

Faculty of Medical Sciences
University of Sri Jayewardenepura

Challenges in Medicine

Scientific Sessions

2015

Inauguration: 1st April

Sessions: 2nd April

Programme & Abstracts



Golden Rose Hotel, Boralesgamuwa



*Faculty of Medical Sciences
University of Sri Jayewardenepura*

Scientific Sessions 2015

1st and 2nd April 2015

Golden Rose Hotel, Boralesgamuwa

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Abstract Book

Dr. Chandima Kulathilake
Dr. Bernadene Fernandopulle

Message from the Vice Chancellor University of Sri Jayewardenepura



It is with extreme pleasure that I write this message to the book of proceedings of the Scientific Sessions – 2015 of the Faculty of Medical Sciences, University of Sri Jayewardenepura.

Since its inception in 1993 the Faculty of Medical Sciences has always provided an encouraging environment towards the development of research among academic staff members. Apart from the regular scientific forums and workshops that are organized frequently, the Scientific Sessions which are held bi annually provide a platform where academics of different specialties of medicine have the opportunity to present their research findings. The many oral and poster presentations address national and global health issues and are valuable for decision making to clinicians as well as health care policy makers.

I also understand that the organizing committee has arranged for a multitude of well respected and renowned speakers as guest lecturers. The agenda for the 2nd April, highlights relevant issues posing challenges in medicine. A debate on medical education will be the highlight of these presentations. The oration on the day of the inauguration is ample evidence that the Faculty of Medical Sciences encourages high quality research.

The University of Sri Jayewardenepura has always encouraged research by way of providing ample grants and other resources to all academics. It is indeed the prestige of any University to have academics with varied and colourful research interests. I am proud to say that all Faculties of the University of Sri Jayewardenepura have a very good research background.

Concluding my message I wish to extend my sincere thanks to the Dean and the staff of the Faculty of Medical Sciences for their unstinted contribution to make this academic event a great success. I heartily commend the Chairperson and the Research Committee for their dedication and commitment in organizing this event.

I wish the Sessions every success!

Prof. Sampath Amaratunge
Vice-Chancellor
University of Sri Jayewardenepura

**Message from the Dean
Faculty of Medical Sciences
University of Sri Jayewardenepura**



The Scientific Sessions of the Faculty of Medical Sciences showcase the wide range of research activities undertaken by faculty members at all levels. This event is organized once in two years with the aim to promote ethical research among faculty members. We consider that creation of research culture among faculty members and related professionals is our obligation and responsibility. Thus the Scientific Sessions presents a unique opportunity to all those interested in medical research to enhance their skills in conducting, documenting and presenting their findings.

Research drives better health care. Our faculty members work across academic fields with colleagues at other universities and research institutes within Sri Lanka and around the world. I consider it's essential to nourish these partnerships and seek new ones, so our Faculty will help shape medicine in the 21st century.

I take this opportunity to thank the Chairperson, Dr. Pradeepa Jayawardane and all the members of the Research Committee of the FMS for organizing the Research Sessions 2015 and I wish the deliberations of the research sessions will prove productive and intellectually stimulating.

Professor Surangi G. Yasawardene

Dean

Faculty of Medical Sciences

University of Sri Jayewardenepura

Message from the Chairperson Research Committee 2015 Faculty of Medical Sciences



It is a great pleasure and a privilege to welcome you to the Scientific Sessions 2015 of the Faculty of Medical Sciences of University of Sri Jayewardenepura. Scientific Sessions, a major highlight in the calendar of events of the Faculty of Medical Sciences is organized by the Research Committee of the faculty. With a view to enhance the quality of the research conducted by the academic staff members of the faculty, the research

committee organizes a multitude of events and the scientific sessions is the climax that provides a platform for researchers of the faculty as well as the medical academia of the country to present and discuss their findings.

I wish to congratulate Dr Shalindra Ranasinghe, senior lecturer in Parasitology for being the recipient of this year's Faculty Oration which is held for the second time in the history of our faculty. This year we have received over 70 abstracts and we have 12 oral presentations and 48 poster presentations to be presented tomorrow. In keeping with the theme "Challenges in Medicine" we have a stunning programme with contributions from many renowned experts and scientists in different fields of medicine from around the country as resource persons. The Plenary Lecture will be delivered by Prof Aloka Pathirana, Professor in Surgery of Faculty of Medical Sciences, on "Open surgery – a thing of the past". Another much awaited highlight of tomorrow's programme would be the debate on Medical Education "Modern Medical Curriculum Vs Old Medical Curriculum". There will be 3 other symposia on "Challenges in Infectious Diseases", "Neurodegenerative Diseases" and "Prevention of Cancer and other Non-communicable Diseases". I thank the speakers for their zeal for sharing their knowledge and expertise with us and the chairpersons and judges of oral and poster presentations for kindly accepting our invitation.

