



Annual Spring Meeting – Scientific sessions

Sri Lankan Medical and Dental Association in the UK

**Sunday 28th May 2023, Watford Hilton, Elton Way,
Watford WD25 8HA**

Welcome Message from the Scientific Organising Committee

Dear Patrons, Colleagues and Friends of the SLMDA,

Welcome to the 2023 Annual Spring Scientific Sessions of the Sri Lankan Medical and Dental Association. This year's theme is "Head and Heart" and we are particularly proud to have a panel of distinguished speakers today to share their expertise by delivering plenary lectures on this theme. We are sure you will join us in thanking them for being here with us today.

Dr Charles Illsy, recently retired Consultant in Interventional Cardiology at the Royal Brompton and Harefield Hospital, will deliver this year's SLMDA Oration titled "How can the Cardiologist protect the Brain".

A key aim of these scientific sessions is to provide young doctors and dentists in the early stages of their careers, as well as medical and dental students, an opportunity to present their research as a poster or as an oral presentation. Both routes will be eligible for a prize in their category. This year, researchers in Sri Lanka who are unable to attend these sessions in UK in person, will be able to showcase their work on the SLMDA website as an E-poster. The SLMDA will display the best E-poster as a physical poster during the sessions.

We were pleased to receive a large number of submissions in all three categories. They were all of a very high standard and we congratulate the researchers on the excellence of their work. Please take time to view the posters. You will find them insightful, useful, and interesting. Please discuss the posters with the presenters as it will encourage them and provide them valuable experience in facing the scrutiny of the scientific community.

The committee has endeavoured to organise a meeting of high scientific value and we do hope that you will find the sessions both enjoyable and educationally stimulating.

The Scientific committee

Lead: Dr Lankanatha Alwis. **Facilitator:** Dr Mahendra Gonsalkorale
RCP collaborator: Dr Champa Sumanasuriya,
Coordinator: Dr Prasanna Anthony. **Advisor:** Dr Rasieka Jayatunga

Short listing committee: Mr Supul Hennayake, Dr Udara Kularatne,
 Dr Sita Nanayakkara

Panel of judges for poster presentations: (E-poster judged in advance),
 Dr Roshan Perera, Prof Niroshini Nirmalan, Dr Roshan Amarasena

Panel of judges for oral presentations: Dr Thushara Rodrigo,
 Prof Mahesh Nirmalan, Dr Ruwan De Soysa

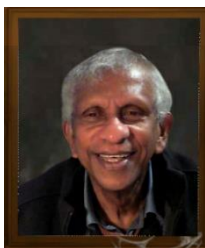
Scientific session chairpersons (In pairs): Mr Ajantha Jayatunga and
 Dr Veerasiri Punchihewa, Dr Allistair Solomonsz and Dr Melanie Weerasuriya,
 Dr Udara Kularatne and Mr Chaminda Sellahewa

Abstract production, proof reading and editorial committee / Certificates:
 Dr Mahendra Gonsalkorale, Dr Sita Nanayakkara, Mrs Glossinda Solomonsz

Dr Mahendra Gonsalkorale

Message of appreciation by the SLMDA Committee

We like to express our sincere gratitude to Dr Mahendra Gonsalkorale for his invaluable contribution towards our scientific sessions and other events over a decade.



Mahendra oversees and makes sure that a seamless process take place at our scientific sessions, collating abstracts and facilitating a robust process of scientific presentations.

The souvenirs at our annual charity balls and abstract booklets are formulated and edited by Mahendra with a nice touch, providing attendees with a memorable keepsake.

His commitment to the success of the SLMDA scientific sessions and other events has not gone unnoticed, and for that, we are truly grateful.

SLMDA Scientific Sessions Programme
Head and Heart
 Sunday 28 May 2023
 Watford Hilton Hotel, Watford WD25 8HA

08:15	08:55	Registration and coffee	
08:55	09:00	President's welcome - Dr Lankanatha Alwis	
Session 1: Chairs - Dr Udara Kularatne and Mr Chaminda Sellaheewa			
09:00	09:30	Dr Sakhivel Sethuraman <i>Consultant Stroke Physician Clinical director Stroke Medicine, Bedfordshire Hospitals NHS Foundation Trust</i>	<i>Evolution of Stroke care in the UK and around the world- Challenges and opportunities</i>
Trainee Presentations			
09:30	09:40	Dr Charutha Senaratne	<i>Vascular research focus: Fruitful targets?</i>
09:40	09:50	Mr Eranda Mahappuge	<i>SDEC hot cholecystectomy: A single-centre experience</i>
09:50	10:00	Miss Sethara Alwis	<i>What percentage of patients with type II diabetes are on the correct metformin dosage as per renal function?</i>
Session 2: Chairs – Dr Alistair Solomonsz, Dr Melanie Weerasuriya			
10:00	10:30	Prof Divaka Perera <i>Professor of Cardiology at King's College, London and an Interventional Cardiologist at Guy's and St Thomas Hospital</i>	<i>Heart failure: can it be reversed?</i>
Trainee presentations			
10:30	10:40	Mr Dulan Perera	<i>The impact of remote work on the job satisfaction of UK GPs during the Covid 19 pandemic</i>

10:40	10:50	Dr Fathima Shafra Mubark	<i>Complications of epicardial pacing wire removal following adult cardiac surgery: A systematic review</i>
10:50	11:00	Dr Anushika Solanga Arachchige	<i>Analysis of complications and outcome of community acquired pneumonia: A single centre experience</i>
11:00	11:45	Tea Break. Poster viewing	
Session 3: Chairs – Mr. Ajantha Jayatunga, Dr Veerasiri Punchihewa			
11:45	12:15	Prof Neelika Malavige <i>Professor of immunology and molecular biology. Head of Dengue Global Programme and Scientific Affairs. Academic visitor University of Oxford, Member of the Executive Committee of the International Society of Infectious Diseases. Member of the technical advisory group to the WHO-COVID-19 technology access pool</i>	<i>Exercise and the gut microbiome: its impact on metabolic diseases</i>
12:15	12:40	Dr Manoj Fernando <i>Senior lecturer and Head of Department of Health promotion, Rajarata University of Sri Lanka</i>	<i>Research on community interventions towards prevention of non-communicable diseases in rural Sri Lanka</i>
12:40	13:20	Dr Charles Ilsly <i>Former interventional Cardiologist at Royal Brompton and Harefield Hospitals. Regular lecturer and moderator at international conferences</i>	SLMDA oration 2023. “How can the cardiologist protect the brain”
13:20	13:45	Awards and closing	
13:45	14:00	Lunch	
14:00	15:30	Annual General Meeting (Members only)	

TOPICS AND BIOGRAPHIES OF GUEST SPEAKERS (in order of appearance)

(1) Evolution of Stroke care in the UK and around the world- Challenges and opportunities



Dr Saktivel Sethuraman FRCP (Edin), Consultant Stroke Physician, Clinical director Stroke Medicine, Luton and Dunstable University Hospital, Bedfordshire Hospitals NHS Foundation Trust

Brief summary of experience:

He has been working in the field of Stroke medicine for nearly two decades. A Key member involved in the introduction of thrombolysis/thrombectomy and seven-day TIA clinic service at Luton and Dunstable Stroke Unit and helping to get accreditation as a hyperacute stroke unit. He is Principal investigator of PhEast study and Co-investigator in several stroke research studies and introduced Artificial Intelligence (AI) for interpretation of CT brain at the Trust, and become the procurement centre for the Region. Has mentored trainees to take up Stroke medicine training and published articles in Stroke journals.

(2) Heart failure: can it be reversed?

Prof Divaka Perera MA MD FRCP



Professor of Cardiology at King's College, London and an Interventional Cardiologist at Guy's and St Thomas Hospital

Biography

Professor Perera's research interests include ischaemic cardiomyopathy, coronary physiology and microvascular disease. He is involved in designing and performing multicentre clinical trials and is the chief investigator of the recently completed REVIVED-BCIS2 trial, which sought to clarify the role of revascularisation in patients with ischaemic left ventricular dysfunction

(3) Exercise and the gut microbiome: its impact on metabolic diseases

Prof Neelika Malavige

Professor of immunology and molecular biology, University of Sri Jayewardenepura, Sri Lanka

Biography She the Head of the Global Dengue Program, Drugs for Neglected Diseases. She has been an academic visitor at the MRC Weatherall Institute of Molecular Medicine, University of Oxford



since 2008 and is a member of the Executive Committee of the International Society of Infectious Diseases since 2020. Member of the technical advisory group to the WHO-COVID-19 technology access pool. Her research focus has been on dengue and immune responses to viruses.

(4) Research on community interventions towards prevention of non communicable diseases in rural Sri Lanka

Dr Manoj Fernando



Senior lecturer and head of Department of Health promotion, Rajarata University of Sri Lanka.

