. There were 58(36.9%) preterm deliveries, majority of which were iatrogenic (42,68.9%). Analysis showed that unvaccinated mothers who contracted COVID-19 were at higher relative risks of severe COVID-19 (Categories 4&5) 3.92(95% CI 2.23-6.87) and ICU admission 2.78(95% CI 1.74-4.44). Pregnant mothers who developed severe COVID-19 were at increased risks of caesarean delivery 2.44(95% CI 1.82-3.29), preterm delivery 2.88(95% CI 1.87-4.45) and babies born with poor APGAR score 14.46(95% CI 3.51-59.6). **Conclusion:** Unvaccinated pregnant mothers who contract COVID-19 are at increased risks of developing severe COVID-19 requiring ICU admission. Severe COVID-19 increases their risks of caesarean section, preterm delivery, and delivering a baby with poor APGAR score.

Keywords: unvaccinated, COVID-19, pregnant, maternal, neonatal

OP-011

Digital epidemic detection and action: Development and validation of a mobile health application for empowering university community COVID-19 management

Edre Mohammad Aidid[1], Muhamad Ashraf Rostam[2], Mohd Haikal Muhamad, Halil[3], Mohd Zuhairi Zainuddin[4], Muhammad Shafiq Aiman Jefri[5]

[1]Department of Community Medicine, Kulliyyah of Medicine, International Islamic University Malaysia, [2]Department of Nutrition Sciences, Kulliyyah of Allied Health Sciences, International Islamic University Malaysia, [3]Department of Restorative Dentistry, Kulliyyah of Dentistry, International Islamic University Malaysia, [4]Department of Psychiatry, Al-Sultan Abdullah Hospital, Universiti Teknologi Mara, [5]Department of Software Engineering, IKHLAS Com Travel, AirAsia

ABSTRACT

Introduction: There was a need for an in-house complementary digital surveillance method to detect COVID-19 cases early in campus setting and break the chain of transmission. The aim of this research was to develop and validate the DETect mobile health application to empower the university community in managing COVID-19 during the endemic transition phase. **Materials and Methods:** The research was executed in two phases. For the development phase, a risk assessment and action algorithm was adopted from the Ministry of Health Malaysia and created in-app using Flutter software development kit. Google DataStudio dashboards for quarantine, isolation and statistics were integrated and updated automatically. Targeted YouTube tutorials and health education materials were made readily available in-app. Face and content validation of ease of use, functionality and technical support phase were done together with end-users and a panel of experts, respectively. Beta testing was done thereafter for 1 month. **Results:** The web application version was the most feasible platform for multiple device usage after initial testing. Content validity index was 1.00. More than half (63%) of the users strongly felt that the system was easy to use, and most (75%) of them strongly agreed that the video tutorials helped in the usage and the technical support team assisted them well. The number of views for the educational video significantly increased with each case being reported (r= 0.3, p<0.05). **Conclusion:** DETect was able to empower the university community to embrace living with COVID-19. Future development will be to expand the functions to other communicable and non-communicable disease prevention mechanisms.

Keywords: DETect, Development, Validation, mHealth, Empower

OP-012

Factors associated with tuberculosis treatment success among tuberculosis and human immunodeficiency virus co-infected patients in Kelantan

Siti Romaino Mohd Nor[1,2], Nyi Nyi Naing[1], Mat Zuki Mat Jaeb[3]

[1]Faculty of Medicine, Universiti Sultan Zainal Abidin (UniSZA), Terengganu, [2]Clinical Research Centre Kelantan, Hospital Raja Perempuan Zainab II, Kelantan [3]Respiratory Unit, Department of Medicine, Hospital Raja Perempuan Zainab II, Kelantan

ABSTRACT

Introduction: Tuberculosis (TB) and Human Immunodeficiency Virus (HIV) co-infection is a global public health issue among people living with HIV (PLHIV). The objective was to assess the prevalence of TB treatment outcomes (successful and unsuccessful) and associated factors with TB treatment success among TB and HIV co-infected patients in Kelantan for five years (2014 – 2018). TB treatment success was defined as the sum of cured patients and those who completed treatment. **Materials and Methods:** A cross-sectional study was conducted at the TB/Leprosy Unit of the State Health Department of Kelantan (JKNK) using secondary data from January 2014 to December 2018 assessed in the MyTB online system. The data were analyzed using SPSS 25.0 and STATA 14. Ethics approvals were obtained from Medical Research Ethics Committee (MREC) and UniSZA Human Research Ethics Committee (UHREC). **Results:** Kelantan has had 6,313 TB cases from January 2014 to December 2018. There were 703 (11.1%) cases of TB and HIV co-infection. The prevalence of successful treatment among TB and HIV co-infected patients was 57.1%. The duration of treatment and anatomy of TB location was significantly associated with TB treatment success. **Conclusion:** This study's findings showed that the prevalence of TB treatment success rate was 57.1%, and the unsuccessful rate was 42.9%. The treatment duration and the TB location's anatomy were significantly associated with the treatment success rate. Since the anatomy of TB location for both PTB and EPTB has a higher probability of treatment failure in TB and HIV co-infection, DOTS should be given more attention and importance.

Keywords: Factor associated, Tuberculosis (TB), Treatment Outcome, Human Immunodeficiency Virus (HIV), Co-infected Patient

OP-013

The use of oral complementary and alternative medicine among patients with metabolic syndrome in a university primary care clinic

Siti Nur Syarifah[1], Khairatul Nainey binti Kamaruddin[2], Anis Safura Ramli[1,2]

[1]Institute of Pathology, Laboratory and Forensic Medicine (I-PPerForM), Universiti Teknologi MARA, Sungai Buloh, [2]Department of Primary Care Medicine, Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh

ABSTRACT

Introduction: Oral complementary and alternative medicine (CAM) is widely used among patients with chronic diseases. Oral CAM includes biological-based therapies like herbal and dietary supplements. Its use is rising due to a widespread perception that these products are natural and safe. However, unregulated and unmonitored consumption of oral CAM may cause unwanted side effects. This study aimed to explore the pattern of oral CAM use among metabolic syndrome (MetS) patients in primary care. **Materials and Methods:** A cross-sectional study was conducted at a university primary care clinic from February to April 2021. Patients aged 18 to 70 years old with metabolic syndrome were recruited. Sociodemographic characteristics, clinical characteristics and information on oral CAM use were recorded in a proforma. **Results:** 126 participants were recruited. The mean age of the participants was 57.7 (±5.6) years old, and majority were Malay (88.9%). 73 (57.9%) participants were using oral CAM, and 39 (53.4%) used oral CAM as a complementary to their conventional treatment. Of the 73 users, only 15 (20.5%) disclosed to their practitioner. In terms of the type of oral CAM use, 32 (43.8%) used plant-derived crude products such as leaves and roots, whereas 24 (32.9%) used commercially processed products, and 17 (23.3%) used both. **Conclusion:** Oral CAM use was highly prevalent in this primary care clinic, but the disclosure rate of its use to the practitioner was low. There was diverse use of types of oral CAM, which may need proper monitoring. The practitioner needs to inquire about oral CAM use, especially among patients with MetS.

Keywords: Oral CAM, metabolic syndrome, primary care

OP-014

Audit on uncollected results during electronic health information system downtime in Hospital Sungai Buloh

Sharifah Khairul Atikah[1], Nur Amalina Yusoff[2], Rekha Maryanne Louis[3]

[1]Department of Pathology, Hospital Sungai Buloh, Selangor, [2]Department of Information Technology (IT), Hospital Sungai Buloh, Selangor, Malaysia

ABSTRACT

Introduction: Accurate, fast, and reliable communication of laboratory results to clinicians is a crucial prerequisite for effective and efficient patient care. In Hospital Sungai Buloh, this communication is accomplished through interfaces that link laboratory instruments to the laboratory information system (LIS), then to the electronic Hospital Information System (eHIS). This setup allows immediate transmission of verified laboratory results to all clinicians who have access to the eHIS. However, interfaces and LISs can be unavailable due to planned maintenance or unexpected hardware or software malfunctions. **Materials and Methods:** An audit of recorded eHIS downtime and uncollected result were done based on available records from 2011 till July 2021. **Results:** Majority of electronic health information system downtime in Hospital Sungai Buloh involving laboratory services were unplanned and occurred after office hours ranging from 1 to 336 hours. However, the uncollected results during downtime caused significant wastage of time and cost, approximately RM5435. The number was actually under reported as storage of uncollected results was not properly kept. Poor documentation of the patient's location on PERPAT form is also one of the issues encountered during downtime. **Conclusion:** As for improvement measures, the Pathology Department had started to dispatch all uncollected results to respective ward and clinic pigeon holes in the Management Office from 2020. The Biochemistry and Hematology Unit starts to use middleware during downtime. The IT Department also had outlined the Planned Preventive Maintenance (PPM) for interface PC for analyzers that were integrated with LIS.

OP-015

Otorhinolaryngology-related referral for COVID-19 patients in intensive care unit: Urban district hospital experience

Thiviya Muthusamy[1], Siti Nurhafizah Saharudin[2], Mohd Nurul Hanif Arifin[1], Vanitha Palanisamy[1]

[1]Otorhinolaryngology Department, Hospital Shah Alam, Selangor, [2]Clinical Research Center, Hospital Shah Alam, Selangor

ABSTRACT

Introduction: Severe COVID-19 infection frequently results in respiratory failure requiring intubation. Treatment approaches frequently entail postponing tracheostomy in favour of intubation for longer than 2 weeks due to worries about high patient mortality and viral aerosolization. With prolonged invasive mechanical ventilation, laryngeal problems such as vocal cord injury, granulomas, and laryngotracheal stenosis are few of the common after effects seen. Potentially life threatening airway complications are also reported among these patients. Otolaryngologists have a special role in responding to this crisis by virtue of expertise in airway management. This study is aim to describe the prevalence of Otorhinolaryngology (ORL) related referral for adult patients with COVID-19 infection in Hospital Shah Alam. **Materials and Methods:** This is a retrospective cross-sectional study conducted from March 2020 to August 2021, at Hospital Shah Alam. Secondary data was collected from Intensive Care Unit (ICU) database that is designated for COVID-19 isolation area. **Results:** Out of the total 253 patients admitted to intensive care unit designated for COVID-19 isolation area, 24 (9.5%) patients were referred as COVID-19 otorhinolaryngology-related case. Most of the referrals (n=15, 62.5%) are for elective tracheostomy due to prolonged intubation. Only 1 (4.2%) patient was confirmed with tracheal injury at thoracic level which was then referred to cardiothoracic surgeon for further management. In addition, there are 4 (16.7%) voice-related referrals which resolved completely after being reviewed in the outpatient clinic. **Conclusion:** Despite the rarity of tracheal complications in patients with severe COVID-19 infection, it is presumed that there will be a high rate of laryngeal complications from prolonged intubation and tracheostomy in patients recovering from COVID-19. A better understanding of the complication trend can be used to explore the most appropriate possible strategies in improving the current standard of procedures to manage this problem.

Keywords: Otorhinolaryngology, COVID-19, ICU

OP-016

COVID-19 category during period of delta and omicron predominance in Malaysia: A descriptive study

Syarifah Nurul Ain Syed Badaruddin[1], Swarna Lata Krishnabahawan[1], Shafiq Eiman Abdul Razak[1], Satya Tamilselvam[1], Suriya Kala Balachandran[1], Tharmini Ravi[1], Aminiril Anisah Abdul Hamid[1], Nur Suriana Mah Hassan[1], Liew Boon Seng[1], Kalaiarasu M.Peariasamy[2], Chew Chun Keat[2], Low Ee Vien[2]

[1]Clinical Research Centre, Hospital Sungai Buloh, [2]Institute for Clinical Research, National Institute of Health

ABSTRACT

Introduction: During the COVID-19 pandemic, numerous variants of SARS-CoV-2 have emerged that have been found to differ in transmissibility and severity. Assessments of the severity of the SARS-CoV-2 delta and omicron variant are vital to evaluate the public health influence related to its rapid global dissemination. **Materials and Methods:** Medical records of COVID-19 patients who were hospitalized in Hospital Sungai Buloh during the period of Delta and Omicron predominance were reviewed retrospectively and analyzed. **Results:** Delta wave was studied between May 2021 and July 2021, among the 5815 individuals with SARS-CoV-2 infection, the highest number of cases were seen in May which was 2410 (41.4%) cases followed by 1762 (30.3%) in June and 1643 (28.2%) cases in July. Individuals were vaccinated, and vaccination was associated with a lower risk of hospitalization compared with cases with no doses or only one dose of vaccine. Compared with delta infection, omicron infection was lesser. The Omicron wave was studied between January 2022 and March 2022. Among the 2820 individuals with SARS-CoV-2 infection, the highest number of cases were seen in March which was 1173 (41.5%), followed by 985 (34.9%) cases in February and 662 (23.4%) cases in January. The booster vaccine was started to be administered during this period and reduced equally the risk of symptomatic and asymptomatic infection. **Conclusion:** This descriptive study aids as a baseline study for more studies in the future using the same dataset. Laborious data cleaning is currently in the process to produce more forceful and steadfast results.