All members of our team worked tirelessly to make this event a success and Dr Bernadene Fernandopulle, the secretary worked very enthusiastically attending to all the details. I would be failing in my duty if I did not mention the name of Prof Saman Gunatilake, the pillar of strength of the committee. Thank you very much for the mentorship and support given at all times. I wish to thank Prof Sampath Amaratunge, Vice Chancellor of the University of Sri Jayewardenepura for his unwavering support. I also extend my sincere gratitude to Prof Surangi Yasawardene, the Dean of the Faculty of Medical Sciences for her encouragement and support. A special thank you goes out to Prof Mohan de Silva, former Dean of our faculty and the current Chairman of the University Grants Commission for the unstinted support given during his tenure.

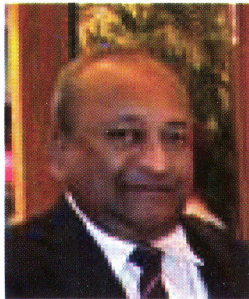
Finally I hope that all of you would enjoy the programme and would experience a very stimulating and interesting conference.

Dr Pradeepa Jayawardane
*Chairperson - Research Committee
Faculty of Medical Sciences
University of Sri Jayewardenepura*

FACULTY



Prof. Aloka Pathirana
Professor in Surgery
Faculty of Medical Sciences
University of Sri Jayewardenepura



Prof. Rajitha Wickremasinghe
Professor of Public Health
Faculty of Medicine
University of Kelaniya



Dr. Geethika Patabendige
Consultant Clinical Microbiologist
National Hospital of Sri Lanka



Prof. Dulanie Gunasekera
Professor in Paediatrics
Faculty of Medical Sciences
University of Sri Jayewardenepura



Prof. Saman Gunatilake
Professor of Medicine and Consultant Neurologist
Faculty of Medical Sciences
University of Sri Jayewardenepura



Dr. Chandanie Wanigatunge
Senior Lecturer and Consultant Physician
Department of Pharmacology
Faculty of Medical Sciences
University of Sri Jayewardenepura



Prof. Saroj Jayasinghe
Professor in Medicine
Faculty of Medicine
University of Colombo



Prof. Janaki Hewavisenthi
Professor of Pathology
Head of Medical Education
University of Kelaniya



Prof. Asita de Silva
Professor in Clinical Pharmacology
Faculty of Medicine
University of Kelaniya



Dr. M T M Riffisy
Consultant Neurologist



Prof. Kumudu Wijewardene
Senior Professor and Chair
Department of Community Medicine
Faculty of Medical Sciences
University of Sri Jayewardenepura



Dr. Bimalka Seneviratne
Senior Lecturer and Consultant Histopathologist
Department of Pathology
Faculty of Medical Sciences
University of Sri Jayewardenepura



Dr. Harindu Wijesinghe
Consultant in Rheumatology and Sports Medicine
Nawaloka Hospital, Colombo

Scientific Sessions 2015
Faculty of Medical Sciences
University of Sri Jayewardenepura

02nd April 2015

Detailed Programme

8.00 am Registration

8.30 am Inauguration

8.35 am Plenary Lecture

Open surgery – A thing of the past

Prof. Aloka Pathirana

(Citation read by Prof. S. Yasawardene)

9.00 am Symposium I - Challenges in Infectious Diseases

Chairpersons: Prof. Antoinette Perera, Prof. Neluka Fernando

1. Challenges in malaria elimination and prevention of re-introduction

Prof. Rajitha Wickremasinghe

2. Antibiotic resistance –New challenges

Dr. Geethika Patabendige

3. Managing dengue in paediatric patients-The pitfalls and challenges

Prof. Dulanie Gunasekera

10.10 am Tea and viewing of poster presentations

10.30 am Oral presentations - Session I (OP 1 – OP 6)

Chairpersons : Prof. Hemantha Peiris, , Prof. Renu Wickremasinghe

OP1 Sphingosine 1-Phosphate in acute dengue infection

Gomes PLR¹, Fernando S¹, Fernando RH¹, Wickramasinghe N¹, Shyamali NLA¹, Ogg GS², Malavige GN¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura,

²Weatherall Institute of Molecular Medicine, Oxford

OP2 Development and validation of an in house multiplex real time PCR for quantification of all four serotypes of dengue virus

Gomes PLR¹, Kamaladasa A¹, Ogg GS², Malavige GN¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura,