Biography

Expert committee member of Substance use subcommittee Sri Lanka Medical Association. Editorial board member - Journal on Non-Communicable diseases. Honorary visiting lecturer at Sahlgrenska Academy, University of Gothenburg, Sweden

(5) SLMDA oration - “How can the cardiologist protect the brain”

Dr Charles Ilsly FRCP FRACP



Biography

Former interventional Cardiologist at Royal Brompton and Harefield Hospitals. Regular lecturer and moderator at international conferences. He has over 30 years’ experience as a consultant cardiologist with wide experience in patients with ischaemic heart disease, hypertension, heart valve disease, arrhythmias and the assessment of cardiac failure. He has given lectures worldwide, including United States, France, Dubai, Sudan, Bulgaria and India, and enjoys post-graduate teaching. Charles has also been involved in overseas voluntary work using his experience as a Consultant Cardiologist. This included a trip to Andhra Pradesh in India during 2005

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JUNIOR FORUM - ORAL PRESENTATION ABSTRACTS

O1: Vascular research focus: Fruitful targets?

Presenter: Dr Charutha Senaratne, *Foundation Year 1. Royal Derby Hospital.*

Co-authors: *Luke Arwynck, Adel Ata Alla, Mirza Shirazi.*

Introduction/Background: There is a perception that research work sometimes focusses upon areas considered glamorous, rather than areas yielding greatest improvements in outcomes. Knowing which areas to focus upon in future to yield the greatest improvements is worthwhile.

Objectives: Provide snapshot of current focus in Vascular Surgery research output and compare with available evidence of opportunity/need for improvement in outcomes.

Materials & Methods: Journal articles published in three reputed journals (BJS, EJVES and JVS) were analysed from July 2021 to June 2022 to determine the focus of research output. Data from National Vascular Registry Annual Report 2020 was used to assess numbers of operations and postoperative outcomes, and those areas potentially benefiting most from improvement.

Results: 1024 vascular articles were identified over the one-year period (2% focussed on amputation). From the NVR Annual Report, 72942 procedures were recorded. Outcomes from NVR Annual Report shows mortality for elective AAA repair was EVAR 0.4%, open 2.3%; elective by-pass 1% and emergency 4.8%; 30-day stroke/death after carotid endarterectomy 1.9%; compared to mortality after amputation of 4.9% for below knee and 10.4% for above knee.

Discussion: There is a significant disproportionate focus in vascular research ($p < 0.001$) [focus on amputation being less than expected], yet it has the greatest potential for improvement.

Conclusions: Despite having the highest mortality with amputations, research undertaken to reduce this is not evident in Vascular Surgery research output. This is useful to consider for future research efforts.

References:

- 1) <https://academic.oup.com/bjs/issue>.
- 2) <https://www.ejves.com/issues>.
- 3) <https://www.jvascsurg.org/issues>.
- 4) <https://www.vsqip.org.uk/content/uploads/2020/11/NVR-2020-Annual-Report.pdf>.

O2: SDEC hot cholecystectomy: A single-centre experience

Presenter: Mr Eranda Mahappuge, *Senior clinical fellow- Surgery, Russells Hall Hospital, Dudley.*

Co-authors: Mohammad Iqbal Hussain, Jonty Bird, Mohommed Hamid, Eranda Mahappuge, Chaminda Sellahewa.

Introduction/ Background: The COVID-19 pandemic has created a backlog of around 7 million patients waiting for an operation in NHS England. A significant proportion of the waiting list included patients waiting for Laparoscopic Cholecystectomy. This is partly due to a lack of awareness and intent leading to non-compliance with the Hot Gall Bladder Pathway.

Objectives: An audit on hot cholecystectomy (SDEC)- single centre experience

Materials & Methods: A twice-weekly Same Day Emergency Care (SDEC) service aimed at reducing the burden of gallstone disease was initiated in our hospital. This study evaluated a consecutive series of hot laparoscopic cholecystectomies performed between December 2021 and January 2023. Statistical analysis was performed using Statistical Package for Social Science (SPSS) version 27.0 for Windows (SPSS Inc., Chicago, IL, USA).

Results and discussion: Overall, 264 (females:189, males:75), hot cholecystectomies were performed with a median age of 47 years. The median BMI and ASA were 32 and 2 respectively. 210 patients presented for the first time. In total, 139 and 90 patients had Grade I and Grade II acute cholecystitis, respectively as per Tokyo Guidelines 2018. All cases were completed laparoscopically. Only 29 patients had subtotal cholecystectomy. Patients with Tokyo Grade II had 6.9 times higher odds to have subtotal cholecystectomy than Grade I. The median postoperative length of stay was zero. 49 patients encountered complications (Clavien-Dindo Grade I: 17; Grade II: 9; Grade III: 23). Increased BMI was linked to an increased risk of complications and readmission.

Conclusions: The dedicated SDEC service for hot cholecystectomies can be employed to resolve the mounting waiting lists for gallstone diseases in NHS England while at the same time providing high-quality care.

O3: What percentage of patients with type II diabetes are on the correct metformin dosage as per renal function?

Presenter: Miss Sethara Alwis, *Third Year Medical Student. University of Leicester.*

Introduction/ Background: Over 4.8 million people in the UK have diabetes. Metformin is the first-line medication recommended by NICE for type 2 diabetics. Patients taking metformin and who have poor kidney function (eGFR ≤ 60 mL/min/1.73m²) are at risk of lactic acidosis. This can manifest as shortness of breath, abdominal pain and even death.

Objectives: Identify and adjust incorrect metformin dosages as per the patient's renal function according to the NICE guidelines.

Materials & Methods: 91 patients with type 2 diabetes were reviewed. Data were collected from patients registered at the practice over the past two years (2020-2022), ensuring repeat prescriptions were assessed as well. Patients with acceptable renal functions (≥ 60 mL/min/1.73m²) were excluded. The one patient with Type 1 diabetes was not included in this study.

Results: In November 2022 6/91 were incorrectly prescribed metformin. Although in the past two years altogether, 19/91 patients were inappropriately prescribed. 2g (the maximum dose) made up the bulk of these prescriptions (68%). It was noted that 5/19 patients' renal functions had declined but their metformin dose had not been adjusted accordingly; this was the most common error.

Conclusions: As unmarked fluctuations in patients' renal function are the primary reason for incorrect prescriptions, practice nurses could flag this up as part of their diabetic review. Limitations to this exist, such as the compliance of the patient in attending their appointment. Also, to prevent the maximum dose from being prescribed an automated message should be installed. This is to encourage clinicians to double-check their patient's renal function before doing so. A re-audit should be completed.

References:

[1] Diabetes Type 2 - Metformin (2023) NICE. Available at: <https://cks.nice.org.uk/topics/diabetes-type-2/prescribing-information/metformin/> (Accessed: April 6, 2023).

[2] Blough, B., Moreland, A. and Mora, A. (2015) Metformin-induced lactic acidosis with emphasis on the anion gap, Proceedings (Baylor University. Medical Center). U.S. National Library of Medicine. Available at:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4264704/> (Accessed: April 6, 2023).

[3] Seery, C. (2022) Diabetes prevalence, Diabetes. Available at:

<https://www.diabetes.co.uk/diabetes-prevalence.html> (Accessed: April 6, 2023).

O4: The impact of remote work on the job satisfaction of UK GPs during the Covid 19 pandemic

Presenter: Mr Dulan Perera. *Final Year Med student, Imperial College, Lond.*

Co-authors: Luc Worthington, Antoinette Delcourt, Zina Mobarak, Rezwana Rahman, Felyx Wong, Professor James Barlow.

Introduction: Although telemedicine has been praised for its efficiency, many have questioned its impact on workforce wellbeing. This study aimed to explore the impact of remote working on job satisfaction of UK general practitioners (GP) during the COVID-19 pandemic.

Method: UK general practitioners (n=17) were recruited using purposive sampling to take part in semi-structured interviews. Thematic analysis was conducted using Braun and Clarkes six-phase methodology.

Result: Five enhancers of job satisfaction during remote working emerged: increased flexibility, support, efficiency, up-skilling opportunities and patient satisfaction. Poor work-life balance, isolation, challenging communication and fewer teaching opportunities surfaced as barriers to job satisfaction.

Conclusion: Managing workforce wellbeing will become a significant challenge for healthcare leaders in the post-pandemic world. As this was a cross sectional study conducted at the peak of the pandemic, future research should longitudinally explore the long-term effects that remote working exerts on physician job satisfaction.

O5: Complications of epicardial pacing wire removal following adult cardiac surgery: A systematic review

Presenter: Dr Fathima Shafra^{1,2}Mubark. *Junior Clinical Fellow- Cardiothoracic Surgery, Harefield Hospital- Part of Guys and St Thomas NHS Trust.*

Co-authors: Ellepola, Yevinka Benushi²-Agrawal, Sanjay¹-Makhoul, Maged.¹

[1] Cardiothoracic Surgery Department, Harefield Hospital, England.

[2] West China School of Medicine, Sichuan University, China.

Introduction/ Background: Pacing wires are commonly used during cardiac surgery to provide temporary pacing. These wires are usually removed a few days after surgery, but the procedure is not without complications.

Objectives: To summarise the literature on complications related to pacing wire removal after cardiac surgery.

Materials & Methods: A systematic review was conducted using the articles from PubMed, Embase, and Cochrane Library databases within last 25 years. The literature was then screened using the PRISMA 2020 model.