Keywords: COVID-19, Hospitalisation, Omicron, Delta

OP-017

Incidence of proteinuria and microscopic hematuria in hospitalised COVID-19 infected patients: A single centre experience

CM Wong[1], CH Ching[1], GP Yeo[1], MF Asmee[1], ZD Tham[1], KK Chen[1], YB Ho2, LL Low[3], KR Ku Md Razi[2]

[1]Nephrology, Hospital Sultanah Bahiyah, [2]Medical, Hospital Sultanah Bahiyah, [3]Infectious Disease, Hospital Sultanah Bahiyah

ABSTRACT

Introduction: The outbreak of COVID-19 has rapidly evolved to global pandemic since December 2019. Kidney injury is commonly associated with COVID-19 infection. The majority of reports strongly support that acute tubular injury is the primary lesion driving AKI in COVID-19. Our objective of this study is to identify the incidence of proteinuria and microscopic hematuria in COVID-19 patients admitted to Hospital Sultanah Bahiyah, Alor Setar. **Materials and Methods:** This is a single centred, retrospective cross-sectional study examining the records of patients infected with COVID-19 admitted to Hospital Sultanah Bahiyah from September 13 till December 28, 2020. We excluded patients with pre-existing medical illnesses. These patients had urine dipstick tests done upon admission. **Results:** A total of 160 patients were included in this study. The mean age was 34.6 years, 43.8% were male and 56.2% were female patients. The median serum creatinine level was 68 µmol/L. Patients were categorised into different severity of COVID-19 infection on admission, 46% category 1, 22% category 2, 18% category 3, 13 % category 4, 1% category 5. The incidence of proteinuria and microscopic hematuria were 20.3% and 14.4% respectively on admission. The incidence of combined proteinuria and microscopic hematuria was 5.0%. **Conclusion:** In our study, proteinuria and microscopic hematuria were relatively common in different categories of COVID-19 infection even without preexisting chronic illnesses.The incidence of proteinuria and microscopic hematuria in our study are comparable to other studies. More data is needed to distinguish patients who had preexisting proteinuria and microscopic hematuria prior to presentation from those developed denovo in hospital.

Keywords: proteinuria, hematuria, COVID-19, nephrology, kidney

OP-018

Home based peritoneal dialysis training during COVID-19 era: A single centre experience

Xun Quan Sze[1], Jonathan Tian Hooi Yong[1], Christopher Thiam Seong Lim[2], Aida Azlin Binti Alias[1], Fairol Huda Ibrahim[1], Nor Fadhlina Binti Zakaria[2], Anim Md Shah[2], Bak Leong Goh[1]

[1]Nephrology, Serdang Hospital, [2]Nephrology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

ABSTRACT

Introduction: COVID-19 disease has been declared as a pandemic since February 2020. Resulting from this, home peritoneal dialysis training programme was implemented. However, infectious complications was one of our major concerns. **Materials and Methods:** This is a single centre, observational, retrospective study. We recruited patients who were newly enrolled into the peritoneal dialysis programme from January 2020 until March 2021 and follow up them for 6 months duration. Patients' demographic data, baseline characteristic, clinical outcome were collected through electronic health record (eHIS) and data were analysed using SPSS version 23. **Results:** A total of 133 patients were enrolled into the peritoneal dialysis programme. The median age of the patients was 55(42-65) years old. Most of the patients were on CAPD, 87(65.4%), and 76(57.1%) of them were on self-care peritoneal dialysis (PD). During this observational period, 29(21.8%) patients underwent hospital based training, while a total of 104(78.2%) patients underwent home based training. The PD peritonitis rate for hospital based training was 1 episode per 55.8 patient months while home based training group was 1 episode per 25.4 patient month. The survival free to 1st PD peritonitis for home based training was 83.7% over 6 months. The exit site infection rate was 1 episode per 73.1 patient month. **Conclusion:** Home based PD training should be encouraged especially during Covid-19 pandemic period, but standardised training protocol should be implemented to improve the clinical outcome of our patients.

Keywords: peritoneal dialysis, nephrology, COVID-19, pandemic

OP-019

Acute necrotizing encephalopathy in association with COVID-19 Infection: A case report

Noor Aida Mat Daud[1], Nordiana Ab Manan[2]

[1]Department of Radiology, Hospital Sungai Buloh

ABSTRACT

Summary: This case report is to highlight a case of acute necrotizing encephalopathy in association with COVID-19 infection in a previously healthy male. A healthy 31-year old man presented with acute delirium at day 10 of fever. Clinical examination revealed the patient was confused and had jaw opening dystonia with myorhythmia orofacial movement. Polymerase chain reaction test for COVID-19 was positive, with a normal plain computed tomography brain finding on day 1 of admission. In the ward, patients had episodes of fall and a contrast CT brain revealed bilateral thalamic hypodensities. Patient's condition remained static despite regular Intravenous dexamethasone, Intravenous Thiamine and Tablet Haloperidol. Magnetic Resonance Imaging done on day 17 of illness demonstrated diffuse bilateral thalamic hyperintensities with subtle hyperintensities of bilateral dentate nuclei and pons on T2W/FLAIR. The bilateral thalamic lesions showed blooming on GRE. The findings were consistent with ANEC post COVID-19 infection. Patient improved after 3 days of IV Methylprednisolone 1g once daily combined with Trihexyphenidyl and benzodiazepine. He was discharged well on Day 22. Repeated MRI Brain 6 weeks post infection showed resolving bilateral thalamic lesions which correlated with improving clinical symptoms.COVID-19 viral infection which may be linked to an acute severe encephalopathy, was thought to represent an immune-mediated phenomena which responded to steroid treatment. We presented a type of COVID-19 related neurologic presentation that improved clinically, and radiologically with treatment.

OP-020

Doing research with refugees the ethical way: Innovative way to promote refugee research ethics during COVID-19 pandemic

Leow Mei Lian, Chern Phei Ming

Clinical Research Center, Hospital Rehabilitasi Cheras

ABSTRACT

Introduction: Refugee health research ethics is a relatively new field in Malaysia and most local researchers are unfamiliar with it. During the COVID-19 pandemic, physical distance has led to the cessation of research activities and health research ethics promotion. **Materials and Methods:** A virtual health research ethics training, "Doing Research with Refugees the Ethical Way", a collaborative effort with the United Nations High Commission for Refugees (UNHCR) and their partner for potential researchers from the local university, UNHCR's staff, and their partners were introduced then. This training aimed to create awareness as behavioral changes for refugee researchers are very important in minimizing the exploitation of this vulnerable group. This 3-hour training focused on the importance of refugee research ethics including an introduction to refugee research ethics and simulated small group discussion. **Results:** The experienced facilitators used real-life examples to illustrate the importance of having an ethical stand during refugee health research conduction and strategies for resolving the ethical dilemma. This virtual training had excellent interaction with participants and had 98% good feedback. **Conclusion:** This virtual training program is a proactive and practical way to quickly address the requirement to educate refugee researchers while dealing with the COVID-19 pandemic. Research ethics training should not be only the requirement for ethics board review but should be practiced by all researchers involved in refugee research.

OP-021

Rare case of breast adenoid cystic carcinoma: Radio pathological correlation

Choong Kah Lai[1], Chua Sook Yin[2], Lee Sen Lin[3]

[1]MRad UM, Radiology Department, Hospital Shah Alam, Selangor, [2]FRCR UK, Radiology Department, Hospital Shah Alam, Selangor, [3]MPath (Anatomical Pathology) UM, [4]Pathology Department, Hospital Tengku Ampuan Rahimah, Selangor

ABSTRACT

Summary: A 61-year-old lady presented with a right breast lump for two years, associated with worsening pain for two months. Lump was not increasing in size. On palpation, tender swelling at right breast 9 o'clock periareolar region noted, no skin changes.Mammogram and ultrasound done two years apart showed no significant interval change. Latest mammogram showed a well-defined, low-density, non-calcified lesion at the right breast periareolar region. Ultrasound demonstrated well-defined, hypoechoic, ovoid, noncalcified solid lesions measuring 0.7 x 0.7 x 1.2cm. No axillary lymphadenopathy. No suspicious sonographic feature.In view of persistent pain, ultrasound-guided biopsy was performed. Histopathological examination (HPE) with immunohistochemical stains confirmed salivary gland tumor favoring adenoid cystic carcinoma (ACC) with triple negative status. Staging CT revealed no distant metastasis. Wide local excision with axillary clearance was performed, no axillary lymph node involvement. Patient subsequently completed radiotherapy, currently well. ACC is a rare tumor of the breast, accounting for less than 1 % of all breast carcinomas. It has indolent nature, with lymph node involvement and distant metastases rarely described. Majority of the patients presented with palpable breast mass. Despite Their Triple negative status (negative for estrogen (ER), progesterone (PR) receptors and HER-2neu(c-erb2), majority of ACC cases rarely involve regional lymph nodes and are associated with high survival rate. ACC is a rare breast carcinoma with indolent nature and good prognosis. The mammographic and sonographic appearance of ACC is non-specific thus biopsy is recommended for definitive HPE diagnosis.

OP-022

Nasogastric tube entanglement in a nine months old Down's syndrome child: A case study

Thinesh Elangkovan[1], Soo Kok Foong[2], Norafizan Mohd Ali[3]

[1]Emergency and Trauma Unit Hospital Tanjong Karang, [2]Emergency and Trauma Department Hospital Sungai Buloh

ABSTRACT

Summary: We present a case of a spontaneously tangled nasogastric tube (NGT) in a nine months old Down's Syndrome child which is related to the suboptimal insertion technique. This incident was identified during the routine NGT exchange and subsequently removed with no complication. The confirmation of type and level of entanglement was done using X rays. The purpose of this case report is to highlight the importance of avoiding excessive NGT insertion as it is associated with tangling or knotting of a nasogastric tube.

OP-023

Association between epilepsy and gluten sensitivity based on human leukocyte antigen - DQ genotyping together with coeliac disease related antibody

Nur Malina Binti Mat Reffien[1], Shalini Bhaskar[2], Raymond Azman Ali[3], Teh Lay Kek[4], Mohd Zaki Salleh[5]

[1]University Teknologi Mara, Puncak Alam, Medicine, Kuala Selangor, Malaysia, [2]University Teknologi Mara, Integrative Pharmacogenomics Institute, (iPROMISE), Kuala Selangor, Malaysia

ABSTRACT

Introduction: Gluten sensitivity (GS) is associated with several neurological conditions including epilepsy. Studies have found an association between epilepsy and gluten intolerance where epilepsy is more prevalent in patients with CD or gluten intolerance and vice versa. However, no data is available in Malaysia to support these claims. The purpose of this study is to investigate the association between epilepsy and gluten sensitivity based on serology tests. The independent variables are three different tests; HLA-DQ genotyping, alpha-gliadin antibody (AGA) and tissue transglutaminase antibody (anti-tTG) while the dependent variable of the study is epilepsy. **Materials and Methods:** This is a case-control study. Patients who are diagnosed with epilepsy attending Neurology Clinic HUiTM are recruited to this study. Control group consists of non-epileptic adults matched for age, gender and race with the case patients are also recruited. Clinical research forms will be used to obtain demographic data, socioeconomic data and background illness. The type and treatment of epilepsy were also recorded for each patient. Ten (10 ml) of blood samples will be taken from 50 epilepsy patients and 50 matched controls who are recruited for this study in HUiTM. The samples will be send for genotyping for HLA-DQ alleles [(i) DQ2.2 (rs2395182; rs7775228 rs4713586); (ii) DQ2.5 rs2187668; (iii) DQ7 (rs4639334) and (iv) DQ 8 (rs7454108)]. The remaining blood sample will be used for detection of AGA and anti-tTG using commercially available ELISA kit. **Results:** In this study gluten sensitivity is diagnosed serologically and defined by the presence of AGA and/or anti-tTG and/or HLA-DQ risk genotypes. We will analyse the results using SPSS software version 21.0 and compare the occurrence of GS in epilepsy patients (case) and non-epilepsy patients (control). A two-tailed *p* value of < 0.05 is considered significant. **Conclusion:** This study indicates that risk of serologically detected gluten sensitivity is higher in epilepsy patients compared to non epiletic patient.

OP-024

Early rehabilitation in patient with acute hemorrhagic stroke

Amitha Na Sherng Lhung[1], Fatin Nabila Hanis Mudzaffar Shah[2], Reginald Valentino Rapieng[3], Syarifah Nur 'Aini Said Abdul Karim[4], Fatnin Faqiha, Azmi Mahmud[5]

[1]Rehabilitation Medicine Department, Hospital Sungai Buloh, Ministry of Health, Selangor, Malaysia.