- ²*Weatherall Institute of Molecular Medicine, Oxford*
- OP3 Role of natural killer T cells in the pathogenesis of dengue infections**
 Kamaladasa A¹, Munasinghe N¹, Adikari T¹, Gomes L¹, Shyamali NLA¹,
 Salio M², Cerundolo V², Ogg GS², Malavige N¹
¹*Faculty of Medical Sciences, University of Sri Jayewardenepura,* ²
Weatherall Institute of Molecular Medicine, Oxford
- OP4 Restriction Fragment Length Polymorphism (RFLP) of the Internal Transcribed Spacer 1 (ITS1) region of cutaneous leishmaniasis causing *Leishmania donovani* in Sri Lanka**
 Ranasinghe S¹, Hulangamuwa S², Opathella N², Wickremasinghe R¹,
 Chandrasekharan V³
¹*Faculty of Medical Sciences University of Sri Jayewardenepura,*
²*Teaching Hospital, Anuradhapura,* ³*Department of Chemistry, University of Colombo*
- OP5 Molecular Epidemiology of leptospirosis in Western and Southern Province in Sri Lanka**
 Bandara AWMKK¹, Weerasekera MM¹, Gunasekera TDCP¹, Ranasinghe KNP²,
 Marasinghe MGCP¹, Dikmadugoda N³, Jayalath MPK⁴, Gunapala A⁵,
 Fernando SSN¹
¹*Faculty of Medical Sciences, University of Sri Jayewardenepura,* ²*Base Hospital Tangalle,*
³*Base Hospital Homagama,* ⁴*Base Hospital Panadura,* ⁵*Colombo South Teaching Hospital*
- OP6 Impact of a ward based clinical pharmacy service on drug-related hospital re-admissions: Evidence from a controlled clinical trial in a tertiary care hospital in Sri Lanka.**
 Shanika LGT¹, Wijekoon N², Jayamanne S², Coombes J¹, Coombes I¹,
 Perera D¹, Dawson A¹, De Silva HA²
¹*South Asian Clinical Toxicology Research Collaboration,* ²*Faculty of Medicine, University of Kelaniya*

11.30 am Debate on Medical Education

Modern Medical Curriculum Vs Old Medical Curriculum

Moderator: Prof. Gita Fernando

Old Medical Curriculum

Prof. Saman Gunatilake
 Dr. Chandanie Wanigatunge

New Medical Curriculum

Prof. Saroj Jayasinghe

Prof. Janaki Hewavisenthi

12.40 pm Lunch and poster viewing

1.30 pm Oral Presentations – Session II (OP 7 – OP 12)

Chairpersons: Dr. Ramya Pathiraja , Prof. Deepaka Weerasekera

- OP7 Risk factors and clinico-pathological profile of Triple Negative Breast Cancer; A comparative study done in Southern Province of Sri Lanka**
Peiris HH¹, Mudduwa LKB¹, Thalagala NI², Jayatilake KAPW¹
¹Faculty of Medicine, University of Ruhuna, ²Family Health Bureau, Ministry of Health, Colombo
- OP8 Does training improve the pulmonary function amongst Sri Lankan national level athletes?**
Wijayasiri KDCU¹, Wimalasekera SW², Thurairaja C³
¹Colombo South Teaching Hospital, ²Faculty of Medical Sciences, University of Sri Jayewardenepura, ³Postgraduate Institute of Medicine, University of Colombo
- OP9 Cardiovascular risks for participation in competitive sports among the adolescent athletes who are attending selected sports medicine clinics in Sri Lanka - Pilot study**
Dilanthika NPM¹, Senaratne C², Kandulawa BMNP³, Karunarathna K MN³, Gunathilake KCP⁴, Thebuwanarachchi ST⁵, Ruwanga GDM³, De Silva YHS⁵, Thurairaja C⁶
¹Rheumatology and Rehabilitation Hospital, Ragama, ²Faculty of Medical Sciences, University of Sri Jayewardenepura, ³Sports Medicine Unit, Lady Ridgeway Hospital for Children, ⁴Sports Medicine Unit, Teaching Hospital, Kandy, ⁵Sports Medicine Unit, Teaching Hospital, Karapitiya, ⁶Postgraduate Institute of Medicine, University of Colombo
- OP10 Identifying risks related to road traffic accidents among vulnerable population in Moneragala district, Sri Lanka**
Tennakoon V¹, Wickramasinghe R², Ameratunga S³, Peiris-John R³
¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Faculty of Medicine, University of Kelaniya, ³School of Population Health, University of Auckland, New Zealand
- OP11 Doctors' and nurses' perceptions towards the introduction of clinical pharmacy service to the Sri Lankan healthcare system :Experience from a tertiary care hospital**
Shanika LGT¹, Wijekoon N², Jayamanne S¹, Coombes J¹, Dawson A¹, De Silva HA²
¹South Asian Clinical Toxicology Research Collaboration, ²Faculty of Medicine, University of Kelaniya