Results: The systematic review included 07 studies with a total of 18,463 patients. The most common pacing wire removal complications were retention of the wire (0.56%), Arrhythmia (0.51%), and delayed discharge due to delayed wire removal (0.41%). Cardiac tamponade (0.05%), and Acute bleeding (0.04%) were also reported. Death occurred in 2 of the patients with cardiac tamponade following epicardial pacing wire removal accounting for 0.025% mortality. Overall complication rate was 1.57%.

Subgroup analysis revealed that earlier removal (within 24-48 hours of surgery) was associated with a higher incidence of bleeding, whereas later removal (after 72 hours) was associated with a higher incidence of delayed discharge.

Discussion: Clinicians should be aware of these risks and take appropriate precautions when scheduling pacing wire removal. More research is needed to determine the necessity of pacing wires in cardiac surgery.

Conclusions: Pacing wire removal following cardiac surgery is associated with many complications. These complications are more likely to occur with removal of wires within 24 hours of surgery or after 72 hours of surgery.

References:

- [1] Bougioukas, I., Jebran, A. F., Grossmann, M., Friedrich, M., Tirilomis, T., Schoendube, F. A., & Danner, B. C. (2017). Is there a correlation between late re-exploration after cardiac surgery and removal of epicardial pacemaker wires? *Journal of Cardiothoracic Surgery*, 12(1). doi:10.1186/s13019-017-0569-5.
- [2] Carroll, K., Reeves, L., Andersen, G., Ray, F., Clopton, P., Shively, M., & Tarazi, R. (1998). Risks associated with removal of ventricular epicardial pacing wires after cardiac surgery. *American Journal of Critical Care*, 7(6), 444-449. doi:10.4037/ajcc1998.7.6.444.
- [3] Cote, C. L., Baghaffar, A., Tremblay, P., & Herman, C. (2020). Incidence of tamponade following temporary epicardial pacing wire removal. *Journal of Cardiac Surgery*, 35(6), 1247-1252. doi:10.1111/jocs.14564.

[4] Elmistekawy, E., Gee, Y., Une, D., Lemay, M., Stolarik, A., & Rubens, F. D. (2016). Clinical and mechanical factors associated with the removal of temporary epicardial pacemaker wires after cardiac surgery. *Journal of Cardiothoracic Surgery*, 11(1). doi:10.1186/s13019-016-0414-2.

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O6: Analysis of complications and outcome of community acquired pneumonia: A single centre experience

Presenter: Dr Anushika Solanga Arachchige, *Specialty Registrar Blackpool Teaching Hospitals NHS foundation Trust.*

Co-authors: Dushantha Madegedara.

Introduction/ Background: Community acquired pneumonia (CAP) is associated with increased mortality and morbidity. The disease severity is multifactorial, co-morbid conditions and advanced age are the most important risk factors.

Objectives: Aim of study to identify complications and outcome of CAP.

Materials & Methods: A single centre descriptive prospective study was carried out in Respiratory Unit 11 in National Hospital-Kandy, Sri Lanka, among diagnosed CAP patients during six months from 1st of September 2020 to 28th of February 2021. Data were analysed by SPSS 21 package.

Results: 105 cases were analysed; of which 35.2% had complications. Parapneumonic effusion was the commonest complication, whilst pyothorax was the rarest complication. (Figure 1) Nine patients (24%) had multiple complications.

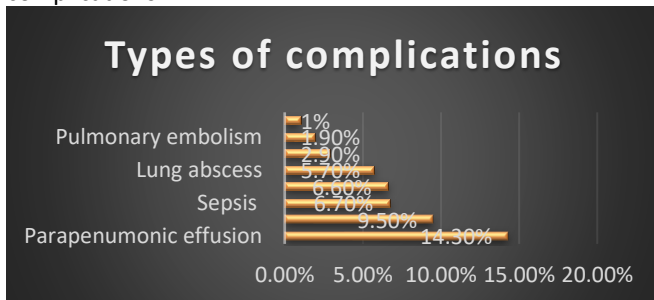


Figure 1- Types of complications

There was no significant association between diabetes mellitus and rate of complications. There was no significant association between smoking and complications due to pneumonia. Prevalence of complications significantly correlated with CURB 65 score (Pearson correlation coefficient 0.57, p value 0.001). 93.3% of patients survived with treatment, however 6.6% of them demised with male predominance and all had at least 2 pre-existing diseases. Five deaths (71.4%) occurred in intensive care unit. During follow up, 3.8% were diagnosed with bronchial malignancy, 5.7% pulmonary tuberculosis, 2.8% other chronic infections (melioidosis) and 1.9% chronic organizing pneumonia, respectively.

Discussion: Around one third of CAP cases associated with a range of complications, however outcome was good.

Conclusions: Majority of CAP patients recovered completely. Mortality 6.6% with male predominance. Parapneumonic effusion was the commonest complications. Complications had significant correlation with CURB 65 score.

References:

Mbata G, Chukwuka C, Onyedum C, Onwubere B, Aguwa E. The role of complications of community acquired pneumonia on the outcome of the illness: a prospective observational study in a tertiary institution in eastern Nigeria. *Ann Med Health Sci Res.* 2013 Jul;3(3):365-9.

JUNIOR FORUM - POSTER PRESENTATION ABSTRACTS

Please note that posters presented at the meeting may have been revised since they were submitted to us.

P1: Interventions for patients with pre-operative anxiety and depression undergoing Coronary Artery Bypass Grafting (CABG): A systematic review of selected studies published from 2001 to 2018

Presenter: Shanika Sandamali Anthony, Health Psychologist;

Psychotherapist: Independent Health Psychologist; Psychotherapist at 'Happy Mind'.

Introduction/Background: CABG is an intervention which can create significant psychological and emotional impacts on the patients and family members. As a result of growing increase and interest, the discovered relationships between Coronary artery bypass graft (CABG) along with anxiety and depression significantly affect individuals undergoing CABG.

Objectives: Effective interventions are in great need. This review explores the effectiveness and the trend of interventions for pre-operative anxiety and depression undergoing CABG from the published articles from 2001 to 2018. The findings will be beneficial in assisting patient care.

Materials & Methods: The searches were made using BPS-DHP sources, as such EBSCOR, and PsychSource. The research articles were filtered under the categories of peer-reviewed, full text, academic articles, 2001-2018, in Psychology and Behavioural Sciences Collection & Science direct publications. Twelve research papers were selected for the systematic review after considering factors that fulfil the research question.

Results & discussion: Favours CBT-related psychological interventions as follows. Brief, tailored Cognitive behavioural therapy (CBT), Religious CBT (RCBT), Short psychological intervention, prayer coping, cardiac rehabilitation, and education audio programmes are significantly effective in reducing pre-operative anxiety and depression and its consequences in CABG patients.

Conclusion: Non-pharmacological interventions have significantly improved anxiety and depressive symptoms in CABG patients. Due to the changing nature of the treatment methods, psychotherapeutic or CBT-based non-pharmacological interventions need further research, modifications, and support from further studies.

References: Please check SLMDA website for full list of references

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P2: An evaluation of the impact of near-peer SBA-based teaching on Year 3 medical students at Northwick Park Hospital

Presenter: *Dr Jaya Chawla, F1, Northwick Park Hospital.*

Co-authors: *Dr Elizabeth Daniels, Georgina Priest, Dr Lasith Ranasinghe*

Background: For medical students, clinical experiences within hospitals and ad-hoc teaching vary with staff availability. While formal centralised lectures cover essential topics, many students rely on supplementation from placement site-based programmes. These vary in regularity, content and style; often they are lecture-based and cover similar content to centralised lectures. Provision of (1) case-based teaching and (2) formal preparation for single best answer (SBA) questions is not standard.

Aims: We aimed to assess the use of teaching sessions centred around case-based SBAs in improving perceived student knowledge of, and confidence in answering SBA questions on causes, investigation and management of clinical presentations. Secondary aims were to explore the impact of (1) further discussion of incorrect answers, and (2) participation in question writing on these outcomes.

Methods: Three SBA-based sessions were run from 30/03/23 - 04/05/23 for a cohort of 30 third-year students on medical/surgical rotations at a large district general hospital. Topics comprised cardiac causes of chest pain (Session 1), respiratory causes of dyspnoea (Session 2), and neurological causes of headache (Session 3). Students completed the SBAs, following which tutors explained answers and their rationale. In Session 2, explanations for incorrect multiple-choice answers were also discussed. In Session 3, students wrote SBAs to be answered by their cohort. Students rated their knowledge of and confidence in answering topical SBAs, and overall engagement with the topic before and after each session using a 5-point Likert scale.

Results: On initial survey, 59% of students agreed that didactic sessions were valuable to their learning. Whilst 96% agreed that case-based teaching was valuable, only 59% felt that their case-based learning needs were being met. Student-rated knowledge and confidence in answering SBAs was significantly higher ($p < 0.001$, $p < 0.001$) after attending Session 1 ($n = 27$). Knowledge was rated as significantly higher ($p < 0.05$) following Session 2 ($n = 24$) and improvement in confidence answering SBAs approached significance ($p = 0.054$). While student-rated knowledge did not differ pre- and post-Session 3 ($n = 11$), confidence in answering SBAs improved significantly ($p < 0.05$). Improvements in post-session student-rated knowledge and confidence did not differ significantly with discussion of incorrect answers or student participation in SBA writing. However, 91% of students strongly

agreed that the former improved their knowledge, and 81% agreed that question writing improved their engagement. Overall, 100% of students felt more prepared for written exams following the sessions and felt that more SBA-based teaching would be beneficial.