ABSTRACT

Summary: Intracerebral hemorrhage accounts for 10-23% of strokes with hypertension as the highest risk factor in the middle aged and elderly group. The risk is substantially greater among those who have defaulted their antihypertensive medication, those who are relatively young, orthose actively smoking. Common sites of bleeding were basal ganglia, internal capsule and thalamus. We present a case of a 45 years old Malay male with underlying hypertension and chronic kidney disease, presented with right-sided body weakness. Upon presentation, his GlasgowComa Scale was E4V1M6, blood pressure 220/120 mmHg, heart rate 80 beats per minute, respiratory rate 20 breaths per minute, oxygen saturation was 98%under roomair. Neurologically, he has right sided hemiplegia. Electrocardiogram done was normal. Computed tomography of the brain was performed which showed left basal ganglia bleeding. He was treated conservatively by the Neurosurgical team. He was transferred to a rehabilitation ward for a post-stroke rehabilitation programme. Hewas trained and taught regarding transfer technique, constraint-induced movement therapy, physiotherapy and basic activities daily living (ADL) retraining to achieve optimum capability. After a week of rehabilitation training, he was able to do wheelchair transfer with minimal assist and carry out basic activities at seated level. This case illustrates the prompt diagnosis of a left basal ganglia bleed secondarytohypertensive emergency, leading to early rehabilitation referral and interventions. This Resulted in an optimal patient outcome as well as improved patient prognosis. It is also portrayed that a multidisciplinary approach is important in the management of acute hemorrhagic stroke.

OP-025

Measuring external ventricular drainage trajectory using smartphone: A case report

Muhammad Adam Zainuddin, Yong De Jun, Azmin Kass Rosman

Department of Neurosurgery, Hospital Sungai Buloh

ABSTRACT

Summary: External Ventricular Drainage (EVD) is usually prescribed for either intracranial (ICP) monitoring or management of hydrocephalus and it can be a life saving procedure. Nonetheless, it is a blind procedure and misplacement can occur in 12-44% of cases. Although few modern guided techniques have been described, it is mostly requiring expensive equipment and time consuming. Herein we described a technique of measuring EVD trajectory angle using smartphones which may further develop for a novel smartphone-guided EVD insertion technique. We had a 56 years old lady who had a sudden loss of consciousness. Her CT Brain showed generalized SAH and hydrocephalus secondary to ruptured cerebral aneurysm. EVD was indicated for both treatment of hydrocephalus and ICP monitoring. The EVD insertion procedure was done in the usual manner. The duration of surgery was similar to an average of 30 minutes. However, prior to tapping into the ventricle, the catheter trajectory was measured using a smartphone. A clinometer app has been used by utilizing its bubble level features and the smartphone was placed perpendicular to the catheter. This feature allows us to measure the trajectory angle in both the coronal and sagittal plane in one shot. Postoperative CT scan was reviewed to check the trajectory angle. We found that the measurement was relatively accurate with deviation of 1^0 in the coronal and 5^0 sagittal plane. However, a proper validation study should be done to confirm this finding.

OP-026

Facial nerve palsy as a presentation of COVID-19 in a child: A case report

Laavanya Rajendran, Azuin Izzati Binti Arshad, Siti Hajar Noordiana Bt Mohamed Hasshim

Department of Otorhinolaryngology,Hospital Sungai Buloh,Malaysia

ABSTRACT

Summary: The COVID-19 pandemic has affected millions of people with a wide range of presentations from asymptomatic to multiorgan failure, including neurological presentations. Facial nerve palsy is a commonly encountered presentation, however a rare presentation of COVID-19. Decio, et al has reported facial nerve palsy in a 15 month old with positive serological testing for COVID-19. We report a rare case of facial nerve palsy as a clinical presentation of COVID-19 infection. A 9 years old boy was admitted in March 2022 to Hospital Sungai Buloh; designated National COVID-19 centre, was referred to the Otorhinolaryngology team for a sudden onset of right sided facial nerve palsy as the main symptom on day 8 of illness of COVID-19 infection. He was treated with standard treatment of tapering dose of oral prednisolone, eye lubricant, eye patch and physiotherapy. The child was followed up in the outpatient clinic in 3 weeks interval revealing partial recovery of the palsy. As seen in this case, facial nerve palsy can be the main presentation of COVID-19 in children making its worthwhile to add this symptom into the spectrum of neurological presentation of COVID-19 and to screen children presenting with facial nerve palsy for COVID-19 in the current epidemiology context.

OP-027

Eikenella corrodens necrotising myositis in an immunocompetent adolescent: A case report

Yusanita Binti Jamalut, MBBS[1], Amira Binti Amir, MPath[2], Adilahtul Bushro Binti Zaini, MPath[3], Syafinaz Binti Amin Nordin, MPath, MHEd[4]

[1]Department of Pathology, Hospital Sungai Buloh, Sungai Buloh, Selangor, Malaysia, [2]Department of Pathology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia, [3]Department of Medical Microbiology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia

ABSTRACT

Summary: Eikenella corrodens is a bacterium of the HACEK group. Although initially thought to be non-pathogenic as it is a normal flora of the oral cavity, it has been reported to cause serious human infections. Here we described a case report of a necrotizing myositis caused by Eikenella corrodens. A previously healthy 17-year-old gentleman presented to the hospital with a complaint of right upper limb pain for 1 week that started after a series of 'push-ups'. The pain was associated with swelling over the right wrist. He denied any animal or human bites. X-ray showed a closed right radius styloid fracture. Right hand above elbow back slab was applied and he was discharged. 4 days later, he presented with swelling, redness and skin tightness. He was then planned for emergency right-hand fasciotomy and carpal tunnel release in view of associated Compartment Syndrome. Post-operatively, there was a foul-smelling pus discharge with necrotic patches on the skin. He underwent a second extensive wound debridement and a necrotizing myositis was diagnosed. Intraoperatively, 600ml seropurulent pus was drained from the intermuscular plane. Two tissue samples from deep muscle grew Eikenella corrodens identified by Bruker® Maldi-TOF with a score value of 2.04. The isolate was susceptible to Ampicillin, Augmentin, Penicillin, Ceftriaxone, Imipenem and Meropenem. The patient was initially started on IV Tazocin 4.5g QID and IV Clindamycin 600mg QID. Upon identification of the tissue culture, IV Ceftriaxone was commenced and he was transferred to the Hospital Selayang Hand team for continuation of care. Subsequently, his condition improved and the limb was able to be salvaged. Eikenella corrodens can be associated with severe non-healing necrotizing myositis despite no apparent cause in this case. Maldi-TOF is an excellent tool to identify rare fastidious organisms that can be missed due to inherent difficulties in culture and biochemical tests. Timely results are important to guide treatment decisions besides prompt wound debridement and compartment release to prevent extension of the disease.

OP-028

Ballantyne syndrome: A case report

Ummul Nabilah Shafie, MBBCh[1], Sarah Yi Xin Khoo, MD[2], Luke Poh Cheok Ang, MRCOG[3], Chew Khang Tan, MOG, FRCOG[4]

[1]Obstetrics & Gynaecology Department, Hospital Seri Manjung, Perak

ABSTRACT

Summary: Ballantyne syndrome also known as Mirror syndrome is a rare, potentially life-threatening obstetric complication characterized by the development of pre-eclampsia, maternal oedema, placentomegaly and fetal hydrops. We present 2 case report on Ballantyne syndrome: **Case 1:** A 30-year-old, primigravida, presented at 32 weeks with generalised oedema and a weight gain of 2kg in 1 week. Ultrasound showed foetal hydrops. Subsequently a plan for induction of labour was made. During induction, she developed severe pre-eclampsia and was given magnesium sulphate and anti-hypertensive. There was proteinuria and blood investigation showed elevated liver enzymes and uric acid. She delivered a stillborn baby with features of hydrops. The placenta was oedematous and exceptionally large. **Case 2:** A 26-year-old, primigravida, was diagnosed with hydrops fetalis at 18 weeks. At 30 weeks, she presented with preterm prelabour rupture of membranes (PPROM). She had generalised oedema and weight gain of 2.5kg in a week. Therefore, induction of labour was planned. She delivered a stillborn. Placenta was large and oedematous. Three hours after delivery, she had hypertensive crisis and an eclamptic fit which was aborted by magnesium sulphate. In addition to proteinuria, blood investigations showed low platelet, elevated liver enzymes and uric acid. Full blood picture showed evidence of haemolysis. She was diagnosed with HELLP Syndrome. Mirror syndrome is a rare clinical entity which requires timely and accurate diagnosis. Clinical vigilance and prompt intervention can prevent fetal mortality and maternal morbidity.

OP-029

Case report: Unseen side of caesarean section

Nur Atika Pitri, Luke Ang, Tan Chew Khang

Obstetric and Gynaecology Department, Hospital Seri Manjung Perak

ABSTRACT

Summary: In recent decades, caesarean delivery have increase in most countries and this has ultimately led to an increase in the complications of caesarean section. Clinical presentation of uterine scar dehiscence or rupture commonly comprises sudden foetal heart rate abnormalities, abdominal pain especially at previous caesarean scar site, altered uterine tone, cessation of contractions, vaginal bleeding, and signs of hypovolemia. Here are 2 cases report with different clinical presentation: **Case 1:** A 25-year-old, lady, gravida 2 para 1 with 1 previous caesarean section 3 years ago was induced with 1 prostin 3mg for post-date. She had regular uterine contraction. Foetal monitoring throughout induction was uneventful. Bishop score remained unfavourable and caesarean section was planned. Intra-operatively, anterior uterine wall was completely deficient along the previous caesarean section site, leaving visible bulging foetal membranes and moving baby underneath. Baby was delivered safely and uterus was closed in 2 layers. **Case 2:** A 30-year-old, lady, gravida 2 para 1 with 1 previous caesarean section 3 years ago. At 37 weeks, she went into spontaneous labour and had regular uterine contraction. However foetal monitoring showed signs of distress and an emergency caesarean section was performed. Intra-operatively, there was uterine rupture at the right side of uterus around 4 cm and baby's shoulder was protruding out of the uterus. Baby was delivered safely and uterine rupture was closed in 2 layers. Prompt recognition of uterine scar dehiscence or rupture, early diagnosis and timely intervention are critical to prevent perinatal and maternal morbidity.

OP-030

Nasolabial schwannoma: A case report

Hani Mohamed, MD[1], Aneeza W Hamizan, MD[2], Raudha Ezaty Ruslan, MBBS[3], Azuin Izzati Arshad, MBBS[4]

[1]Department of Otorhinolaryngology, Hospital Sg Buloh, Selangor, [2]Department of Otorhinolaryngology, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

ABSTRACT

Summary: Schwannoma is a benign nerve sheath tumor that arises from Schwann cells of the neural sheath of peripheral, spinal, or cranial nerves. The occurrence of schwannoma in the facial region, specifically in nasolabial fold is rare. Well-circumscribed swelling at the nasolabial region is commonly diagnosed as nasolabial cyst. Magnetic resonance imaging (MRI) is able to differentiate nasolabial cyst and schwannoma but is not routine. Histopathological investigation is still the best tool for diagnosis and complete surgical excision is the recommended treatment for nasolabial schwannoma We present a rare case of a nasolabial tumor whereby a 19 years old female presented to our clinic with a progressively increasing in size swelling over the left nasolabial angle region for past 3 years associated with discomfort. On examination, there was firm, smooth-surfaced swelling at the nasolabial region measuring about 2cmx2cm with hyper-vascularised overlying mucosa. The provisional diagnosis was nasolabial cyst. Thus she was sent for CT paranasal sinus and it showed well-defined rounded homogeneously enhancing soft tissue mass within the subcutaneous tissue at the nasolabial angle region measuring 1.6cm x 1.3cm x 1.3cm. Minimal scalloping of bone was noted at the alveolar margin. The patient underwent excision of the lesion via sublabial approach under general anesthesia. Intraoperatively was uneventful where the lesion was delineated successfully. However histopathological examination revealed it is a nasolabial cellular Schwannoma. In this case report, we discussed the diagnostic dilemma between clinical features supported by imaging reports with histological findings. It is crucial to make a correct diagnosis prior to any treatment given to a patient.

OP-031

Giant cell tumor of sphenoid sinus with aggressive lesion involving skull region: A case report

Amirah Atifah Binti Mohd Subki[1], Dr Norhafizah Binti Saifudin[2]

[1]Department of Otorhinolaryngology, Hospital Sungai Buloh

ABSTRACT

Summary: Giant cell tumours that involve head and neck regions are extremely rare neoplasms that represent only 1% affecting particularly the sphenoid and temporal bones. They are usually solitary and occurring regardless of age. It is a challenge to treat this disease due to the rarity to occur in the head and neck region. We report a case of a 45-year-old Chinese gentleman presented with a headache that progressively worsened for the last 3 months, associated with left eye blindness,nasal congestion as well as constitutional symptoms. On examination, left eye esotropia, optic, oculomotor and abducens nerves of the left eye were affected, others cranial nerves are unremarkable. Rigid scope finding showed necrotic mass over the left nasal cavity with mucopurulent pus,unable to visualize the left Eustachian tube and Fossa of Rosenmuller. Computed Tomography scan gives a good imaging modality for evaluating paranasal extension with the involvement of delicate bony structures compared to magnetic resonance imaging scan.The imaging brain scan showed large lobulated lesion with its epicenter at the region of the sphenoid sinus measuring approximately 5.3 x 6.3 x 5.8 (ap x wx cc) with evidence of nasal cavity structures involvement and intracranial extension. Histologic examination revealed distribution of osteoclast -like giant cells within sheets of round to oval mononuclear stromal cells and mononuclear cells have epithelioid to spindled appearance exhibiting bland round to oval nuclei. In view of extensive disease with intracranial extension, hence oncology treatment is the best option.