**OP12 Scope of midwifery practice within the nursing profession.
Perception of Midwifery Trained Registered Nurses: a qualitative study**

Jayathilake MRS¹, Samarasinghe K², Perera PPR¹, Jayasuriya MVF³, Molligoda HD⁴

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²School of Health and Society, Kristianstad University, Sweden, ³Faculty of Community Services, Ryerson University, Toronto, ⁴Postgraduate Institute of Medicine, University of Colombo

2.30 pm Symposium II – Neurodegenerative Diseases

Chairpersons: Prof. S.D. Jayaratne , Prof. Samudra Kathriarachchi

1. Parkinson disease-Aetiology

Prof Saman Gunatilake

2. Vascular risk factors and dementia - Is there a clear link?

Prof. Asita de Silva

3. Motor Neuron Disease

Dr. M .T. M Riffsy

3.40 pm Symposium III - Prevention of Cancer and other NCD

Chairpersons: Prof. S Sivayogan , Dr. Indira Wijesiriwardena

1. Gender Based Violence – challenges for the future

Snr. Prof. Kumudu Wijewardene

2. Identifying pre-cancerous lesions the way forward in cancer prevention

Dr. Bimalka Seneviratne

3. Planning a healthy exercise schedule scientifically

Dr. Harindu Wijesinghe

4.50 pm Closing ceremony and awards

5.00 pm Tea

FACULTY OF MEDICAL SCIENCES ORATION

“Characterization & genotyping of visceral and cutaneous leishmaniasis causing strains in Sri Lanka and epidemiological findings”

Dr Shalindra Ranasinghe,
Senior Lecturer, Faculty of Medical Sciences, USJP

Leishmaniasis is a newly emerged and established vector borne disease in Sri Lanka. It appears in three main clinical forms; chronic disfiguring cutaneous leishmaniasis (CL) confined to the skin, potentially fatal visceral leishmaniasis (VL) that commonly involves internal viscera and mutilating mucocutaneous (MCL)/mucosal leishmaniasis (ML) which chronically destroys the oro-nasal mucosa.

The common form of leishmaniasis prevalent in Sri Lanka is CL. Endogenous VL and ML though reported are less common here. For the first time, I was able to establish an *in vitro* culture of the visceral leishmaniasis causing strain in Sri Lanka and characterize it by multi locus enzyme electrophoresis (MLEE) in collaboration with Laboratoire de Parasitologie-Mycologie, Centre National de Référence des *Leishmania*, Montpellier, France. The strain was as named as MHOM/LK/2010/OVN3. Furthermore, the whole genomes of both CL and VL causing strains from Sri Lanka isolated and submitted by me were sequenced and analyzed by a team at the University of Washington & Seattle Biomedical Research Institute, USA. Both methods of typing revealed that both CL and VL causing strains belong to *Leishmania donovani* MON-37 although they produce phenotypically different pathologies. The whole genome sequence analysis showed that the fewer copy numbers in the A2 virulence gene family and a SNP mutation in the *Rag C* gene that encodes the Rag C GTPase enzyme in the target of mammalian rapamycin (mTOR) pathway in the CL genome could have resulted in the natural attenuation seen with the Sri Lankan CL strain.

My study further extended to evaluate 3 sets of previously described PCR primers to detect *Leishmania* parasite DNA in skin biopsy samples of Sri Lankan patients. The lesions ranged morphologically from papules, nodules, ulcers to plaques. Out of the tested, two sets of primers (kDNA primers JW11/12 & internal transcribed spacer 1 region (ITS1) primers LITSR/L5.8s) showed 92% sensitivity with a 100% specificity in detecting *Leishmania* DNA. When the restriction fragment length polymorphism (RFLP) was tested for the ITS1 PCR fragment digested with Hae III in 35 samples, all gave the characteristic *L. donovani* pattern. This showed that *L. donovani* is the only isolated parasite species from endogenous CL lesions still in Sri Lanka and that ITS1 PCR with RFLP could be recommended for *Leishmania* DNA identification to species level in skin biopsy samples with high sensitivity and specificity.