Conclusions: Regular SBA-based teaching sessions for students on clinical rotations may improve clinical knowledge, confidence, and exam-preparedness. Future work could evaluate methods to increase interactivity and engagement.

P3: Cerebral Amyloid Angiopathy-diagnostic and therapeutic challenges

Presenter: Nihara De Silva, IMT 3, Stroke Medicine, Luton and Dunstable University Hospital.

Co-authors: *B S Muthiah, W M K N Wasala, V Vamadevan.*

Introduction: Cerebral amyloid angiopathy (CAA), which has a prevalence of between 20-40% in the elderly population, is caused by deposition of β -amyloid in walls of the leptomeningeal and cortical vasculature.^{1,2} The neurological manifestations of CAA include lobar haemorrhage, ischaemic stroke, amyloid spells, cognitive impairment and CAA-related inflammation. We describe three cases presenting with sequelae of probable CAA.

Objectives and method: To illustrate the diagnostic and therapeutic challenges in patients with CAA, using a Case report.

Results: A 77-year-old gentleman presented with recurrent episodes of left upper limb weakness. MRI revealed cortical superficial siderosis and microbleeds. Episodes ceased following initiation of levetiracetam for amyloid spells. A 79-year-old gentleman presented with left facial droop, left homonymous hemianopia, left-sided weakness and hemisensory loss. CT revealed a right fronto-parietal intraparenchymal haemorrhage. A 73-year-old lady presented over a three-year period with multiple ischaemic strokes, intraparenchymal and subarachnoid haemorrhages. MRI revealed bilateral subarachnoid and subcortical bleeds.

Discussion: Definitive diagnosis of CAA is through brain biopsy, however radiology-based modified Boston criteria can be utilised to reach a diagnosis of probable CAA when faced with these diverse neurological presentations.^{3,4} Initiation of anticoagulation in patients with CAA and atrial fibrillation poses a therapeutic challenge due to increased bleeding risk and requires careful

counselling of patients.^{5,6} Secondary prevention measures of concurrent vascular risk factors often play a key role in the overall management of CAA.

Conclusions: Secondary prevention measures and non-anticoagulant therapies can reduce the disease burden in CAA, however a disease-modifying therapy for CAA has proved elusive.

References:

- 1) Keage H et al. Population studies of sporadic cerebral amyloid angiopathy and dementia: a systematic review. *BMC Neurol.* 2009; 9:3.
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- 5) Wilson D et al. Cerebral microbleeds and intracranial haemorrhage risk in patients anticoagulated for atrial fibrillation after acute ischaemic stroke or transient ischaemic attack (CROMIS-2): a multicentre observational cohort study. *Lancet Neurol.* 2018 Jun; 17 (6): 539-547.
- 6) DeSimone C et al. Cerebral Amyloid Angiopathy-diagnosis, clinical implications and management strategies in atrial fibrillation. *J Am Coll Cardiol.* 2017 Aug 29; 70 (9): 1173-1182

P4: Challenging interpretation of radiological (MRI) appearance of multiple sclerosis for the radiologist

Presenter: Mohamed Guled, *Foundation Year 1 Doctor, Luton and Dunstable Hospitals.*

Co-authors: Kasun Wasala, Nihara DeSilva, Bernadette Muthiah, Vasanthan Vamadevan.

Introduction/ Background: Radiological diagnosis of multiple sclerosis can be challenging, with clinical evidence often required alongside radiological findings, as per the McDonald Criteria [1]. Further complicating the diagnosis is the many potential differentials to the radiological presentation of multiple sclerosis. This case reports such a challenge for radiologists interpreting the MRI head of a patient presenting to Luton and Dunstable stroke department with clinical MS, initially thought to be a stroke.

Objectives: This case reports purpose is to highlight these rare radiological features of multiple sclerosis on MRI, discuss the potential differentials for this rare presentation of MS, hopefully benefitting radiologists in its unusual appearance on imaging.

Materials & Methods: Case report

Discussion: The patient was a 26-year-old male who was admitted with right sided weakness, facial droop and dysarthria. CT head showed nil acute and he was thrombolysed. Post-thrombolysis, he was persistently presenting with weakness and mild dysarthria, so an MRI head was done. MRI head showed features of acute and chronic demyelination, with a white matter lesion measuring 2.6cm noted. Through further clinical investigation and repeat scans, the patient was deemed to have multiple sclerosis and in particular, Balo disease. Balo concentric sclerosis (Balo disease), is a rare and severe demyelinating disease considered as a subtype of multiple sclerosis appearing as a “bullseye”/ “Onion bulb” on MRI [2]. This appearance could be confused with the appearance of a glioma, SOL, etc. This case report discusses these in further detail.

Conclusions: Multiple sclerosis may present radiologically in a plethora of ways, with some presenting similarly to other differentials which may cloud a potential diagnosis. Awareness of these rare presentations and how to correlate them clinically, utilising criteria such as the McDonald Criteria, is vital and may assist in the accuracy of diagnosis of MS radiologically.

References:

- 1) <https://mstrust.org.uk/a-z/mcdonald-criteria>
- 2) <https://radiopaedia.org/articles/balo-concentric-sclerosis-3?lang=gb>.

P5: The importance of recognizing TIA, and an audit on the TIA clinic at Luton & Dunstable Hospital

Presenter: Kenneth Lee, *Internal Medicine Trainee Year 1, Luton and Dunstable Hospital.*

Co-authors: Mohamed Guled, Rouchelle Fernandes, Asokanathan Asaipillai

Introduction/ Background: Transient ischaemic attack (TIA) is sudden onset, transient, neurological dysfunction caused by focal brain, spinal cord, or retinal ischaemia, without evidence of acute infarction. Luton and Dunstable Hospital (L&D) has its own TIA clinic, 7 days a week. Risk of stroke after TIA is between 2% and 17% within the first 90 days¹ therefore early diagnosis and intervention is paramount.

Objectives: To assess how quickly we see patients at the L&D TIA clinic and to compare our service against NICE guidelines and DVLA driving guidelines.

Materials & Methods: Retrospective analysis of case notes of all (466) patients seen in the L&D TIA clinic from June-November 2022. Patients who did not attend their appointments and patients where case notes were unavailable were excluded.

Results: Three (1%) patients were seen within 24 hours of symptom onset, 240 (52%) within 7 days of symptom onset. 71 (15%) patients were seen within 24 hours of referral, 361 (77%) within 7 days of referral. In patients diagnosed with TIA, 118 (81%) were given anti-platelets on initial assessment. 238 (59%) patients were given driving advice on initial assessment.

Discussion: Reasons for not seeing patients sooner in clinic include delayed presentation and referral, patient choice, and clinic capacity. Increasing awareness amongst general clinicians and the public, modifying referral pathways, and increasing clinic capacity locally is suggested.

Conclusions: When TIA is suspected, prompt referral for specialist assessment is key to save lives and prevent disability. TIA awareness for the public and healthcare professionals is important for optimal outcomes.

References:

1) Hill MD, Coutts SB. Preventing stroke after transient ischemic attack. CMAJ. 2011 Jul 12;183(10):1127-8. doi: 10.1503/cmaj.110704. Epub 2011 Jun 6. PMID: 21646467; PMCID: PMC3134717.

P6: 'Small dot on the CT head: Not to be missed'

Presenter: Bernadette Sharika Muthiah, *IMT3 Stroke Medicine, Luton and Dunstable Hospital.*

Co-authors: *N De Silva, V. Vamadevan, W M K N Wasala.*

Introduction/Background: Basilar artery occlusion has high mortality and morbidity in absence of reperfusion therapy. The hyperdense basilar artery sign can be easily missed which may lead to delay in reperfusion therapy. In addition, the presentation is varied.

Objectives: The importance of carefully reviewing the CT head and the abnormal presentation of basilar artery syndrome.

Materials & Methods: Case Report.

Results: A 57-year-old gentleman with known vascular risk factors but pre-morbidly independent of all ADLs was admitted with history of right sided

weakness, facial droop and aphasia. Initial examination revealed low GCS of 8/15. Patient was thrombolysed shortly after review with improvement of GCS. Basilar artery thrombus noted post thrombolysis. 8.5 hours after presentation there was a deterioration in GCS, with new left sided weakness. Patient discussed and accepted by Queen’s Square to intubate and transfer for thrombectomy, however GCS then improved and patient remained with local team. 24 hours post presentation, power 3/5 in all limbs with left upgoing plantar, dysarthria. MRI head, showed multiple bilateral posterior circulation acute infarctions. Holter showed evidence of paroxysmal atrial fibrillation. Management involved initial thrombolysis, secondary prophylaxis and anticoagulation.

Discussion: The original non-contrast CT head showed evidence of the hyperdense basilar artery sign which is a surrogate for basilar artery thrombosis. However, there was a delay in addressing this. Due to deterioration, CT head revisited and further reperfusion therapy considered.