OP-032

A Concept paper: Towards healthier mature women – A redbook for mature women 45 years and above

Eugene Leong

Taylors University School of Medicine, Selangor

ABSTRACT

Introduction: Men and women need targeted objective oriented guided landing strip style nudge to achieve targeted screening in order to complete milestone testing points like pap smear at age 49 or a mammogram check at age 50 or a pelvic ultrasound at age 55. This daring proposal proposes to address these targets in a gentle yet purposeful manner. There will be debate as to what to include and when and how. **Objective:** Women who are pregnant in Malaysia religiously carry a Ministry of Health Red Antenatal Book. It is suggested that we create a similar Red Book for Mature Women (RBMW). **Materials and Methods:** "Women and some men, when given a task, are more likely to complete it especially if driven by a need to complete it and to fill in the blanks." Add tax benefits. The RBMW would theoretically contain a few completion dates; First Tests within a range for a few recommended tasks that follow evidence. Suggested tasks are: (Breast Examination: by doctor 45 to 75 years) (Breast Mammogram: 45 to 65 years) (Pap smear: 45 to 63 years) (Bone mineral density tests: 45 to 65 years) (Serum Ca125: 45 to 55 years, controversial & explained in detail) (Pelvic Ultrasound: 45 to 55 years) (ECG, CXR, FBCDC, UFEME, Cholesterol, Stool Occult Blood, Colonoscopy-discussion needed). There will be major debates on inclusion, exclusion, timelines and inherent values and number needed to screen/costs, but it will add focus to a healthier screened mature women's group. Where there is doubt/controversy the explanation is detailed. It is suggested that at age 45 years old a mature woman will be encouraged to have a pap smear, pelvic ultrasound, breast examination at the least. At age 50, repeat the same plus a mammogram and a serum Ca125. At age 55, same as at age 45 and 55. At age 60, the same tests are done as at age 45, 50 and 55. Other tests can be added depending on specific individual risk factors and are individualized; provided the preceding tests are normal or non-worrying. Evidence level will be attached with references. **Results:** Where there is a doubt/controversy an explanation is detailed. It is expected that a higher ratio of women 45 years old and above will be driven to attempt to understand, gear towards and complete the tasks. Controversies will abound on serum CA125 and a few tests, full transparency discussed. **Conclusion:** Philosophically, this will lead to higher and earlier detection of breast lumps, breast cancer, CIN, cervical cancer, osteopenia, osteoporosis, pelvic masses and trigger tests for elevated serum CA 125 (controversy accepted on its true intrinsic negative and positive value). Mature women may find RBMW triggers/activates them to be more health aware. Countless debates will ensue.

Keyword: Red Book for Mature Women, health aware, breast examination, mammogram, mature woman

OP-033

Refusal to walk post COVID -19 in a child with cerebral palsy and rehabilitation intervention

Cheong John Yee, Ooi Ai Lee

Department of Rehabilitation Medicine, Raja Permaisuri Bainun Hospital, Ipoh, Perak, Malaysia

ABSTRACT

Summary: Musculoskeletal manifestation in child with cerebral palsy post COVID-19 can present with refusal to walk and rehabilitation can facilitate recovery. He is a 4-year-old boy with spastic bilateral cerebral palsy gross motor function classification system level 4 presented to the outpatient rehabilitation consult 3 weeks after COVID-19 infection with refusal to walk. He had 2 days of fever and was relatively well. Subsequently, he refused to stand or walk after 1 week from the onset of fever. During clinical examination, he was uncooperative and refused weight bearing on left lower limb which was kept in a flexed hip and knee position. Further investigation was conducted which included left lower limb X-ray and inflammatory markers. All investigations were reported normal. Child was given a provisional diagnosis of post COVID-19 myalgia. Oral analgesic was prescribed to children for pain control. He was enrolled in a multidisciplinary rehabilitation programme with the aim for gradual return to walking. Exercise prescription included gentle stretching to prevent contractures. Child was put on supported standing with gradual increase time. Play therapy was included to encourage child's participation. He was able to return to his previous walking status after 10 sessions of therapy.Early rehabilitation intervention with strategy to identify the complications in a child with disability post COVID-19 infection may leverage the recovery in this special group.

OP-034

The classical internal limiting membrane drape sign

Hui Yin Goh, MBBS[1], Norlelawati Binti Abu, M.MED (Ophthalmology)[2]

[1]Department of Ophthalmology, Hospital Sungai Buloh, Jalan Hospital, Sungai Buloh, Selangor, Malaysia, [2]Department of Ophthalmology, Hospital Tuanku Jaafar, Jalan Rasah, Seremban, Negeri Sembilan, Malaysia

ABSTRACT

Summary: Macular telangiectasia (MacTel) type 2, also known as idiopathic juxtafoveal retinal telangiectasia type 2, is an acquired form of bilateral macular telangiectasia observed in elderly patients. It typically presents with dilatation of retinal capillaries and crystalline deposits at the vitreoretinal interface. Optical coherence tomography (OCT) macula characteristically shows hypo-reflective retinal cavities with the persistence of overlying internal limiting membrane (ILM) known as 'ILM drape'. Herein, the authors described a case of elderly woman who presented with a classical OCT appearance characterised by MacTel type 2. As there is currently no generally accepted therapies for MacTel not associated with subretinal neovascularization, she was offered with cataract extraction and lens implant in order to improve her quality of life.

OP-035

A case report of paediatric intraventricular astrocytic tumour

Wong Soon Kuen[1], Yong De Jun[2], Idris bin Shahrom[3], Azmin Kass Rosman[4]

[1]Neurosurgery, Hospital Sungai Buloh, Selangor

ABSTRACT

Summary: This is a case report of an 11-year-old boy with underlying neonatal encephalopathy, presented with signs and symptoms of increased intracranial pressure and optic nerve compression. Computed tomography and magnetic resonance imaging brain revealed a huge enhancing midline intraventricular mass with calcification, complicated with obstructive hydrocephalus and cerebral oedema. He underwent a right ventriculoperitoneal shunt insertion for his obstructive hydrocephalus and subsequently craniotomy and excision of the tumour. It was uncomplicated post-operatively. Histopathological examination confirmed an intraventricular astrocytic tumour. Paediatric intraventricular brain tumours are uncommon, unique, and diverse in the pathological spectrum. They usually disturb the cerebrospinal fluid pathway and cause mass effect and hydrocephalus, resulting in signs and symptoms of raised intracranial pressure. Surgical intervention is generally the treatment of choice but technically challenging. More thorough studies should be conducted in future.

OP-036

Factors associated with specific physical activity advice delivered to patients among primary care doctors In Klang Valley, Malaysia

Hakimah Khani Suhaimi[1], Siti Fatimah Badlishah-Sham[1], Ahmad Taufik Jamil[2]

[1]Department of Primary Care Medicine, Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh Campus, [2]Department of Public Health Medicine, Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh Campus

ABSTRACT

Introduction: Physical activity advice delivered to patients has been shown to improve physical activity levels and health outcome. It is influenced by the personal physical activity levels of doctors. This study aimed to develop a physical activity advice tool, determine the personal physical activity levels of primary care doctors, prevalence of physical activity advice delivered to patients and the factors associated with delivery of specific physical activity advice. **Materials and Methods:** Phase 1 of the study developed a valid and reliable tool to assess physical activity advice delivered by doctors. Phase 2 was a cross-sectional study conducted at twelve primary care clinics. Data was collected using an online questionnaire assessing sociodemographic characteristics, physical activity level (using Global Physical Activity Questionnaire (GPAQ)) and physical activity advice delivered (using tool developed from Phase 1 of the study). **Results:** Multiple logistic regression was used to identify factors associated with specific physical activity advice delivered. 53.7% (95%CI: 0.47,0.61) of primary care doctors were physically inactive. 79.3% (95% CI: 0.73,0.85) delivered specific physical activity advice. Doctors of female gender (OR= 4.54, 95% CI: 1.78,11.56), possessed postgraduate qualification (OR 6.72, 95% 1.48,30.51), received formal training on physical activity advice (OR 2.79, 95% 1.01,7.79) and were physically active (OR = 2.67, 95% CI: 1.17,6.10) were more likely to provide specific physical activity advice. **Conclusion:** Primary care doctors should be encouraged to pursue postgraduate studies, be physically active and given training on how to deliver physical activity advice.

Keywords: physical activity advice; exercise counseling; primary care; Malaysia

OP-037

Perspective of mothers' experience with postpartum depression and mobile health intervention: A systematic qualitative review

Siti Sabrina Kamarudin, MPH[1,2], Idayu Badilla Idris, PhD[1], Norfazilah Ahmad, PhD[1]

[1]Center of Clinical Trial, Institute of Clinical Research, National Institute of Health, Ministry of Health Malaysia, [2]Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia

ABSTRACT

Introduction: In developing a mobile health (mHealth) intervention that is suitable for the targeted women of postpartum depression (PPD), the experience of women as the pinnacle figure in the development of a mobile application is needed and has been less explored in literature. Several systematic reviews published are about women experiences undergoing PPD interventions only; though, incorporating the needs of mHealth among women with PPD is less reviewed. **Materials and Methods:** Searches for qualitative studies conducted using the various combinations of the predetermined Medical Subject Headings (mESH) terms. The topic search was limited to using a qualitative filter, either a stand-alone study of a discrete part of a more extensive mixed-method study, peer-reviewed, published evidence in English and Malay language of journals from the year 2010-2020. Four electronic databases were searched for articles guided by the preferred reporting items for systematic reviews and meta-analysis (PRISMA) guidelines and appraised using critical appraisal skills programme (CASP). Analysis was done via interpretive thematic synthesis method. 9 studies were included in the final review. Four themes were developed during the synthesis, representing the different aspects of women's experience in seeking and receiving PPD mHealth intervention. 1) nurturing self-development, 2) networking, 3) bridging the gap and 4) device foundation. At the intersection of the 4-overarching team is the promotion of self empowerment among women to pursue an acceptable and effective mHealth intervention. **Conclusion:** Developing a mobile-health application based on the themes generated would be paramount in delivering an effective evidence-based intervention for these mothers. However, a further evaluation of the cultural aspect towards the local mothers' needs of mHealth application is warranted as it governs the way of life of the Asian population and sustainability of mHealth application.

Keyword: Systematic Review, Qualitative, Postpartum Depression, MHealth

OP-038

COVID-19 infection severity in Hospital Sungai Buloh healthcare workers in relation to their vaccination status

Suriana Shereena Enche Wel, Norsuzana Maslinda Sukardi, Husaini Amin Masri

Occupational Safety and Health Unit, Hospital Sungai Buloh

ABSTRACT

Introduction: The accelerated progress in COVID-19 vaccines development and implementation has raised concerns about their effectiveness in limiting transmission of COVID-19 and reducing the severity of infection through the acquired protective immunity via vaccination. Our objective is to investigate the association between vaccination status and severity of COVID-19 infection in infected healthcare workers (HCW). **Materials and Methods:** Applying a retrospective study design to positive COVID-19 HCW and COVID-19 vaccination databases between March and December 2021, an estimated 448 HCWs with variations in their vaccination status (0, 1, 2 and first booster) against the severity of the infection (less severe for Category 1 and 2 and severe for category 3 to 5). **Results:** Fisher's exact test was used to determine any significant association between vaccination status and severity of COVID-19 infection among these healthcare workers. There was a statistically significant association between the two variables ($p < 0.001$) with severity of infection decreased significantly among those who had received full course of vaccination against COVID-19, i.e., 2 weeks (14 days) after second dose of an accepted 2-dose series. **Conclusion:** In contrast to the high protection against severe consequences of COVID-19 infection, our results suggest that at least 2 doses of COVID-19 vaccines provide excellent protection against severity of COVID-19 infection. Our study is limited by the sample size when comparing disease severity in those who had received the first booster dose. Further correlation may be needed to compare vaccine efficacy with sociodemographic status, underlying comorbidities, and the type of risk exposure of the HCW.

Keywords: COVID-19, healthcare workers, vaccination status

Do women living with human immunodeficiency virus experience stigma and discrimination when accessing sexual and reproductive health services in government health facilities in Malaysia?