The final aspect of my study included the determination of risk factors for transmission of leishmaniasis in an endemic region in Sri Lanka. During this cross sectional survey at Thalawa MOH area, we detected a 0.1% prevalence of rK39 anti-*Leishmania* antibodies of VL (positive in an asymptomatic individual out of 954 screened), a prevalence of 3.2% of CL with 1% of previously undetected CL cases. Independent sample *t*-test, χ^2 test and binary logistic regression analysis of socio-demographic and special distribution of environmental risk factors revealed living closer to paddy fields was associated with increased risk for transmission of leishmaniasis ($p < 0.01$).

Abstracts of oral presentations

OP 1

Sphingosine 1-Phosphate in acute dengue infection

Gomes PLR¹, Fernando S¹, Fernando RH¹, Wickramasinghe N¹, Shyamali NLA¹, Ogg GS², Malavige GN¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ² Weatherall Institute of Molecular Medicine, Oxford

Objectives: Many mediators have been implicated in the vascular leak in dengue which is a hallmark of severe dengue. Sphingosine 1-Phosphate (S1P) has been shown to counteract the effects of other mediators that cause increase vascular permeability. Moreover, S1P has been shown to be important in barrier integrity. Therefore, we investigated the role of S1P in acute dengue. This has not been investigated previously.

Methods: Serum samples from acute dengue patients were collected 12 hours apart throughout the course of their hospital stay. S1P levels in 32 patients with acute dengue and 12 healthy individuals were assessed using ELISA.

Results: S1P levels were significantly lower in patients with acute dengue ($p=0.002$) and the levels in patients with DHF were significantly lower than those with dengue fever ($p=0.005$). S1P levels were low throughout the course of illness and S1P levels were $< 0.5 \mu\text{M}$ in 12/23 patients with DHF when compared to 1/9 with dengue fever (DF). Majority of patients with DHF had lower S1P levels especially in the critical phase. Some patients with DF also had quite low levels at certain time points during the course of the illness. The serial S1P levels in patients with both DF and DHF significantly correlated with the serial platelet counts (Spearman's $r = 0.18$, $p=0.04$).

Conclusions: Low levels of S1P in acute dengue infection are likely to contribute to increased vascular permeability. Therefore S1P analogue may have a place in the treatment of acute dengue.

OP 2

Development and validation of an in house multiplex real time PCR for quantification of all four serotypes of dengue virus

Gomes PLR¹, Kamaladasa A¹, Ogg GS², Malavige GN¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ² Weatherall Institute of Molecular Medicine, Oxford

Objectives: In order to determine the infecting dengue virus (DENV) serotype and also to quantify the amount of virus in clinical samples and cell cultures, we proceeded to optimize and validate a quantitative real time RT-PCR assay.

Methods: WHO reference strains of the four DENV serotypes were cultured on C6/36 cell lines for 7 days. The supernatants were used to determine plaque forming units (pfus) using BHK cell lines, which is indicative of infecting virus particles. cDNA was synthesized from RNA extracted from the virus culture supernatants. A tenfold dilution series (106 to 101 pfu/ml) of the known pfus of the viruses was prepared using the cDNA for standard curves. Data were analyzed using applied biosystems sequence detection systems. The threshold cycle value (Ct) for each reaction was determined by manually setting the threshold limit. Each standard curve was initially generated individually and later was used in a multiplex assay. All experiments were done in triplicate.

Results: The optimized multiplex method detected all four DENV serotypes and generated standard curves with correlation coefficients (R^2 values) above 0.95, which suggested that the standard curves and dilutions were of acceptable quality. The slope values of the standard curves were between -3.1 and -3.8 for all assays, implying that the PCR reactions were quite efficient.

Conclusions: We have optimized and validated a multiplex quantitative real time RT-PCR assay, which can be effectively used to determine the infecting DENV in samples and also quantify the amount of virus.

OP 3

Role of natural killer T cells in the pathogenesis of dengue infections

Kamaladasa A¹, Munasinghe N¹, Adikari T¹, Gomes L¹, Shyamali NLA¹, Salio M², Cerundolo V², Ogg GS², Malavige GN¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ² Weatherall Institute of Molecular Medicine, Oxford

Objectives: The dengue virus exploits cellular lipid metabolism pathways and natural killer T cells (iNKT), which recognize glycolipids have been suggested to play a role in mouse models of acute dengue. Therefore, we set out to determine if iNKT cells play a role in acute dengue infection

Methods: The frequency of iNKT cells (CD3+, Vα24+) was determined in 49 acute dengue and 22 healthy individuals. The functionality and phenotype of iNKT cell subsets were defined only in 19 patients and 10 controls by flow cytometry. Clinical disease severity was determined by the WHO 2011 guidelines

Results: The proportion of iNKTs in patients with acute dengue were significantly higher (P=0.03) compared to healthy individuals. We found that the CD4+ iNKTs, which produce inflammatory cytokines and are less cytotoxic, were significantly expanded (p=0.01) in acute dengue. iNKTs of patients were also significantly (p=0.02) more activated (both CD38+ and HLA-DR+), that iNKT cell activation significantly and positively correlated with dengue-specific IgG antibody titres (Spearman's r=0.5018, P=0.03). iNKT of patients were also predominantly of the immature phenotype, as the expression of CD161 was significantly more than in healthy individuals (p=0.01).