Conclusions: Careful examination of the CT head for hyperdense basilar artery sign in patient’s presenting with basilar artery syndrome to ensure timely CT angiogram imaging and consideration of reperfusion therapy.

References:

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- [3] Abdalkader, M. *et al.* (2023) “Endovascular versus medical management of acute basilar artery occlusion: A systematic review and meta-analysis of the randomized controlled trials,” *Journal of Stroke*, 25(1), pp. 81–91. Available at: <https://doi.org/10.5853/jos.2022.03755>.

P7: Title: Is Nature or Nurture Responsible for Psychopathy?

Presenter: Nicole Thyashi Anthony, Year 7 School Student, AKS Lytham School.

Introduction/Background: This topic of psychopathy was chosen to determine whether it’s caused by nature or nurture. The nature part of psychopathy is when you are born with a higher risk of it. In the nurture, part of it, is consistent traumatic experiences (specifically in childhood), for

example, household abuse, physical to mental bullying and/or anxiety and stress.

Objectives: This topic was chosen because it is interesting to know what goes on in a psychopathic brain and it would also be useful to learn about abnormal personalities at young ages.

Materials & Methods: Most of the data came from research articles.

Results & discussion: From this research, nature is more responsible for psychopathy since when you are born with a higher risk of it, parts of your brain will not develop at the same time as the rest of your brain. Thus, the lack of emotion and sympathy. From past research, it had said that psychopathy is made of a mix of nature and nurture. But from my research, I do agree with it, but from deep research, I concluded it is being more nature.

Conclusion: Nature is more responsible for psychopathy.

References:

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at: <https://pubmed.ncbi.nlm.nih.gov/23542910/> [Accessed: 25 February 2023].

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P8: Title: Are patients on the Combined Hormonal Contraception (CHC) regime receiving mandatory annual reviews?

Presenter: Javita Abrham, 3rd Year Medical Student, University of Leicester.

Introduction/Background: Annual reviews for patients on CHC pills are imperative to reduce the probability of the range of health risks that are associated with its use. NICE, (2022) Evidence suggests a 3- to 3.5-fold increase in venous thromboembolism risk, Fsrh.org, (2019) compared with non-use of CHC. There is also an increased risk of developing cardiovascular disease and stroke.

Objectives: 100% of patients aged between 14-55 on CHC should have a pill review within 12 months of prescription in line with the UKMEC guidelines.

Materials & Methods: 61 patients were prescribed Levest 150/30 within the criteria. However, only 34 patients were included in the audit as the rest were prescribed the drug 6 months prior to the audit period. My aim was to identify the patients missing a pill review in the period of January 2022 - September

2022 and bring them to the attention of the clinical staff.

Results: Overall, 38.2% had not received their annual pill check and out of these patients, 46% had not had their review for more than 2 years.

Discussion: To prohibit this from reoccurring, a system should be established to prevent automated re-prescriptions unless an annual check has been completed. Furthermore, an alert on the patients' page on the system, 2 months prior to when the review is due, will allow the practice to initiate contact in advance.

Conclusions: A reaudit should be conducted in a years' time to evaluate the effects of the changes made.

References:

- [1] Fsrh.org. (2019). *FSRH Clinical Guideline: Combined Hormonal Contraception (January 2019, Amended July 2019) - Faculty of Sexual and Reproductive Healthcare.* [online] Available at: <https://www.fsrh.org/standards-and-guidance/documents/combined-hormonal-contraception/>. (Accessed: April 1,2023)
- [2] NICE. (2022). [online] Available at: <https://cks.nice.org.uk/topics/contraception-combined-hormonal-methods/management/combined-oral-contraceptive/#follow-up>. (Accessed: April 1,2023).

P9: Title: Miraculous mimic of percutaneous lung transplant

Presenter: Sovis WFRD. *Clinical Fellow in Cardiology, Royal Brompton and Harefield Hospitals.*

Co-authors: *Ponnamparuma CJ, Ranasinghe WG.*

Introduction,background: Pulmonary artery stenosis(PAS)presenting in adults is rare. Chronic thromboembolic pulmonary hypertension (CTEPH) is by far the most common cause of PAS in adults. Nevertheless, distinct disorders such as **large vessel vasculitis, peripheral pulmonary stenosis (PPS), pulmonary artery compression, and pulmonary intimal sarcoma** , may mimic the CTEPH.

Type, Case Presentation: 45-year-old lady who presented with a history of NYHA class 3 dyspnoea for 6/12 months duration. On examination, there was a loud P2 and right para sternal heaving. She had a significant exercise desaturation and presyncopal episodes during hospital stay. Her ECG revealed a complete heart block and was offered dual chamber pacing. Later, CTPA revealed enlarged right para tracheal lymph nodes with RPA stricture. EBUS guided lymph node biopsy showed none caseating granuloma. Working diagnosis made as sarcoidosis with cardio-pulmonary infiltration. She was

treated with high dose prednisone and cyclophosphamide. Repeat CT-chest showed chronic total occlusion at the level of right pulmonary artery ostium. After discussing with surgical colleagues and considering the patient's preference decided to proceed with percutaneous revascularization of right lung. Right femoral venous approach under local anaesthesia and a Mullin sheath placed at MPA. After multiple attempts, RPA was engaged with AL 2 guiding catheter and lesion crossed after multiple wire escalations and the whole length of the stenosis was stented. Post procedure pulmonary angiogram showed well apposed stent with good distal runoff. Post procedure right heart catheterization and echocardiogram showed significantly reduced pulmonary hypertension and more importantly patient exercise desaturation and NYHA class improved in follow up assessments.

Referees:

1. Dr Chandrike J Ponnampereuma, Consultant Cardiologist
South Colombo Teaching Hospital, Sri Lanka.
2. Dr W. Gothabhaya Ranasinghe, National Hospital Sri Lanka (NHSL).

P10: Title: A good alert: Sporadic Creutzfeldt-Jakob disease mimicking stroke

Presenter: *Kasun Wasala, Specialty Doctor, Stroke, Luton and Dunstable Hospital.*

Co-authors: *V Vamadevan, B S Muthuah, N De Silva, H M K S D Jayasumana.*

Introduction/Background/objectives: Neurological diseases present with overlapping clinical and radiological findings. Such cases may present to acute stroke services as Stroke mimics making diagnosis further challenging when brain imaging initially indicate similar appearances to acute stroke. We present a similar presentation eventually turned-out Sporadic Creutzfeldt-Jakob disease (SCJD), along with its MRI findings.

Case presentation: A 55-year-old female with diabetes mellitus, hypertension and hypercholesterolemia presented with altered mental status, changing personality and left-sided-arm-leg weakness for one week. She was previously independent in her daily living. On examination, she was confused and unsteady while walking. No other neurological signs were detected. CT scan head was normal. MRI scan head revealed bilateral restricted diffusion with mild gyral swelling involving most of the right cerebral cortex and left-posterior cerebral cortex, and an acute stroke was considered. As this DWI lesion did not strictly follow a territorial pattern and the clinical presentation

was atypical for an acute stroke, alternative diagnosis was explored. Based on the Screening of hepatitis B and C, HIV, syphilis, vasculitis, autoimmune encephalitis and malignancy was negative. Cerebrospinal fluid analysis was normal. RT-QuIC assay revealed prions confirming the diagnosis of SCJD.

Discussion/Conclusions: Atypical findings on the MRI scan prompted further investigations for an alternative diagnosis than acute stroke. SCJD results in brain changes detectable in MRI scans. These include commonly hyper intense T2 changes in the striatum or thalamus, Pulvinar sign and Hockey stick sign. Mimicking radiological features combined with atypical presentation should raise the possibility of alternative diagnosis such as SCJD.

P11: Title: Be vigilant: Do not miss carotid artery stenosis presenting as watershed infarctions in the brain

Presenter: *Kasun Wasala, Specialty Doctor – Stroke, Luton and Dunstable Hospital.*

Co-authors: *V Vamadevan, B S Muthuah, N De Silva, H M K S D Jayasumana.*

Introduction/ Background/Objectives: Carotid artery stenosis is a significant risk factor for acute stroke. However, calcified plaques causing carotid stenosis are usually asymptomatic. We present a case of initial transient ischemic attack with subsequent watershed area infarction probably caused by tight blood pressure control highlighting the importance of clinical judgment in blood pressure control.

Case presentation: A 59-year-old male with diabetes mellitus presented with transient right sided facial and limb weakness which resolved after 30 minutes. On admission, examination was normal except blood pressure (BP) of 229/104mmHg and pulse rate of 46 bpm. ECG showed sinus bradycardia. CT head scan was normal. Previous 48 hour-holter monitoring did not reveal significant bradycardia, sinus pauses or arrhythmias. BP was controlled with antihypertensives. Patient was discharged with a plan of outpatient cardiac review with cardiac investigations and an outpatient-TIA clinic review. MRI head scan performed in the TIA clinic revealed acute infarction with restricted diffusion in the left MCA/PCA watershed area. Carotid doppler confirmed over 90% of stenosis in the left internal carotid artery. Carotid endarterectomy was performed.