Zailatul Hani Mohamad Yadzir, Mazliza Ramly, Anita Suleiman

Ministry of Health, Malaysia

ABSTRACT

Introduction: The Sexual and Reproductive Health and Rights (SRHR) of WLHIV are essential to their well-being, just like women in the general population. Therefore, the aim of this study was to assess stigma and discrimination related to SRH services faced by WLHIV in government health facilities in Malaysia. **Materials and Methods:** A cross-sectional study was conducted in April 2022 in fifty-five government health facilities in Malaysia. A validated self-administered questionnaire with five SRHR-related items was used to assess stigma and discrimination faced by WLHIV. This survey was carried out online using a web-based platform. **Results:** Overall, 141 WLHIV participated in this study. This study found that a small percentage of WLHIV experienced stigma when accessing SRH-related care and services. This included them being informed that they could only receive antiretroviral therapy (ART) if they used contraception (23%), and if they fed their infant formula rather than breast milk (33%). Thirteen percent and 22% of them stated that they had been advised by healthcare providers not to have sex and not to get pregnant, respectively. None of them claimed that they had been advised or forced to terminate pregnancy. **Conclusion:** The findings of this study indicated that there is still stigma against WLHIV among healthcare providers. However, when WLHIV sought for SRH-related care and services, this stigma was not manifested as discriminatory action by healthcare providers. Ethics and professionalism are upheld through giving good care and services to WLHIV. Thus, intervention programs to combat stigma are still needed to maintain continuous excellent service delivery.

Keywords: WLHIV, sexual health, women, stigma

P-001

Impact of pharmacists' interventions on the utilization of guideline-directed medical therapy and clinical outcomes in the heart failure frequent flyer programme Hospital Tengku Ampuan Rahimah Klang

Ng Poh Lee Geetha[1], Ang Sie Yung[1], Wong Wu Ching[1], Syafiqah Ab Jalil[1], Arina Liyana Ismail[1], Nur Asyikin Mohd Yunus[2], Michelle Maryanne Tan[2], Norhawani Mansor[2]

[1]Department of Pharmacy Hospital Tengku Ampuan Rahimah Klang, [2]Department of Medicine Hospital Tengku Ampuan Rahimah Klang

ABSTRACT

Introduction: Multidisciplinary heart failure clinics are recommended by the current guidelines in reducing admissions and mortality. Pharmacists are trained members in the multidisciplinary clinic to provide medication education and conduct medication reviews to identify pharmaceutical care issues (PCIs). The aim of this study is to determine the impact of pharmacists' interventions by evaluating the utilization of guideline-directed medical therapy (GDMT), improvement of New York Heart Association (NYHA) class, left ventricular ejection fraction (LVEF) and the number of PCIs detected during the one-year follow-up. **Materials and Methods:** This was a cross sectional study involving all patients (n=38) who attended the clinic from October 2017 until September 2021. Baseline GDMT, NYHA class, LVEF were recorded and compared at one year follow-up. Types of interventions were recorded. **Results:** At baseline, use of angiotensin-converting-enzyme-inhibitor plus angiotensin-receptor-blocker, angiotensin-receptor-neprilysin-inhibitor, beta-blockers, mineralocorticoid-receptor-blockers, and sodium glucose co-transporter-2 inhibitors was 50.0%, 2.6%, 79.0%, 55.3% and 2.6% respectively and at one year, it increased to 57.9%, 26.3%, 84.2%, 63.2% and 31.6% respectively. 52.8% of patients had a poor functional class of NYHA III-IV at baseline in which 88.9% of them improved to NYHA I-II after one-year. The mean LVEF was 31.1±13.4% at baseline which then increased to 37.6±12.9% in 76% of the patients. 129 PCIs were detected consisting of inappropriate drug, dose, frequency, drug interactions, and vital sign/laboratory monitoring. **Conclusion:** Pharmacists play an important role in the multidisciplinary clinic as they significantly improved the utilization of GDMT leading to improvement of NYHA class and LVEF.

Keywords: Heart Failure, Pharmaceutical Care Issues Guideline-Directed-Medical-Therapy

P-002

Characterization deep eutectic solvents for optimal transdermal drug delivery

Vaisnevee Sugumar[1], Chong Chui Ying[2], Looi Chung Yeng[2]

[1]School of Medicine, Taylor's University, [2]School of Biosciences, Taylor's University

ABSTRACT

Introduction: The development of a new drug delivery system (DDS) for the delivery of large macromolecules that is minimally invasive have been rising consistently in the past years. As of now, the primary mode delivery of these macromolecules is through the use of injection, which is painful and may lead to a lower compliance rate among patients. **Materials and Methods:** Deep eutectic solvent is a tunable mixture of compounds prepared by simply mixing two or three components at an appropriate molar ratio which then appears as liquid salts with temperature below 100 °C. Recently, due to its non-toxic and high biodegradability in nature DES have gain recognition as a potential permeation enhancer as they are able to increase solubility, permeability and adsorption rate of drugs across the skin. However, the characterization and cytotoxic evaluation of DESs are still limited. **Results:** In this study, Choline chloride (ChCl): Glycerol (Gly)/Ethylene glycol (EG)/Urea (U) (6.63, 7.60 and 6.51 ms/cm) showed higher conductivity and lower viscosity (448, 688 and 32 cP) than choline bicarbonate:geranic acid (CAGE) (1.3 ms/cm) (729cP). On the contrary, the melting point of CAGE is the lowest at -22.26 °C compared to ChCl:Gly/EG/U (-39.94,-34.92, -44.64 °C). Cytotoxic analysis on HaCat cells showed non-detectable IC50 with ChCl:Gly/Urea (4-256 mg/ml) but detected with ChCl:EG at 128-256 mg/ml. Culture media were seen turbid at concentration higher than 16 mg/ml using CAGE nevertheless IC50 were not detected at concentration of 4-16 mg/ml. **Conclusion:** This concludes that DESs could potentially be used as a transdermal enhancer due to its low cytotoxic effect on skin cells.

Keywords: DES, Transdermal, DDS, Drug

P-003

Traditional and complementary medicine usage among cancer patients in Ministry of Health hospitals Malaysia: A descriptive study

Norshariza Jamhuri[1], Norsuhaila Sha'ari[3], Ho Chiou Yi[1], Teo Chiah Shean[1], Siti Hajar Ismail[4], Basmawati Baharom[3], Ani Norita Muhamad Samudi[3], Norashikin Rekamarudin[5]

[1]Department of Dietetics and Food Service, Institut Kanser Negara, [2]Department of Traditional and Complementary Medicine, Institut Kanser Negara, [3]Department of Dietetics and Food Service, Hospital Kuala Lumpur, [4]Department of Dietetics and Food Service, Hospital Sultanah Aminah, [5]Department of Dietetics and Food Service, Hospital Sungai Buloh

ABSTRACT

Introduction: Cancer patients tend to seek a quick alternative solution such as traditional and complementary medicine (T&CM). Consistent information on the frequency and patterns of T&CM use in cancer patients is critical for continuing education and regulation in the T&CM field. This study aimed to determine the T&CM usage among cancer patients in Malaysia. **Materials and Methods:** This cross-sectional study was conducted by using a validated questionnaire adapted from the Malaysian Breast Cancer Survivorship Cohort study. Data on demographics and clinical characteristics were obtained from latest medical record. Subjects were followed- up after a month to collect anthropometric data and nutritional intake. **Results:** This study recruited 382 subjects with median age of 51.38±11.73 years with 34.8% of subjects were T&CM users. Majority of T&CM users were female 81.2%; Malay (89.5%) with secondary education (57.1%). Breast cancer patients were the most frequent users of T&CM and 50.4% users presented with comorbidities and 38.3% were already at Stage 4. Ethnicity (p<0.001), type of cancer (p=0.04), working status (p=0.015), and family history (p=0.012) were all associated with T&CM use. Ethnicity showed significant negative effect on the T&CM use (OR:-1.140, p<0.001). There were significant changes in overall BMI (p<0.001) from pre-diagnosed to the follow-up session among study subjects but no significant differences in mean weight, BMI, energy intake, and protein intake between T&CM users and non-users at pre-diagnosis, first visit, and follow-up session. **Conclusion:** Many patients have reported their hesitation to seek traditional therapy after diagnosed with cancer, citing fear of side effects as the primary reason for the delay. Malay female has the strongest traditional beliefs as herbal medicines consumption are based on experience, observation and rituals derived from social religious beliefs. Patient education is critical, and clinicians should be knowledgeable on the use and safety of traditional and complementary medicine.

Keywords: Traditional and complementary medicine, T&CM, alternative medicine, cancer

P-004

The epidemiology of surgically managed brain tumours in Selangor

Chin Wen Xin, Wong Soon Kuen, You Xinli, Liew Boon Seng, Saiful Azli, Azmin Kass

Hospital Sungai Buloh

ABSTRACT

Introduction: This descriptive study reviewed the epidemiology of operated brain tumours in public hospitals in the state of Selangor from January 2018 till December 2019. **Materials and Methods:** A total of 185 brain tumour patients with confirmed tissue diagnosis were included. The data was analysed using SPSS to acquire value and comparison. **Results:** The crude incidence of operated brain tumour cases in Selangor was 1.42 per 100,000 population/year. Adult-type diffuse gliomas were the most common brain tumour (n: 52, 28.1%) and followed by meningiomas (n=49, 26.5%). The majority of brain tumours occurred in 55-59 (n=28, 15.1%) age group followed by 45-49 (n=22, 11.9%) age group. Females were 1.4 times more likely to have a brain tumour, whereby 58.4% of females were involved. Brain metastases were noted in 4.86% of patients and most commonly were secondary to breast carcinoma (22.2%). Subgroup analysis of the paediatric age group revealed that ependymomal tumours were the most common brain tumour (37%). **Conclusion:** Further data collection is needed for subsequent data analysis and projection for the allocation for healthcare resources.

Keywords: Brain Tumour, Selangor, Operated, Surgical Intervention, Adult, Paediatrics

P-005

Routine screening of dengue and COVID-19 rapid test kit for non critical emergency patients with acute febrile illness

Raihana Asila Binti A Kadir[1], Wan Syazmin Binti Wan Mokhtar[2], Nimallah Chandran[3], Ummar Qayyum Ahmad Bin Ibrahim Ahmad[4], Soo Kok Foong[4], Siti Suhaila Binti Hamzah[4]

[1]Krida Wacana Christian University (UKRIDA), [2]Cyberjaya University College of Medical Sciences (CUCMS), [3]Management & Science University (MSU), [4]Universiti Sains Malaysia (USM)

ABSTRACT

Introduction: Acute febrile illness (AFI) is a common presentation to the Emergency and Trauma Department (ETD). The recent COVID-19 endemic and the existing dengue fever endemic in Malaysia are the biggest concern for AFI posing greater mortality and morbidity. The aim of the study is to investigate the need for a routine dengue and COVID-19 screening for patients with AFI in post pandemic era. **Materials and Methods:** This is a prospective observational study for all non critical emergency patients with AFI who were seen at our Fever Centre in April 2022. These patients were routinely screened with dengue combo kit and COVID-19 RTK test prior to consultation with doctor. Data of included patients were extracted from the hospital intergrated computerised system. **Results:** A total of 214 out of 315 patients were screened with dengue combo kit and COVID-19 RTK and 38 patients (17.8%) had positive dengue test while 26 patients (12.1%) had positive COVID-19 RTK result. 26 patients (68.4%) required admission or prolonged observation and 10 patients (26.3%) were uptriaged for dengue fever. 10 patients (38.4%) required admission for COVID-19 infection however none of the patient was diagnosed with concomittant dengue and COVID-19 infection. **Conclusion:** The screening tool has moderate pick up rate for both dengue and COVID-19 patient while majority of the dengue patients will require admission or prolonged observation. We suggest that dengue combo kit should be done routinely for patients with AFI however routine COVID-19 RTK should be tailored and individualised.

Keywords: fever, febrile illness, screening, COVID-19

P-006

Short-term clinical outcomes of open repair of myelomeningocele from 2015-2022: Hospital Sungai Buloh

Chiun Pei Zhi, You Xinli, Liew BS, Azmin Kass, Saiful Azli Bin Mat Nayan, Azmin Kass

Neurosurgery, Hospital Sungai Buloh

ABSTRACT

Introduction: Myelomeningocele is an open neural tube defect with presence of vertebral arch malformation associated with meningeal cystic dilation, and structural or functional spinal cord abnormality. The goals of surgery are to define the abnormal elements, excise the dysplastic tissue, redevelop the "normal" tissue planes, reconstruct and reform the "normal" anatomy, and preserve residual function. **Materials and Methods:** This is a descriptive study in which we retrospectively reviewed the outcome of patients who underwent open myelomeningocele repair from April 2015 to April 2022. **Results:** A total of 31 patients were operated from April 2015 to April 2022. All patients were delivered at 32 to 41 weeks old, in which the majority of them (48.4%) were delivered at 38 weeks of life. All patients demonstrated presence of myelomeningocele at the thoracic, sacral or lumbar region. Thirty-eight percent of the patients were operated within 36 hours post-delivery. The smallest defect operated was 3x3cm, while the largest was 10x10cm. 21 out of 31 patients were noted to have a perforated sac prior to surgery needing fasciocutaneous flap closure. 6 out of 31 patients were complicated with post-operative wound break down and infection. No worsening of neurological deficit was documented in all of the patients. **Conclusion:** Early experience of open myelomeningocele repair in this centre demonstrated a generally favourable outcome. No patients had worsening of neurological deficits, and 80.6% of the patients were not complicated with wound breakdown. However, further long-term follow-up is needed to evaluate progress of neurodevelopment, bladder and bowel function.