Conclusions: As the iNKT cell population, especially of the CD4+ T cell subset appears to be highly activated and expanded in acute dengue, iNKT cells could be contributing to the pathogenesis of dengue infection.

OP 4

Restriction Fragment Length Polymorphism (RFLP) of the Internal Transcribed Spacer 1 (ITS1) region of cutaneous leishmaniasis causing *Leishmania donovani* in Sri Lanka

Ranasinghe S¹, Hulangamuwa S², Opathella N², Wickremasinghe R¹, Chandrasekharan V³

¹Faculty of Medical Sciences University of Sri Jayewardenepura, ²Teaching Hospital, Anuradhapura, ³Department of Chemistry, University of Colombo

Objectives: To isolate PCR quality DNA from punch biopsy samples of 35 suspected cutaneous leishmaniasis (CL) lesions, carry out Internal Transcribed Spacer 1 (ITS1) PCR, analyse Restriction Fragment Length Polymorphism (RFLP), sequence of ITS1 region of 10 randomly selected patient samples and to determine the genetic variation among the causative parasites.

Methods: Punch biopsies (3mm) from CL lesions (n=35) were taken and stored in NET buffer at -20°C. DNA was extracted using a commercially available kit. ITS1 PCR was carried out using previously described primers. PCR products were digested with HaeIII, run in a 1.7 % ethidium bromide gel and visualized under UV light. Same ITS1 PCR products of 10 randomly selected samples were sequenced commercially. Analysis of sequences was carried out with CLUSTALW2 multiple sequence analyzing software.

Results: All 35 CL samples showed the same *Leishmania donovani* ITS1 RFLP pattern. The BLAST search confirmed that the 10 sequenced Sri Lankan strains belong to *L. donovani*. Multiple sequences analysis showed that Sri Lankan *L. donovani* strains are highly homogenous in the ITS1 regions. However, the Sri Lankan strains showed, few indels in the ITS1 region when compared with the *L. donovani* ITS1 sequences originated from India, Sudan and Ethiopia.

Conclusions: Cutaneous leishmaniasis in Sri Lanka is still caused only by *L. donovani* and ITS1 region of the *L. donovani* strain of Sri Lankan origin is highly homogenous and conserved.

OP 5

Molecular epidemiology of leptospirosis in western and southern provinces in Sri Lanka

Bandara AWMKK¹, Weerasekera MM¹, Gunasekera TDCP¹, Ranasinghe KNP², Marasinghe MGCP¹, Dikmadugoda N³, Jayalath MPK⁴, Gunapala A⁵, Fernando SSN¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Base Hospital, Tangalle, ³Base Hospital Homagama, ⁴Base Hospital, Panadura, ⁵Colombo South Teaching Hospital

Objective: The present study investigated the molecular epidemiology of leptospirosis in selected provinces in Sri Lanka

Methods: A prospective study was carried out between January 2013 to 2014. Adult patients with clinically suspected leptospirosis admitted to the medical wards at selected hospital were included. A whole blood sample was collected and DNA was extracted. leptospira IgM was detected using an immunochromatographic assay. PCR was done using fla B primers followed by RFLP using Hind III and Hae III. Nested PCR was performed using rrs primers which amplifies 16S rRNA gene. Amplicons resulting from rrs PCR were purified and subjected to bidirectional DNA sequencing and phylogenetic analyses were conducted.

Results: Out of the 168 clinically suspected leptospirosis cases 84 (50%) were IgM positive and 13 (7.7 %) were positive with Fla B PCR while 14 were rrs PCR positive. Based on sequence analysis, *Leptospira interrogans* (11/14, 79%) was the most common cause of disease followed by *Leptospira borgpetersenii* (2/14, 14%) and *Leptospira kirschneri* (1/14, 7%). Renal failure was the most common complication (4/11, 36%) associated with *L. interrogans* followed by myocarditis (2/11, 18%). *Leptospira borgpetersenii* was associated with myocarditis and liver failure while *Leptospira kirschneri* was associated with acute renal failure. RFLP Hind III digestions could not differentiate between *L. interrogans* strains *Canicola*, *Icterohaemorrhagiae* and *Pyrogenes* while Hae III digestion showed better discrimination.