Discussion/Conclusions: It has been shown that the majority of patients are asymptomatic regardless of the severity of the stenosis if the plaque causing carotid stenosis is calcified. However, when BP fluctuates specially in

conditions like sepsis, dehydration, mean arterial pressure goes down making the watershed areas in the brain vulnerable to infarctions. In such situations BP control needs careful clinical judgment rather than tight control as guidelines do not specify the BP targets for these circumstances.

P12: Title: A Thick Frontal Mystery Mostly in Mature Women

Presenter: Vasanthan Vamadevan, *Specialty Doctor, Luton and Dunstable Hospital.*

Co-authors: *W M K N Wasala, N De Silva, B S Muthiah.*

Case Report: A Thick Frontal Mystery Mostly in Mature Women.

Introduction: Although known since 1700s and having robust classification from numerous post-mortem studies, the clinical significance of Hyperostosis Frontalis Interna (HFI) still remains unclear.

Case report: We report a case of HFI with multiple other common comorbidities to elaborate the importance and current challenges. A 79 years old lady admitted following fall and long lie whilst on edoxaban for atrial fibrillation, had new slurred speech, weakness in left arm and leg, mild bruise around left shoulder and elevated creatinine kinase. Rest of physical examination and routine bloods were unremarkable. Shoulder X-ray excluded bone fracture. Admission CT head showed significant hyperdensity along edges of bilateral frontal bones. Acute sub-dural hematoma, meningioma and HFI were top initial differentials. Acute hematoma was ruled out after Hounsfield unit measurements and assessment of hyperdensity pattern. MRI could not be done due to presence of cardiac pacemaker. Interval CT head 48 hours later confirmed presence of evolving ischemic infarct and with appropriate treatment she was discharged eight days after hospitalisation. Follow up CT advised by neurosurgeons for possible meningioma showed no interval changes. She is kept on surveillance.

Discussion: Oestrogen dysregulation is thought to have a major role as HFI is markedly more common in postmenopausal women. Also, HFI is being recognised more with increasing cranial imaging and is known to be associated with metabolic syndromes, headaches, seizures, dementia, lobar atrophy among others.

However, labelling HFI as benign and incidental in current evidence-based medicine world seems inappropriate and further recent research and discussion are warranted for better medical care.

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2. Hyperostosis frontalis interna: an Egyptian case referred to the second dynasty (2890-2650 BC) from Tarkhan-Egypt. Shahin A, Alhoseiny S, Aldali M. *Egypt Rheumatol.* 2014;36:41–45.

E-POSTER ABSTRACTS

Please note that E-posters will appear on the SLMDA website in pdf format and may have been revised and include graphics since they were submitted to us.

E- P1: In-hospital inflammatory and haematological markers in cohort of recovered and deceased Covid-19 Sri Lankan patients

Presenter: Visula Abeysuriya, *Research Fellow Nawaloka Hospital Research and Education Foundation & PhD student at Faculty of Medicine University of Kelaniya (since 2019).*

Co-authors: *Sanjay de Mel, Arjuna P De Silva, Chandima de Mel, Lal Chandrasena and Suranjith L Seneviratne.*

Introduction/Background: Patterns of in-hospital inflammatory and haematological parameter variation following Covid in South Asian patients, is poorly documented. Knowing such information may help with selecting the most appropriate treatment options for different groups of patients.

Objectives: We compared the inflammatory and haematological findings in a cohort of hospitalized Sri Lankan Covid patients who were either discharged following recovery or died, following Covid.

Materials & Methods: Data was collected on 408 patients (Recovered n= 304, died n=104) with SARS-CoV-2 infection between May 2020 and September 2021 from a private hospital in Sri Lanka. Demographic, sequential biochemical and haematological investigation findings, vaccination status and information on the different treatment modalities were recorded in the two groups.

Results: The mean age of the patients was 57.4±18.6 years (Male: n=208; 51%). Highest levels of serum ferritin, D-dimer, CRP, IL-6 and procalcitonin were recorded in those who were not-vaccinated and died following Covid. There were two peaks (at median days 4 and 11) for serum ferritin, D-dimer, CRP, IL-6 and procalcitonin levels in this group. Absolute lymphocyte counts were significantly higher in the recovered group (both vaccinated and non-vaccinated) than in those that died. There was no significant difference in liver enzymes between the vaccinated and non-vaccinated groups.

Conclusions: A range of inflammatory markers were significantly higher in those who were non-vaccinated and died of Covid. Absolute lymphocyte counts were significantly lower among those that died irrespective of whether they were vaccinated or not.

References:

- 1) Rahman A, Niloofa R, Jayarajah U, De Mel S, Abeysuriya V, Seneviratne SL. Hematological Abnormalities in COVID-19: A Narrative Review. *Am J Trop Med Hyg.* 2021 Feb 19;104(4):1188-1201. doi: 10.4269/ajtmh.20-1536. PMID: 33606667; PMCID: PMC8045618.
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E-P2: Comparison of clinical, biochemical, imaging and outcome findings in Sri Lankan dengue and Covid patients

Presenter Visula Abeysuriya. *Research Fellow Nawaloka Hospital Research and Education Foundation & PhD student at Faculty of Medicine University of Kelaniya (since 2019), Nawaloka Hospital –Colombo, Sri Lanka.*

Co-authors: *Sanjay de Mel, Arjuna P De Silva, Chandima de Mel, Lal Chandrasena and Suranjith L Seneviratne.*

Introduction/ Background: Dengue and Covid may co-exist in tropical countries. Differentiation between dengue and Covid may be challenging due to the similarity of symptoms/signs and limited access to specific diagnostic tests in the two conditions.

Objectives: We compared the clinical, biochemical, imaging and outcome characteristics of hospitalized dengue and Covid patients.

Materials & Methods: The study was carried out at a single centre in Colombo. Inclusion criteria for dengue patients were age more than 18 years with positive Dengue NS1 or IgM antibodies and for Covid was age more than

18 with a positive RT-PCR from a nasopharyngeal swab. The dengue cohort was studied from January 2018 to December 2020, and the Covid cohort from April 2020 to December 2021. Clinical, biochemical, imaging and outcome data were recorded and analysed. A p value < 0.05 was considered statistically significant for all analyses.

Results: A total of 550 dengue and 410 Covid patients were analysed. The mean (\pm SD) age of the dengue patients was significantly lower than Covid patients (43.3 \pm 7.8 vs. 59.6 \pm 8.2 years). The median length of hospital stay was significantly longer in Covid than dengue patients (13 vs. 7 days). A higher proportion of dengue patients had no co-morbidities when in compared to Covid patients (68.8% vs. 30.7%). Upper and lower respiratory tract symptoms and signs were common among Covid patients than dengue. Covid patients needed more ICU care and had a higher mortality rate. White cell and platelet counts, neutrophil: lymphocyte ratio and C - reactive protein levels were significantly lower in dengue patients. The chest radiograph was normal in most dengue patients and ultrasound scan abdomen was normal in most Covid patient.

Conclusions: Important differences were noted in some of the clinical, biochemical; imaging and outcome characteristics of patients with dengue or Covid. Clinicians being aware of these differences would aid in the appropriate clinical management of these conditions in regions where both coexist.

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E-P3: Economic burden of dengue and the clinical use of on-admission atypical lymphocyte counts for reducing the overall financial burden

Presenter Visula Abeysuriya. *Research Fellow Nawaloka Hospital Research and Education Foundation & PhD student at Faculty of Medicine University of Kelaniya (since 2019), Nawaloka Hospital –Colombo, Sri Lanka.*

Co-authors: *Sanjay de Mel, Chandima de Mel, Lal Chandrasena and Suranjith L Seneviratne.*

Introduction/ Background: Dengue is a mosquito-borne disease that occurs in many countries. Its incidence has increased markedly during the past three decades and results in a high health and economic burden. On admission atypical lymphocyte counts (ALC) are significantly associated with dengue severity.

Objectives: We assessed the economic burden of dengue and evaluated the use of ALC as an early predictive marker for reducing the financial cost to the patient.

Materials & Methods: Information was prospectively collected on patients admitted to Nawaloka Hospital (NH), Sri Lanka with Dengue infection [DI] between January 2014 and May 2019. DI was diagnosed based on a positive Non-structural antigen 1 (NS1) or dengue IgM antibody result. ALC (absolute and percentage) data were extracted from the Sysmex XS500i automated full blood count (FBC) analyser (Sysmex Corporation Kobe, Japan). Dengue severity was classified according to WHO 2009 guidelines. Financial data was recorded from billing records and the computerized data base maintained by NH. Data were analysed using the Statistical Package for Social Sciences 20 (SPSS) (SPSS 20.0, Chicago, Illinois, USA). P values of <0.05 will be considered significant. Ethical approval was obtained from NH ethics committee.