Keywords: myelomeningocele, open repair, neurosurgery, neural tube defect

P-007

COVID-19 hospitalisation during period of delta and omicron predominance in Malaysia: A descriptive study

Syarifah Nurul Ain Syed Badaruddin[1], Swarna Lata Krishnabahawan[1], Shafiq Eiman Abdul Razak[1], Satya Tamilselvam[1], Suriya Kala Balachandran[1], Tharmini Ravi[1], Aminiril Anisah Abdul Hamid[1], Nur Suriana Mah Hassan[1], Liew Boon Seng1, Kalaiarasu M. Peariasamy[2], Chew Chun Keat[2], Low Ee Vien[2]

[1]Clinical Research Centre, Hospital Sungai Buloh, [2]Institute for Clinical Research, National Institute of Health

ABSTRACT

Introduction: Hospital Sungai Buloh is the main COVID-19 referral centre since the pandemic started. Having a large database of COVID-19 patients, this study describes the demographic characteristics of patients who were admitted to Hospital Sungai Buloh during periods of Delta and Omicron predominance. **Materials and Methods:** Medical records of COVID-19 patients who were hospitalized in Hospital Sungai Buloh during the period of Delta and Omicron predominance were reviewed retrospectively and analyzed. **Results:** Patient admissions during the period of Delta predominance from May-July 2021 (5815 patients) are higher than during the period of Omicron predominance from January-April 2022 (3144 subjects). Among 8959 COVID-19 patients, 55.6% of them were in the age group 60-79 years old (4977 patients). Majority were male (50.7%), Malaysian (98.5%) and diagnosed as Category 4 COVID-19 upon admission (48.6%). A total of 935 (10.4%) patients died during hospitalisation. **Conclusion:** This descriptive study serves as a baseline research for more studies in future using the same dataset. Rigorous data cleaning is currently being performed to produce more robust and reliable results.

Keywords: COVID-19, Hospitalisation, Omicron, Delta

P-008

Serotypes and beta-lactamase-producing Haemophilus influenzae isolated from children attending childcare centres in Kuala Lumpur post vaccination era

Salina Mohamed Sukur, Saraswathiy Maniam, Fashihah Sherina Abdul Hadi Sabri

Infectious Diseases Research Centre, Institute for Medical Research, National Institutes of Health (NIH)

ABSTRACT

Introduction: Despite widespread and routine immunisation of children, HI remains a significant pathogen and colonisation of the upper respiratory tract is a risk factor for developing disease. This study aimed to identify the serotype distribution and determination of ampicillin resistance genes of HI strains that are asymptomatically carried by healthy children post vaccination. **Materials and Methods:** Twenty-four HI isolates were obtained from oropharyngeal swabs of healthy Hib vaccinated children aged 2-4 years old (n = 436) attending registered childcare centres (n = 30) in Kuala Lumpur (August 2018-May 2019). HI isolates were characterised by serotyping using standard slide agglutination test, ampicillin susceptibility testing and resistance associated gene sequencing. **Results:** The rate of ampicillin resistance was 25% (6/24). All ampicillin resistant strains were also beta-lactamase positive (BLPAR). Out of these, 2 were serotype Hib strains, one each from serotype a and f, and 2 were NTHi. Of these 6 BLPAR isolates, 4 strains possess the TEM-1 β-lactamase gene. **Conclusion:** The findings that 21% of HI isolates were Hib and only 2 out of 5 Hib strains were BLPAR and possessed TEM-1 β-lactamase gene shows that despite routine immunisation of children, they still carried Hib asymptomatically and not many strains showed reduced susceptibility to β-lactam antibiotic.

Keywords: serotype, beta-lactamase, haemophilus, influenza, childcare, ampicillin

P-009

Strengthening the implementation of potentially infectious materials, poliovirus regulations in poliovirus surveillance and research programs

Kamal Haikal Mat Rabi, Mohd Samsul Samsuddin, Marcus Yong, Abigail Anak Arthur Borman, Rozainanee Mohd Zain

Virology Unit, Infectious Disease Research Centre, Institute for Medical Research (IMR), Setia Alam, Shah Alam, Selangor

ABSTRACT

Introduction: Malaysia's National Polio Laboratory (NPL) has been appointed as the National Poliovirus Containment Coordinator (NPCC) in 2000 to minimize the number of facilities retaining potentially infectious materials, poliovirus (PIM). PIM is defined as respiratory, faecal, or environmental sewage samples, and derivatives such as permissible poliovirus cell culture, Oral Polio Vaccine (OPV), collected for any purpose before 31 December 2020. However, all monitoring activities were disrupted by the COVID-19 pandemic in early 2020. In addition, Polio outbreaks occurred in Sabah and WP Labuan at the same time which leads to the large-scale use of OPV to respond to widespread vaccine-derived poliovirus (VDPV) outbreaks, it could generate new PIM, which requires an update in the NPCC record database. **Materials and Methods:** The main objective of the study is to ensure compliance of all country states to the requirement of the Global Polio Eradication Initiative (GPEI) by WHO by providing a database and evidence of action. As per the WHO Global Action Plan III (GAP III) guidelines, meetings and site visits were conducted with the government and non-government bodies that are keeping and handling PIM. In 2019, 588 survey forms were sent to 141 government hospitals, 6 government agencies (veterinary, fishery, chemical, research institutions), 19 major private laboratories, 209 private hospitals, and 16 public universities. **Results:** Out of the 588 facilities that received the survey forms, only 177 facilities have completed the survey. 173 facilities declared that they did not store any PIM, whilst 4 institutions had informed that they had completed inventories for their PIM storage and had discarded the identified materials accordingly. The other 411 facilities have informed the NPCC that they did not have any PIM and are still completing the survey forms. **Conclusion:** The NPCC actively adhered to the recommendation by GAP III guidelines for the containment activities by conducting national surveys, laboratory inspections, consultations, and inventories of records. Based on the findings, most of the laboratories that responded to the survey did not keep any PIM and follow the procedures as per the guideline. Continuous monitoring of PIM is required although the Polio outbreak was declared ended on 9th September 2021 in Malaysia. This study will be a reference for future planning by the ministry and authorities with regards of the Biosafety and Biosecurity regulations involving laboratories working with infectious materials.

Keywords: Potentially Infectious Materials, Poliovirus (PIM), National Poliovirus Containment Coordinator (NPCC), Oral Polio Vaccine (OPV), vaccine-derived poliovirus (VDPV), WHO Global Action Plan III (GAP III)

P-010

An analysis of the types of skull fractures and intracranial haemorrhages found in autopsies of road traffic accident victims in the year 2015-2017 and a comparison with a previous study done 20 years ago (1995-1997); in Manipal a town in southern part of India

Dewaraj Velayudhan[1], Anitta Joseph[2], Vinod Nayak[2]

[1]Department of Neurosurgery, Hospital Sungai Buloh, [2]Department of Forensics Medicine, Kasturba Medical College

ABSTRACT

Introduction: Development of a place brings changes to road traffic accident profile. A decadal report (2005-2015) by Transport Research Wing New Delhi showed a rise of road length by 43.66%. This was corresponded by a 53.88% rise in total number of people killed and 34.72% increase in accident severity. Manipal, being an educational hub has seen rapid development. Since head injury is the biggest killer in road accident victims, we wanted to analyse the changes in the types of skull fractures and intracranial haemorrhages over the period of 20 years. This study was compared to another study involving cases from 1995-1997, entitled; Pattern of Fatal Head Injuries due to Vehicular Accidents in Manipal. The previous study was published in Journal of Indian Academy Forensics Science, 2005: 27 (1). ISSN 0971-0973. **Materials and Methods:** Data was collected from autopsies done in the Department of Forensics Medicine, Kasturba Medical College, Manipal from 2015 to 2017. There were a total of 316 cases. The previous study had only 100 cases and data was presented mainly in the form of percentage. Thus to compare both studies, percentages were calculated in this study as well. **Results:** In our study, 68.67% (n=216) cases had skull fractures which is higher compared to 62% cases in the previous study. Linear, comminuted and depressed fractures have increased; from 57% to 70.51% (n=152), 18% to 53% (n=115) and 9% to 22.58% (n=49) respectively. However, it is noted fractures involving only the vault are lesser; from 38% to 23.96% (n=52%). As for intracranial haemorrhages, both extradural and subdural haemorrhage have shown reduction; from 26% to 10.13% (n=32) and 77% to 68.99% (n=218) respectively. Whereas subarachnoid haemorrhage has increased, from 55% to 79.75% (n=252). In this study, 1.58% (n=5) of cases had no intact brain matter found. This was not found in the previous study. **Conclusion:** Fatal head injuries have increased in Manipal over the 20 years due to more high-velocity accidents. This is supported by the increased number of skull fractures and rise in subarachnoid hemorrhage. High impact injuries cause brain contusions and tearing of pial vessels that result in subarachnoid haemorrhage. Further, only in high impact accidents, the skull breaks open and there is spillage of brain matter. Safety helmet mainly protects the cranial vault. Over the 20 years, more strict legislation of law to wear helmets have resulted in decrease in fractures involving the cranial vault only. In a nutshell, Manipal has to curb over-speeding and promote usage of safety helmets. We suggest stringent law enforcement and public-awareness campaigns.

Keywords: Fatal head injuries, skull fractures, intracranial haemorrhages, autopsies

P-011

Thromboembolic complication among COVID-19 patients in the intensive care unit: A single-centre study from a Malaysian perspective

Hanis Hanum Zulkifly[1], Nur Farhani Mansor[1], Izzati Abdul Halim Zaki[1], Lee Chew Kiok[2], Kar Seng Eng[2], Tharmini Ravi[2], Mohan Pathmanathan[3], Mohd Shahezwan Abd Wahab[1], Mohd Rahimi Muda[1]

[1]Fakulti Farmasi, Universiti Teknologi MARA Kampus Puncak Alam, Selangor, [2]Hospital Sungai Buloh, Selangor Darul Ehsan, [3]Institute of Clinical Research, National Institute of Health

ABSTRACT

Introduction: The emerging complications of thromboembolism (TE) in COVID-19 patients have led to severe consequences such as death. Nonetheless, the prevalence of TE complications among COVID-19 patients in the Intensive Care Unit (ICU) in Malaysia is unknown. The aim of this study is to investigate the prevalence of thromboembolic (TE) complications including venous deep vein thrombosis (DVT), pulmonary embolism (PE), and line related thrombosis] and arterial [stroke, peripheral arterial disease and myocardial infarction (MI)] thrombosis and mortality among COVID-19 patients admitted to an ICU in Hospital Sungai Buloh. **Materials and Methods:** In this retrospective Malaysian cohort study, patients admitted to a single centre ICU with polymerase chain reaction (PCR) confirmed of SARS-CoV-2 virus and received adequate thromboprophylaxis within February 2020-2021 were included. Thromboembolic (TE) event is a combination of venous and arterial thrombosis. **Results:** Mean (SD) age 56.6 (13.7), 63.5% were male, 61.6% Malays, median (IQR) 7 (3-14) days of ICU admission, 64.2%, 53.2 % and 20.9% had underlying hypertension, diabetes and obesity respectively. Of 534 patients, 4 (0.7%) developed DVT, 198 (37.1%) PE and 2 (0.4%) line related thrombosis. Meanwhile, 21 (3.9%) developed stroke, 39 (7.3%) MI, 1(0.2%) PAD and 22.8% died despite adequate thromboprophylaxis. In total, 240 (44.9%) developed TE event during their ICU admission. Significantly higher proportions of COVID-19 patients who developed complications of DVT (2.5% vs. 0.2%; p=0.013), PE (47.5% vs 34.0%; p=0.006), stroke (12.3% vs. 1.5; p<0.001) and MI (16.4% vs. 4.6%; p<0.001) died. Age, duration of ICU admission, obesity, white cell count (WCC), troponin, D-Dimer and corticosteroid use were significantly greater among those with TE events. Demographics, comorbidities, other laboratory parameters and inflammatory markers were similar in COVID-19 patients with and without TE events. Predictors of TE events on multivariate logistic regression analysis were age [OR 1.02 (95% CI 1.00-1.03)], obesity [OR 2.84 (95% CI 1.93-4.18)], WCC [OR 1.04 (95% CI 1.00-1.07)], and duration of ICU admission [OR 1.04 (95% CI 1.02-1.06)]. **Conclusion:** In this cohort of severely ill COVID-19 patients, the overall prevalence of TE complication was high (44.9%) with the overall mortality of 22.8% despite adequate thromboprophylaxis. Key predictors of TE events included age, obesity, white cell count, and duration of ICU admission. Perhaps a more aggressive treatment (combination of thromboprophylaxis and enhanced anti-inflammatory treatment) may be needed among COVID-19 patients admitted to ICU with high risk factors to prevent further increase in the incidence of thromboembolism and death.