Conclusions: *L. interrogans* was the predominant circulating strain in western and southern provinces in 2013 in Sri Lanka. The current data will contribute to determining molecular epidemiological diversity of circulating leptospira in Sri Lanka

OP 6

Impact of a ward based clinical pharmacy service on drug-related hospital re-admissions:

Evidence from a controlled clinical trial in a tertiary care hospital in Sri Lanka.

Shanika LGT¹, Wijekoon N², Jayamanne S², Coombes J¹, Coombes I¹, Perera D¹, Dawson A¹, De Silva HA²

¹South Asian Clinical Toxicology Research Collaboration, ²Faculty of Medicine, University of Kelaniya

Objective: To determine the impact of a ward-based clinical pharmacy service on drug related hospital re-admissions.

Methods: This was a part of a controlled trial conducted in a tertiary care hospital in Sri Lanka to evaluate the clinical pharmacy service. The control group received the standard care whereas the intervention group received a ward-based pharmacist's service in addition to the standard care. The pharmacist performed a prospective medications review of patients with chronic non-communicable diseases during their hospital stay and made recommendations to the health care team when appropriate. At discharge reconciliation of discharge prescription was done. Patients were educated about discharge medicines to improve knowledge and compliance. Both groups were followed up monthly for six months to identify drug-related hospital re-admissions.

Results: Of 137 drug-related re-admissions, 93 (involving 87/356 patients) were from the control group, and 44 (involving 42/361 patients) were from the intervention group ($P < 0.001$). Non-compliance was the main reason for re-admissions in the control group and it was significantly higher in the control group (control vs. intervention: 53.8% vs. 34.1%; $P = 0.013$). Adverse drug reactions were the most common reason for re-admission in the intervention group (23/44; 52.3%). There was a significantly larger percentage of re-admissions in the control group due to unintentional omission of drugs on discharge prescription (control vs. intervention: 17.2% vs. 2.3%; $P = 0.012$).

Conclusion: Ward based clinical pharmacy service was useful to reduce drug related hospital re-admissions in patients with chronic non-communicable diseases. Establishing a ward based clinical pharmacy service is recommended.

OP 7

Risk factors and clinico-pathological profile of Triple Negative Breast Cancer; A comparative study done in southern province of Sri Lanka

Peiris HH¹, Mudduwa LKB¹, Thalagala NI², Jayatilake KAPW¹

¹Faculty of Medicine, University of Ruhuna, ²Family Health Bureau, Ministry of Health, Colombo

Objectives: To compare the risk factors and clinico-pathological features of Triple Negative Breast Cancer (TNBC) and non-TNBC in females in Southern Province of Sri Lanka

Methods: This retrospective study included all breast cancer patients who had sought the immunohistochemistry services at our unit from May 2006 to December 2012. The tumours which were completely negative for ER, PR (Quick score = 0) and Her-2 expression of 0 and 1+ were considered TNBC. Tumour grading and assessment of ER, PR and Her-2 were done by the principal investigator. The laboratory records and a pre-tested, interviewer-administered questionnaire were used to collect data. The Chi-square test was used to determine the statistical significance.

Results: This study enrolled 944 breast cancer patients (269=TNBC, 532= Non-TNBC and 143= unknown). The patients with TNBC presented at a younger age ($p=0.043$) with high grade (χ^2 trend <0.001), larger tumours (χ^2 trend $=0.007$), with higher Nottingham prognostic index (χ^2 trend $=0.003$) and no associated DCIS ($p=0.015$) compared to the non-TNBC. There was no significant difference between TNBC and non-TNBC with regard to the grade of DCIS, pathological stage, lymph node metastasis and presence of LCIS, Paget's disease and lympho-vascular invasion. There was no significant difference between TNBC and non-TNBC with regard to any of the risk factors of breast carcinoma assessed.

Conclusions: The poor prognosis of TNBC can be explained by its unique features including younger age at presentation and associated unfavourable histopathological features. There is no significant difference between the two groups with regard to the associated risk factors.

OP 8

Does training improve the pulmonary function amongst Sri Lankan national level athletes?