Results: The study sample consisted of 2285 confirmed dengue patients. Females [51.9%], and mean age was 30.5±15.8 years. 11.7% had dengue with warning signs and 3.4% had severe dengue. Average length of hospital stay was 4.2±1.8 days. 57.4% used an insurance scheme to pay the final hospital bill [Out of pocket payment 42.6%]. Median cost of lab investigations, intravenous fluids and medication, ultrasound scan, X-rays, Echo and ECG and room chargers and other administrative activities were SLR 18,550, 17,879.16, 4,812.50 and 116,850 respectively. Median total hospital bill was SLR 127,600. There was a statistical significant association between severity of dengue and cost of lab investigations, intravenous fluids and medication, ultrasound scan, X-rays, Echo and ECG, room chargers and other administrative activities and the total hospital bill [P< 0.001]. Gender,

availability of insurance scheme and length of hospital stay more than 5 days had significant association with total hospital bill [$p < 0.01$]. Based on linear regression analysis severity of dengue [$p = 0.001$], length of hospital stay more than 5 days [$p = 0.001$] and availability of insurance scheme [$p = 0.001$] were significant predictive factors for the final hospital bill. Gender, availability of insurance scheme and severity of dengue were significant predictive factor for duration of hospital stay [$p = 0.001$]. There was significant association between median length of stay [9 days vs 4 days] and final hospital bill [SLR 298,756 vs 120,879] with the on-admission (day 3 following fever) AL counts more than 0.5 [103] and less than 0.5 [$p = 0.001$]. Based on ROC analysis on-admission AL count more than 0.5 [103] were strong factor for predicting a hospital stay more than 5 days and total hospital bill of more than SLR 132000 (Sensitivity=94.4% and Specificity=78.4%).

Conclusions: Out of pocket expenditure is high in dengue. Dengue severity and length of hospital stay are major contributing factors to the total hospital bill. On admission ALC can be used as a prediction tool for estimating length of hospital stay and total hospital bill. Early discharge of patients with low ALC would reduce overall financial burden.

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E-P4: Echo-cardiographic and electrocardiogram findings in dengue patients

Presenter: Visula Abeyhuriya. *Research Fellow Nawaloka Hospital Research and Education Foundation & PhD student at Faculty of Medicine University of Kelaniya (since 2019), Nawaloka Hospital – Colombo, Sri Lanka.*

Co-authors: Callum D Donaldson, Sanjay de Mel, Chandima de Mel, Lal Chandrasena and Suranjith L Seneviratne.

Introduction/ Background: Cardiac manifestations may occur in dengue. Its detection and management are important for making appropriate clinical management and follow-up decisions.

Objectives: We sought to evaluate the cardiac complications of DI's and to profile the duration for their recovery.

Materials & Methods: A prospective study was done among patients with confirmed DI admitted to our institution between December 2017 and August 2019. DI was diagnosed based on a positive dengue-NS1 or dengue-IgM test result. Dengue-IgG was tested on all patients. Clinical information was obtained from the electronic medical record and statistical analyses were performed using SPSS version 23 and STATA version 12.

Results: Information was collected on 167 patients, Female - 85 (50.9%). The commonest age category was 31 to 50 years - 70 (41.9%). Cardiac involvement was noted in: based on abnormal ECG changes - 35(20.9%) [severe dengue:28 (73.7%)] and Echo findings - 27(16.2%)[severe dengue: 22(57.9%)].The commonest ECG abnormality was sinus bradycardia [male: 9 (10.9%); female: 7 (8.2%)] and systolic dysfunction was the commonest Echo abnormality [male: 12 (14.6%); female 5 (5.8%)]. Patients with Dengue ± warning signs and ECG and Echo abnormalities needed at least 3 weeks until recovery. Patients with severe dengue with ECG and Echo abnormalities needed at least 4 weeks until recovery. The longest recovery time (25.1±6.7 days), following cardiac involvement was in in the severe dengue group, who were dengue-NS1 and dengue-IgG positive. No long-term medications were needed and there were no deaths.

Conclusions:

A significant proportion of severe dengue patients had cardiac involvement and resolves spontaneously within three to four weeks. Secondary dengue patients with cardiac involvement had a more prolonged recovery. Further studies are required to explore the biological basis for this finding.

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E-P5: Psychological distress in family Carers of family members with dementia; Struggle and coping; a qualitative Health Psychological analysis

Presenter: Dr Shanika Sandamali Anthony. *Reader in PhD. Health Psychologist & Psychotherapist, Independent Health Psychologist & Psychotherapist at 'Happy Mind'.*

Co-authors: Prof. Kate M. Bennett (*Head of Psychology, Uni of Liverpool*).

Introduction/Background: Advancements in medicine and interventions have significantly increased the aged population in the United Kingdom and worldwide. However, the dementia trend has not reduced in the aged population. Instead, it has become significantly higher. In the United Kingdom, older people with dementia are mostly cared for by informal caregivers, mostly family and friends. The physical caregiving burden has been found to trigger psychological distress in caregivers, especially family and friends.

Objectives: To investigate the struggles and coping strategies of family caregivers of people with dementia in the United Kingdom.

Materials & Methods: Semi-structured interviews were conducted with caregivers of people with dementia. The participants were either children or spouses of the care recipients. The interviews were conducted face-to-face. The interview transcripts were analysed using inductive thematic analysis.

Results & discussion: Two broad themes emerged: (a) factors contributing to psychological distress (physical, social, and personal) and (b) coping strategies. First-line coping strategies were related to the biological relationship between the caregiver and the care recipient. Second-line coping mechanisms included cognitive restructuring (acceptance and taking responsibility), alternative coping (hobbies and socialising), and personality factors (optimism, selflessness, and extroversion). Out of personally affecting sub themes emerged, stress, shame, guilt, frustration, anxiety and depression were the most obvious.

Conclusion: Family carers of people with dementia experience significant psychological distress, which originates from physical and social factors.

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E-P6: Liver Involvement in Covid

Presenter: Jayani C. Kariyawasam, *Sir John Kotelawala Defence University, Ratmalana.*

Co-authors: *Umesh Jayarajah, Visula Abeysuriya, Rishdha Riza, and Suranjith L. Seneviratne.*

Introduction/Background: Hepatic manifestations are observed in Covid. Detailed patterns of their presentation, pathogenesis and management are poorly defined.

Objectives: To outline the important liver manifestations of Covid, their diagnosis and management and the potential pathogenetic mechanisms.

Materials & Methods: We searched PubMed, Google Scholar, and Google from January 2020 to April 01, 2023, for articles written in English that describe the liver effects of Covid. A total of 103 full-text articles were assessed and 59 were included in the analysis.

Results and Discussion: A majority of Covid-associated liver symptoms are mild and self-limiting and management is supportive. Viral cytopathic effects, exaggerated immune response/systemic inflammatory response syndrome, hypoxia-induced changes, vascular changes due to coagulopathy, endothelitis, cardiac congestion from right heart failure, and drug-induced liver injury are the predominant factors that contribute to hepatic involvement in Covid. The primary investigations of liver involvement in Covid patients includes liver function tests and abdominal imaging. Although, SARS-CoV-2 RNA is found in liver biopsies, liver biopsy does not significantly influence clinical management. Special care is needed for those with cirrhosis, non-alcoholic fatty liver disease, hepatocellular carcinoma, hepatitis B and C infections, alcoholic liver disease and liver transplants (LTs).

Conclusions: A range of factors contributes to liver involvement in Covid. Those with pre-existing chronic liver disease should be prioritized for Covid vaccination and additional Covid-vaccine doses considered for LT recipients.

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E-P7: Gastrointestinal Manifestations in Covid

Presenter: Jayani C. Kariyawasam. *Sir John Kotelawala Defence University, Ratmalana.*

Co-authors: *Umesh Jayarajah, Rishdha Riza, Visula Abeysuriya, and Suranjith L. Seneviratne.*

Introduction/Background: Gastrointestinal (GI) symptoms and signs are observed in Covid. Detailed patterns of their presentation, pathogenesis and management are poorly defined.

Objectives: To outline the important GI manifestations of Covid, their diagnosis and management and the potential pathogenetic mechanisms.

Materials & Methods: We searched the PubMed, Google Scholar and Clinical Trials databases from 1 January 2020 to 01 April 2023 for articles that describe the GI effects of Covid. A total of 244 full-text articles were assessed and 87 were included in the analysis.

Results and Discussion: GI manifestations were seen in 11.4–61.1% of Covid patients, and most were mild and self-limiting. The most common GI manifestations are anorexia, diarrhoea, nausea, vomiting and abdominal pain/discomfort. Acute pancreatitis, acute appendicitis, intestinal obstruction, bowel ischaemia, haemoperitoneum or abdominal compartment syndrome are reported as the cause in most patients with acute abdomen. SARS-CoV-2 RNA has been found in biopsies from all parts of the alimentary canal.

Conclusions: Involvement of the GI tract in Covid, may be due to direct viral injury and/or an inflammatory immune response. It may lead to malabsorption, an imbalance in intestinal secretions, alteration in gut mucosal integrity and activation of the enteric nervous system. The mainstay of treatment is symptomatic and supportive care. Surgical or endoscopic treatment may be needed for acute abdomen and GI bleeding in a subgroup of patients.