Keywords: COVID-19, Thromboembolism, ICU

P-012

Long-term renal outcome of living kidney donors: A single centre experience

Song Chan Hoong[1], Wong Hin Seng[2], Suryati Yakob[1]

[1]Department of Nephrology, Hospital Selayang, [2]Clinical Research Centre, Hospital Selayang

ABSTRACT

Introduction: Living kidney donor (LKD) remains an important kidney source for transplantation. This study aims to assess the long-term renal outcome of LKD in a local setting. **Materials and Methods:** This is a retrospective descriptive cohort study of the renal outcome of LKD who donated their kidney in Selayang Hospital from year 2000 until 2016. The renal function measured using CKD-EPI equation at 5 and 10 years were analysed. **Results:** A total of 61 LKD operations took place in Selayang Hospital from year 2000 to 2016 with predominant female donors (72.13%). The proportion of Malay, Chinese and Indian donors are 59.02%, 29.5% and 11.48% respectively. The mean age at kidney donation was 43.44±9.05 years old. The mean eGFR (ml/min/1.73m2) at kidney donation was 102.52±15.56. A total of 37 donors (60.66%) with sufficient data for analysis were identified. The mean eGFR were 75.94±15.61, 76.82±18.08 and 72.48±13.77 at 1, 5, and 10 years respectively. A repeated-measures ANOVA determined mean eGFR differed significantly across time points of pre-operation to 1, 5 and 10 years ($F(3, 72)=25.932$, p<0.001). However, mean eGFR remained stable over time (74.0±15.2 vs 76.9±19.3 vs 72.6±14.1, p=0.383). Therefore, the results indicated a non-significant time effect for eGFR post donor-nephrectomy. At 5- and 10-years post-donation, 14.71% (n=5/34) and 20.69% (n=6/29) donors had eGFR <60 respectively with 1 donor progressed to end stage renal disease needing haemodialysis. Hypertensive disease was documented in 32.43% (n=12) of the donors with the mean onset at 7.92±3.40 years post-donation and 5.41% (n=2) developed significant proteinuria. **Conclusion:** LKDs have favourable renal outcome post-donation.

Keywords: renal, kidney, living donor, nephrology

P-013

Complex regional pain syndrome in central cord syndrome: A steroid solution to the integrated multidisciplinary

Kavitha Andiappan[1], Shafiq Eiman[2]

[1]Rehabilitation Medicine Department, Hospital Sungai Buloh, Selangor

ABSTRACT

Summary: Complex regional pain syndrome (CRPS) is a rare perplexing painful syndrome of the extremities that is disproportionate to the inciting event and associated with evidence of vasomotor, sudomotor and trophic changes at the affected region. The possibility of CRPS in spinal cord injury is overlooked as it is sparsely reported. Failure to recognize and treat CRPS in its early stages leads to development of disabling chronic symptoms. We describe a 45-year-old patient who developed CRPS of the left upper limb in the background of traumatic central cord syndrome. He presented with worsening burning sensation with features of hyperalgesia, allodynia and edema of his left upper limb alongside restriction of left shoulder passive range of motion 3 months post trauma. He received comprehensive multidisciplinary rehabilitation care that included (a) tapering dose of prednisolone and (b) non-pharmacological approaches consisting of cognitive behavioural therapy, transcutaneous electrical nerve stimulation, graded range of motion and strengthening exercises, mirror visual feedback and desensitisation therapy. Patient showed significant positive clinical response to the treatment regime which translated to large improvement in his functional activities and participation that carried on beyond the period of treatment. CRPS is rare but a possible complication of cervical cord syndrome that should be at the back of one's mind prompting early diagnosis and proper treatment of acute CRPS curbing long term complications. CRPS in its acute phase can be well treated with prednisolone in rehabilitation settings translating into functional progress and improvement in quality of life.

P-014

Effectiveness of rapid test kit antigen (RTK-Ag) as a screening test for COVID-19 in the emergency department

Tengku Nurlisa Binti Tengku Azelan Shah, Wan Syazmin Binti Wan Mokhtar, Rifhan Nabilah Binti Sudirman, Wan Afifah Binti Wan Jaafar, Siti Suhaila Binti Hamzah

Hospital Sungai Buloh, Selangor

ABSTRACT

Introduction: There is a need for rapid detection of COVID-19 status in patients attending the Emergency Department (ED) to urgently assign appropriate care pathways and reduce overcrowding. Rapid Test Kit Antigen (RTK-Ag) was thought to be the most convenient bedside test in ED for this purpose. We aim to compare the RTK-Ag results with the gold standard Reverse-Transcription-Polymerase Chain Reaction (RT-PCR) results and determine its effectiveness as entrance and pre-admission screening test. **Materials and Methods:** 465 patients with unknown COVID-19 status presenting to ED Hospital Sungai Buloh from 13/10/2021 – 12/1/2022 underwent both RTK-Ag and RT-PCR prior to admission. Five patients were excluded due to incomplete documentations. Results from both tests were extracted and compared. **Results:** Eleven patients had true positive results, and none had false positive. 17 had false negative and 432 were true negative. All false negative patient had CT value > 30. Therefore, the sensitivity of RTK-Ag is 39.2% with specificity of 100%. The Positive Predictive Value (PPV) is 100% with Negative Predictive Value (NPV) of 96%. **Conclusion:** From a clinical perspective, patients with CT value > 30 were not treated as having active COVID-19 infection, thus did not require isolation. The sensitivity and NPV of RTK-Ag was 100% in detecting active COVID-19 versus no infection or non-active state. Therefore, bedside RTK-Ag is as effective as RT-PCR and can be used in ED to expedite admission. This has greatly helped in reducing the long-waiting time in ED for RT-PCR and is cost effective.

Keywords: COVID-19, Rapid Test Kit Antigen, emergency department

P-015

Outcome of decompressive craniectomy in supratentorial large territory acute infarction

Teh Ping An, You Xinli, Saiful Azli Mat Nayan, Azmin Kass Rosman

Department of Neurosurgery, Sungai Buloh Hospital, Selangor

ABSTRACT

Introduction: Ischaemic stroke is a major cause of mortality and morbidity in which it affects up to 795,000 people per year in United States. Decompressive craniectomy has been advocated for the management of acute malignant cerebral edema secondary to infarction. Zhao et al., Li et al. and DESTINY II studies have demonstrated significant reduction in mortality following decompressive craniectomy. The aim of this study is to determine the predictors of outcome based on Modified Rankin Scale at 3 months after decompressive craniectomy performed for patients with supratentorial large territory acute infarction in Hospital Sungai Buloh. **Materials and Methods:** This is a retrospective cohort study of 59 patients with supratentorial large territory acute infarction, admitted between February 2012 to December 2021. The data was retrieved from the electronic hospital information system. **Results:** There were 59 patients included in the study with 77% of male patients. Their ages ranges from 28 to 70 with a mean age of 56 years old. Forty nine patients (83.0%) underwent surgeries in less than 24 hours from brain imaging to surgery, while remaining patients in less than 48 hours. There were no significant associations found between gender, age, time from brain imaging to surgery and outcome at 3 months follow up. Those with presenting Glasgow Coma Scale (GCS) of <8 and anisocoria were associated with poor outcome at 3 months follow-up, with mortality rate of 57.7% (p=0.010) and 65.4% (p=0.027) respectively and were statistically significant in the univariate analyses. **Conclusion:** Decompressive craniectomy is a life-saving procedure for supratentorial large territory acute infarction. GCS score of <8 and anisocoria were associated with poor outcome following surgery.

Keywords: cerebral infarction, decompressive craniectomy

P-016

Review of discharge medications at a post COVID care clinic

Pee Lay Ting, Chong Pei Feng, Kavitha Preya Subramaniam

Pharmacy department, Hospital Sungai Buloh

ABSTRACT

Introduction: Post COVID care clinic (PCCC) was started in Hospital Sungai Buloh in mid June 2020. Most category 4 and 5 COVID-19 patients would be discharged with a range of medications and will be followed up at PCCC. Some medication requires tapering doses might be burdensome to patients while adverse effects from some medication could also affect compliance. The aims of this study were to review patient clinical characteristics, medication adherence and treatment outcomes to discharge medications. **Materials and Methods:** A cross sectional study at the PCCC from April 1 to May 21, 2021 was conducted. Patients who attended PCCC and gave consent were included in the study. Assigned pharmacist approached the patient with the case report form and the Malaysia Medication Adherence Assessment Tool (MyMAAT) was self administered by the patient or care-giver. **Results:** A total of 128 patients were included in the study. Majority of patients seen were with co- morbidity hypertension and diabetes. Complications of COVID-19 reported were mostly organizing pneumonia (90%) and pulmonary embolism (43%). Most patients (91%) discharged with at least one medication and anti-inflammatory was the most commonly prescribed (93%). Oral prednisolone and dexamethasone were prescribed over several days to weeks in the treatment of organizing pneumonia. Patients on anti- inflammatory reported the highest adverse drug reactions (93%). Overall adherence to discharge medications in the PCCC was good (76%). However, there could be potential for under-reporting of side effects experiences for one or more of discharge medications as a result of completed treatment. **Conclusion:** This was the first study done specifically to review the discharge medications in a PCCC. Good adherence was shown despite several adverse drug effects reported by post COVID-19 patients.

Keywords: PCCC, post COVID-19, medication adherence

P-017

Role of environmental cleaning in the control of multidrug resistant Acinetobacter Baumannii outbreaks in an intensive care unit

Lim Wan Xin[1], Naadhiya Siva Kumar[1], Tuan Suhaila Tuan Soh[1], Kang Ker Cheah[2]

[1]Infection Prevention and Control Unit (IPC), Hospital Sungai Buloh, [2]Department of Anaesthesiology, Hospital Sungai Buloh

ABSTRACT

Introduction: In May 2022, Multidrug-Resistant Acinetobacter Baumannii (MRAB) cases from Intensive Care Unit (ICU) Hospital Sungai Buloh rose from 2% to 9.3%. We describe the role of environmental cleaning in reducing the MRAB incidence in 2 months. **Materials and Methods:** The monthly incidence of MRAB per 100 admissions is obtained through lab based surveillance. The numerator is the number of new cases of MRAB in ICU which is divided by total ICU admissions and multiplied by 100. Daily cleaning audit was done by putting glo germ powder on high touch surfaces and using an ultraviolet torch light to detect signs of cleaning the next day. For the ventilator care bundle (VCB) compliance, we check the nurses' practice and documentation. After each audit, immediate feedback is given to the staff and information is shared with ICU and IPC leaders every 2 weeks. **Results:** Pre-intervention, the daily cleaning compliance of nurses and cleaners were only 68% and 38% respectively, whereas for VCB it was only 74%. Post-intervention, the daily cleaning compliance achieved 84-100% in subsequent audits, whereas there is no change in VCB compliance. The MRAB rate dropped to 1.3% after 1 month, and remained so until now. **Conclusion:** Advocating good daily cleaning compliance has successfully reduced MRAB cases in ICU.

Keywords: MRAB, acinetobacter, intensive care, audit, intervention

P-018

COVID-19 mortality rate during period of delta and omicron predominance in Malaysia: A descriptive study

Syarifah Nurul Ain Syed Badaruddin[1], Swarna Lata Krishnabahawan[1], Shafiq Eiman Abdul Razak[1], Satya Tamilselvam[1], Suriya Kala Balachandran[1], Tharmini Ravi[1], Aminiril Anisah Abdul Hamid[1], Nur Suriana Mah Hassan[1], Liew Boon Seng[1], Kalaiarasu M. Peariasamy[2], Chew Chun Keat[2], Low Ee Vien[2]

[1]Clinical Research Centre, Hospital Sungai Buloh, [2]Institute for Clinical Research, National Institute of Health

ABSTRACT

Introduction: COVID-19 was the most feared infectious disease in the last few years which caused a high number of mortalities. Hospital Sungai Buloh was the main COVID-19 referral centre since the pandemic started. A large database of COVID-19 patients was available for this study and used to describe the rate of mortality among patients who were 40 years and above; who were admitted to Hospital Sungai Buloh during periods of Delta and Omicron predominance. **Materials and Methods:** Medical records of COVID-19 patients who were admitted in Hospital Sungai Buloh during the period of Delta and Omicron predominance were reviewed retrospectively and analyzed. **Results:** Patient mortality during the period of Delta predominance from May-July 2021 (755 patients) was higher com[pared to the period of Omicron predominance from January-April 2022 (180 cases). Majority of the deceased patients were male (59.1%). **Conclusion:** This descriptive study serves as a baseline research for more studies in future using the same dataset. More data cleaning is required to produce more results.