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E-P8: Unhealthy food promotion on television to Sri Lankan children

Presenter: **Dinithi Ravindrika Samarakoon**¹. *Research Assistant, Department of Biochemistry and Molecular Biology, Faculty of Medicine, University of Colombo, Sri Lanka.*

Co-authors: *Parami Prabuddhini Weerasinghe¹, V. Pujitha Wickramasinghe¹, Carukshi Arambepola¹, Piyanjali de Zoysa¹, Sudassi Tharanga Thoradeniya.^{1*}*

Introduction: Promotion of unhealthy food, particularly high in fat, salt, and sugar (HFSS), is a significant risk factor for obesity. However, restricting such promotion is often overlooked. We assessed the exposure of Sri Lankan children to food promotion on television as part of a multi-country study in Asia.

Methods: Food advertisements streamed on three television channels popular among Sri Lankan children were analysed over 432h (18h/day between 0600-0000 on 4 weekdays and 4 weekend days). A tool developed based on the International Network for Food and Obesity/NCDs Research, Monitoring and Action Support (INFORMAS) and the WHO Nutrient Profile Model for South-East Asia Region (SEARO) was used to classify food as healthy/unhealthy based on nutrition threshold values.

Results: Of the total 23716 advertisements aired, 6824 were on food promotion. Children, on average, were exposed to ~17 food advertisements per hour (i.e., four per every 15 minutes), of which over half (55.6%) were on unhealthy foods according to WHO-SEARO model. A third of these were aired during peak viewing time. Of the 289 food products advertised, 53.6% were HFSS products, whereas one in ten (9.6%) were high in all three HFSS components. Notably, 42 (14.5%) products had insufficient nutrition information to classify as healthy/unhealthy.

Discussion & Conclusion: Children in Sri Lanka are widely exposed to unhealthy food promotion, particularly for HFSS products, through television. This has a direct negative effect on their lifelong dietary behaviour contributing to obesity (Smith et al, 2019) and emphasizes the urgent need for implementing stringent policies restricting unhealthy food promotion to children (WHO, 2016).

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Funding information: International Development Research Centre, Grant Number: 109170.

Acknowledgement: Kantar Lanka (Pvt) Ltd, INFORMAS Research team, the project leader, and the secretariat, University of Taylor's Malaysia.

E-P9: La Maladie Bleue- Surgical Success of Tetralogy of Fallot

Presenter: Shanuki Vidanagama. *Student, The Lатыmer School, London.*

Introduction/ Background: Tetralogy of Fallot (ToF) is a congenital heart condition consisting of four heart defects: ventricular septal defect (VSD); pulmonary stenosis; an overriding aorta; and ventricular hypertrophy. ToF's surgical approaches reflect advancement in cardiology, cardiac surgery, and knowledge of the developing heart.

Objectives: To investigate the effects of surgical corrections on ToF.

Materials & Methods: The operations I researched are patches, stents and valve replacements (complete repair), and shunts (temporary repair).

Results: The main goal for ToF treatment is to repair the VSD or pulmonary stenosis with open heart surgery within 1 year. A transannular patch (TAP), or a pulmonary valve-sparing procedure (PVS) occur. The patient may require replacement valves to further widen the pulmonary artery, and stents to increase blood flow in the right ventricular outflow tract. The Blalock-Thomas-Taussig shunt performs similarly to a patent ductus arteriosus (PDA) and improves the oxygenation of individuals with extreme cases of ToF.

Discussion: The differences in mortality when using PVS and TAP are still debated. Tetralogy of Fallot patients require lifetime monitoring and additional treatments. However, the surgical repair of ToF has led to significant decrease in mortality and long-term survival is almost 90%.

Conclusions: The mortality risk associated with total repair of tetralogy of Fallot has slowly decreased over time. The care of ToF patients should be based on the severity of pulmonary stenosis, recognition of later complications, and changes in modern medicine. Although ToF patients will receive lifelong healthcare, with the right treatment and attention early on, patients are able to lead a normal, healthy life.

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E-P10: Risk factors for Colorectal Cancer in the Sri Lankan Population

Presenter: Ekanayake NV¹.

Co-authors: Seneviratne SL², De Zoysa MIM.¹

Department of Surgery, Faculty of Medicine, University of Colombo 1

Nawaloka Hospital Research and Education Foundation, Sri Lanka 2

Introduction/Background: Colorectal carcinoma (CRC) accounts for substantial cancer morbidity and mortality worldwide. Our study was designed to assess the contributions of dietary and lifestyle factors on the risk of developing CRC.

Methods: A case-control study was conducted over a five-year period at the National Hospital of Sri Lanka. Data was collected via an interviewer administered, structured, pre-tested questionnaire on 200 histologically confirmed CRC cases and 200 age and gender - matched controls. Multivariate analyses were done to identify associations.

Results: The median age was 58 years in the CRC group and 54 years in the control group, while the male: female ratio was 1.50 and 1.49 respectively. On multivariate analysis the consumption of six or more cups of brown tea per day [Odds Ratio (OR) = 2.98 (95% CI 1.47-6.05), p=0.003] was independently associated with CRC. Beef consumption also showed significant association with risk of CRC [OR = 1.76 (95% CI 1.12-2.78), p=0.015]. Green tea was not found to be associated with CRC. There were no associations with body weight, work-sleep pattern, smoking or the consumption of alcohol, mutton, pork, fruits or coffee.

Conclusions: The consumption of six or more cups of brown tea per day or beef was associated with an increased risk of developing CRC.

E-P11: Laparoscopic and open colorectal cancer surgery: a prospective study on resection margins and lymph node clearance

Authors: Dharmadasa T¹ Seneviratne SL², De Zoysa MIM¹ Department of Surgery, Faculty of Medicine, University of Colombo 1, Nawaloka Hospital Research and Education Foundation, Sri Lanka 2.

Introduction: In South-Asian countries, patients with colorectal cancer (CRC) tend to present late, compared to Europe and the United States (US). Thus, in South-Asia, there is some uncertainty, if laparoscopic CRC surgery would allow safe resection margins and adequate lymph node (LN) dissection, compared to open CRC surgery.

Objectives: A survey was also done among surgeons who manage CRC patients in Sri Lanka to ascertain their views on the laparoscopic approach. In a cohort of Sri Lankan CRC patients, surgical resection margins and LN clearance were compared for the laparoscopic and open approach.

Methods: The survey used a pre-tested interviewer-administered questionnaire. Data were collected prospectively from patients undergoing laparoscopic or open CRC surgery at the University Surgical Unit, NHSL, from April 2016 to May 2019. The longitudinal (LRM) and circumferential resection margins (CRM) and number of LN harvested were determined for each procedure. Chi-squared test and Student's t-test were used to compare CRM and LN harvest respectively.

Results: Of 59 surgeons interviewed, 11(18.6%) performed laparoscopic CRC surgery and 51(86.4%) laparoscopic cholecystectomies. Of 137 patients (males: females-83:54), 81 and 56 had laparoscopic and open CRC surgery. All had clear LRM's. 78(96%) in the laparoscopic and 51(91%) in the open groups, had clear CRM's ($p > 0.05$). Lymph nodes resected were: [laparoscopy-1499 (mean-18.5, SD 0.6) and open-689 (mean-12.3,SD 0.4) ($p < 0.05$)].

Conclusions: A majority of surgeons in Sri Lanka did not perform laparoscopic CRC surgery. LRM and CRM were comparable in the laparoscopic and open CRC surgery groups. Better regional LN clearance was obtained with laparoscopic CRC surgery.

E-P12: Side effects of four Covid vaccines: meta-analysis and systematic review

Presenter: Dineshani Hettiarachchi.

Co-authors: Priyath D Seneviratne, Ashwini Wijeweera, Dulani KGH Seneviratne, Kasun Lakmal, Suranjith L Seneviratne. Faculty of Medicine, University of Colombo.

Introduction/ Background: Since the onset of the Covid pandemic, a number of vaccines with diverse mechanisms of action have been developed and are currently in global use.

Objectives: This meta-analysis and systematic review aims to compare the reported adverse effects of four Covid vaccines (Pfizer-BioNTech, Oxford-AstraZeneca, Sinopharm-BBIBP and Moderna).

Materials & Methods: A literature search was conducted using PubMed and Cochrane Review databases. Following screening and filtering of 918 publications, an analysis of the safety and reactogenicity data from nine Randomised Controlled Trials (RCTs) investigating one or more of the four vaccines were done. The studies explored the safety and reactogenicity following administration of two homologous doses of any of the four vaccines, in healthy Asian participants older than 12 years.

Results: Pain at the injection site was the commonest local side effect (Pfizer: 86.2% [95% CI: 79.2% – 93.2%]; AstraZeneca: 17.7% [95% CI: 14.4% – 21.1%]; Sinopharm: 22.3% [95% CI: 21.7% - 23.0%]; Moderna: 92% [95% CI: 87.7% – 96.3%]). Of the systemic side effects, fever and myalgia were most common in those receiving the Pfizer (46.8% [95% CI: 36.7% – 56.9%]) and AstraZeneca (10% [95% CI: 7.34% – 12.7%]) vaccines respectively. Headache and fatigue were the commonest systemic adverse effects with the Sinopharm (12% [95% CI: 11.5% – 12.5%]) and Moderna (64% [95% CI: 56.3% – 71.7%]) vaccines respectively.

Discussion and Conclusions: Some side effects were commoner with mRNA-based vaccines compared to the adenovirus vectored vaccines and inactivated vaccines. No severe life-threatening adverse effects were reported.

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