Keywords: COVID-19, Mortality, Omicron, Delta

P-019

Incidence and outcome of cytomegalovirus in kidney transplant recipients: A single-center experience

Uvanesan Kathiravelu[1], Ong Yun Chen[1], Siti Hafizah Mohd. Ismail[1], Suryati Yaakob[1], Wong Hin Seng[1,2]

[1]Department of Nephrology, Hospital Selayang, [2]Clinical Research Centre, Hospital Selayang

ABSTRACT

Introduction: Cytomegalovirus (CMV) infection is an important cause of allograft failure and death among kidney transplant recipients (KTR). We describe the incidence and outcome of CMV infection among KTR in Hospital Selayang. **Materials and Methods:** This is a retrospective study of adult KTR who underwent transplantation from 1st January 2019 till 31st December 2021. CMV infection defined by evidence of viral replication in body fluids or tissues, and CMV disease when they have symptoms. Results were analyzed with SPSS version 25. **Results:** A total of 85 recipients underwent kidney transplantation during the study period. Mean recipients' age was 37.2±8.9 years, predominated by females 55.3% (n=47), and chronic glomerulonephritis (36.5%) as primary renal disease. The majority were CMV-seropositive recipients (R+) from seropositive donors (D+) (84.7%). The induction immunosuppression (IS) was with intravenous (IV) Anti-Thymocyte-Globulin (ATG) (48.2%) or Basiliximab (51.8%), and 92.9% started on mycophenolate sodium, tacrolimus, and prednisolone as maintenance IS. CMV prophylaxis was adopted for 47.1% of recipients given moderate risk (D+R+ or received IV ATG). Six recipients had CMV infection (7%), with 66.6% (n=4) diagnosed between 6-12 months post-transplantation. Graft dysfunction (GD) was the main presentation in 66.6% patients, followed by diarrhea (50%), and fever (33.3%). All patients were treated successfully with IV Ganciclovir or oral Valganciclovir equally with mean duration of 43.1±27 days, and 83.3% (n=5) had changes in maintenance IS to everolimus, tacrolimus, and prednisolone. Biopsy proven acute rejection developed in 33.3% (n=2) patients. **Conclusion:** The incidence of CMV infection in our center was 7% with no fatality reported.

Keywords: CMV infection, kidney transplant recipients

P-020

Correlation between SARS-CoV-2 rapid test kit antigen from saliva with SARS-CoV-2 reverse transcription polymerase chain reaction from October 2021 till April 2022 in Hospital Sungai Buloh

Nur Hanani Ahmad, Nur Farahin Zainal Abidin, Nurul Nadzirah Nadzimudin

Pathology Department, Hospital Sungai Buloh, Selangor, Malaysia

ABSTRACT

Introduction: Large scale testing, rapid diagnosis and immediate isolation of cases with vigorous contact tracing for positive contacts are important measures to reduce the infection rate of the SARS-CoV-2. Reverse transcription polymerase chain reaction (RT-PCR) testing requires designated lab and trained personnel, this may cause longer turn around time to get the result. Antigen test kit from nasopharyngeal swab specimens already implemented for use in Malaysia since May 2020 however this test still requires trained personnel for swabbing. This study shows correlation between SARS-CoV-2 rapid test kit (RTK) antigen from saliva with gold standard SARS-CoV-2 RT-PCR from nasopharyngeal swab. **Materials and Methods:** Retrospective analysis of 152 samples sent for SARS-CoV-2 RT-PCR with written history of home SARS-CoV-2 RTK saliva self-test done within 72 hours from October 2021 to April 2022 included in the study. **Results:** 74.3% of SARS-CoV-2 RTK Antigen from saliva correlates with SARS-CoV-2 RT PCR. **Conclusion:** SARS-CoV-2 RTK antigen from saliva proves to be one of the reliable method for a rapid diagnosis and easily accessible for SARS-CoV-2 home screening test.

Keywords: SARS-CoV-2, RTK antigen, RT-PCR, home screening test

P-021

Risk factors and impact of delayed graft function post deceased donor kidney transplant: A single-centre experience

Ong Yu Chen[1], Uvanesan Kathiravelu[1], Chelsia Chan Bao Tyng[1], Wong Hin Seng[1,2], Suryati Yakob[1]

[1]Department of Nephrology, Hospital Selayang, [2]Clinical Research Center, Hospital Selayang

ABSTRACT

Introduction: Delayed graft function (DGF) has higher acute rejection (AR) or higher serum creatinine (Scr) is controversial. **Materials and Methods:** Data from patients who underwent deceased donor kidney transplant (DDKT) in Hospital Selayang from 1st January 2019 till 31st December 2021 were evaluated retrospectively. **Results:** In total, 42 patients of DDKT identified. Donors' profile showed mean age and creatinine was 32.9±9 years and 131.1±91.6umol/l respectively, with male 66.7% (n = 28) and 52.4% (n = 22) having AKI on procurement. Recipients' profiles showed females (54.8%, n = 23) with mean age and dialysis vintage was 38.3±8.7 years and 13.9±3.6 years, respectively. Median cold ischaemic time (CIT) was 12.3±3 hours and 38.1% (n = 16) had DGF. Mean time post KT to dialysis was 5.1±9.1 days. One recipient had acute graft loss. Biopsies performed reported 81.8% (n = 9) Acute tubular necrosis (ATN), 9% (n = 1) mix of ATN with AR and AR alone respectively. Mean Scr 3 months post KT was 120.8±47.9umol/l. Adjusted odds (aOR) of DGF were higher with donor AKI (aOR 10.99, 95% CI 1.8-65.3) and when CIT longer by > 1 h (aOR 1.36, 95% CI 1.03-1.81). Factors associated with ATN includes increase of donor age by > 1y (aOR 1.21, 95% CI 1.04-1.39) and presence of DGF (aOR 11.17, 95% CI 1.14-109.9). **Conclusion:** Donor AKI and DGF leads to inferior graft function but does not correlate with higher risk of AR or graft loss. Accepting such kidneys help expand the limited cadaveric donor pool and reduce waitlist mortality.

Keywords: Delayed graft function, deceased donor kidney transplant, acute rejection

P-022

Changing mindsets toward hand hygiene compliance in a tertiary hospital through an innovative hand hygiene campaign

Naadhiya Siva Kumar, Lim Wan Xin, Tuan Suhaila Tuan Soh

Infection Prevention and Control Unit, Hospital Sungai Buloh

ABSTRACT

Introduction: Hand Hygiene Campaigns (HHC) have been traditionally conducted for years in Hospital Sungai Buloh. However, the compliance among healthcare workers remained the same. We describe an innovative HHC that successfully improved interest and Hand Hygiene (HH) compliance after the COVID-19 pandemic in 2022. **Materials and Methods:** HH compliance rates in 2019 (pre-COVID) and 2022 (post-COVID) were compared after conducting an innovative and multidisciplinary HHC. Pre-intervention data was harvested from all the clinical departments through direct observation using the WHO HH audit form. Then, a 2-week HHC was conducted which included nomination of HH champions from clinical departments, video and quiz competitions, interactive ward sessions and task-based treasure hunt and race involving advocacy of HH awareness. After the HHC, post-intervention data was collected using the same method. **Results:** During the pre-COVID 2019, hand hygiene compliance was at an average of 86%. However, it dropped to 71% after the pandemic. Post HHC, the HH compliance has tremendously improved to 79%. **Conclusion:** HHCs should be goal-centered, strategic and innovative for it to have an impact on hand hygiene compliance.

Keywords: hand hygiene, compliance, mindset, COVID-19

P-023

Latent tuberculosis – What should we know and what should we do?

Azura Mohd Noor, Syarah Syamimi Mohamed, Durratul Fatini Yusoff

Bacteriology Unit, Infectious Disease Research Center, Institute for Medical Research, National Institute of Health

ABSTRACT

Summary: Tuberculosis (TB) remains a threat to human health as it has been ranked tenth among the most lethal diseases caused by Mycobacterium tuberculosis (MTB). MTB is acid-fast tubercle bacilli that causes active and/or latent tuberculosis infection (LTBI). Accumulatively, 1.5 million deaths caused by TB in 2020 have been reported worldwide and one in four people is estimated to have LTBI. During the latent state, the pathogens remain resilient in the macrophages of the infected person within the granuloma and the patients usually show no clinical symptoms. The LTBI patients can be TB carriers and they can transmit the disease to their close contacts especially among immunocompromised persons after the reactivation of the infection. Therefore, early detection of LTBI is important as it can be treated to prevent the reactivation and transmission of the disease. The World Health Organization recommended a treatment for LTBI using one or a combination of drugs namely isoniazid, rifapentine, and rifampicin. At the moment, Tuberculin Skin Test and Interferon-gamma release assays with PPD, and ESAT-6 with CFP-10 antigens, respectively, are taken into consideration as latent tuberculosis screening tests. However, these tests show positivity in active TB patients and have low sensitivity in immunocompromised individuals. Moreover, TST shows cross-reactivity to BCG and non-tubercule mycobacterial strains while IGRA shows a lower predictive value, which limits the discrimination of active TB and LTBI. Thus, a new point of care testing governed by specific MTB latent biomarkers is urgently needed to increase the performance and predictive value of diagnostic tests for LTBI detection.

Keywords: Tuberculosis, isoniazid, Tuberculin skin test

P-024

Community case report: A cross-border technology-driven health promotion

Wan Nur Syamimi Binti Wan Mohamad Darani, Farha Ibrahim, Aimi Nadira Mat Ruzlin, Xin Wee Chen

Department of Public Health Medicine, Faculty of Medicine, Universiti Teknologi MARA

ABSTRACT

Summary: Digitalizing health promotion intervention in the new millennium is key to providing better health outcomes to the nation. This study reports on a one-day virtual elderly health education program (EHEP) on fall prevention among the elderly population in Malaysia and Indonesia. This program aims to increase awareness of risk factors and prevention of falls, and to develop a fall prevention e-booklet. EHEP was conducted in collaboration with an Indonesian non-governmental organization (Rumpun Nurani Foundation) and the Department of Public Health Medicine, Faculty of Medicine, Universiti Teknologi MARA (UiTM) on 13th August 2022 via the Zoom platform. Activities included were a video demonstration on elderly fall prevention exercises, knowledge-transfer through several health talks sessions delivered by the public health physician, geriatrician, and psychiatrists, also the fruitful interactive session between UiTM medical students and health volunteers from Rumpun Nurani Foundation to develop a fall prevention e-booklet. A total of 100 participants (20 local participants and 80 international participants) took part in the EHEP. At the end of the program, dual-language e-booklets (Malay and Indonesian) were produced and benefited the participants with knowledge and skills to prevent and manage falls in the elderly. This success kickstarted a long-term cross-border technology-driven health promotion in shaping the future of preventive medicine.

Keywords: health promotion, elderly health education program, geriatrician

Tacrolimus metabolism and impact on graft function: A single center experience

Wong YH[1], Wong HS[1,2], Yakob S[1]

[1]Department of Nephrology, Hospital Selayang, [2]Clinical Research Center, Hospital Selayang

ABSTRACT

Introduction: Tacrolimus is part of standard immunosuppressive regimen after renal transplant. It has high inter-individual variable metabolism; genetic polymorphism has shown to significantly influence tacrolimus metabolism. Literature suggests that tacrolimus metabolism may have influence on renal graft outcome. This study aims to determine the impact of tacrolimus metabolism on graft function. **Materials and Methods:** This is a single centre, retrospective, observational cohort study from year 2000 to 2021. Data analysis was done using SPSS version 26. Tacrolimus metabolism rate was determined by concentration: dose (C/D) ratio at third month post transplantation. Patients with Tacrolimus C/D ratio < 1 ng/ml are characterized as fast metabolizers and ≥ 1 are characterized as slow metabolizers. Subjects' characteristic and eGFR were compared and analyzed. **Results:** In this study, 78 subjects were included and 9 were classified as fast metabolizers with a mean C/D ratio of 0.725. Age, genders, race, diabetes, hypertension status, induction agent and cold ischemic time were not associated with C/D ratio ($p > 0.05$). At 3 months post-transplantation, fast metabolizers comparing to slow metabolizers, had higher mean tacrolimus dose with 8.06 mg vs 3.82 mg ($p<0.001$) and demonstrated having lower mean trough levels 5.81ng/ml vs 8.23ng/ml ($p=0.016$) respectively. However, there is no statistical difference in graft function at 3, 6, 9, 12 and 24th month for both groups. **Conclusion:** In previous literatures, fast tacrolimus metabolizers are associated with worse graft outcome. In our study, there was no statistical difference in graft function observed between fast and slow metabolizers despite significant difference in dosage and trough levels of tacrolimus. The possible limitations include a small study population, short study duration as well as possible confounding factor of diltiazem usage.