Wijayasiri KDCU¹, Wimalasekera SW.², Thurairaja C³

¹Colombo South Teaching Hospital, ²Faculty of Medical Sciences, University of Sri Jayewardenepura,

³Postgraduate Institute of Medicine, University of Colombo

Objectives: To determine the status of pulmonary functions amongst Sri Lankan national level athletes in comparison to matched controls

Methods: National level athletes ($n = 63$) engaged in resistance and endurance sports were studied. Baseline data were collected by a questionnaire and clinical examination. Pulmonary functions were assessed by a Vitalograph spirometer. Results were compared with age, height, weight and gender matched controls ($n= 63$). Data were analyzed using SPSS version 16 statistical package.

Results: Inspiratory function as indicated by the Forced Inspiratory Vital Capacity (FIVC), Forced Vital Capacity (FVC) and Forced Expiratory Volume in 1st second (FEV1) were significantly higher amongst the athletes ($p< 0.05$). The small air way function as determined by mid stream Forced Expiratory Flow (FEF25%-75%) of the athletes was similar to the controls ($p>0.05$). The expiratory muscle efficiency as indicated by Peak Expiratory Flow Rate (PEFR) and FEV1/ FVC ratio was not significantly different between the athletes and the controls ($p> 0.05$).

Conclusions: The study concludes that training programmes for the athletes must consist of exercise schedules to optimize the strength of respiratory muscles. This will achieve optimal pulmonary function amongst athletes. Improvement of pulmonary function may in turn promote better performance of athletes at competition.

OP 9

Cardiovascular risks for participation in competitive sports among the adolescent athletes who are attending selected sports medicine clinics in Sri Lanka - Pilot study

Dilanthika NPM.¹, Senaratne BCV.², Kandulawa BMNP³, Karunarathna KMN³, Gunathilake KCP⁴, Thebuwanarachchi ST⁵, Ruwanga GDM³, De Silva YHS.⁵, Thurairaja, C⁶

¹Rheumatology and Rehabilitation Hospital, Ragama, ²Faculty of Medical Sciences, University of Sri Jayewardenepura, ³Sports Medicine Unit, Lady Ridgeway Hospital for Children ⁴Sports Medicine Unit, Teaching Hospital, Kandy., ⁵Sports Medicine Unit, Teaching Hospital, Karapitiya., ⁶Postgraduate Institute of Medicine, University of Colombo

Objectives: The objectives were to determine the proportion of cardiovascular disease (CVD) among adolescent athletes who attend selected sports medicine clinics in Sri Lanka and to describe the clinical spectrum of CVD among adolescent athletes who attend selected sports medicine clinics in Sri Lanka.

Methods: This cross-sectional study was conducted within six months in three sports medicine clinics (clusters) in Colombo, Galle and Kandy and included all adolescent athletes aged 10-19 years (n=566), who attended these during the said period for medical clearance prior to the competitive sports events. Secondary data was collected from the pre-participation examination (PPE) forms using a data extraction form.

Results: Prevalence of CVD among adolescent athletes in Sri Lanka was 1.5%. Most common cardiac abnormality was Mitral Valve Prolapse (MVP). Mitral Stenosis, Ventricular Septal Defect (VSD) and Aortic Stenosis were other cardiac abnormalities detected. An important incidental finding of the study was the higher prevalence of (5%) of bronchial asthma among adolescent athletes.

Conclusions: Prevalence of CVD among adolescent athletes in Sri Lanka is relatively low, but may lead to fatal outcomes if undetected early. Further research is needed to inform possible interventions to prevent health adversities arising from CVD in adolescent athletes in Sri Lanka.

OP 10

Identifying risks related to road traffic accidents among vulnerable population in Moneragala district, Sri Lanka

Tennakoon V¹, Wickramasinghe R², Ameratunga S³, Peiris-John R³

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Faculty of Medicine, University of Kelaniya,

³School of Population Health, University of Auckland, New Zealand

Objectives: To identify individual and environmental risks related to road traffic accidents (RTA) among elderly (>60 years) and disabled people (>5 years living with physical, sensory or mobility impairment) in Moneragala district.

Methods: Study was designed as community based participatory research. Participants were vulnerable road users (elderly and disabled). Eight focus group discussions (8-10 in each) were conducted with elderly and disabled to identify local and regional destinations that were most important to access, perceived risks related to RTA and needs/suggestions for road safety. Participants were encouraged to photograph the environment barriers and facilitators for road safety. 'Photovoice' is increasingly used as valuable adjunct in participatory research - a voice better heard through.

Results: Frequently visited places identified by older people were the hospital, temple, village houses, community hall and bank. For disabled it varied by age, as vocational training centre, special needs school and community hall. Mostly used travel modes were public bus, three wheeled-vehicles or walking. Transportation barriers for the elderly were identified as poor road conditions, lack of disability-friendly transportation system, financial constraints and negative human factors. Disabled found accessibility to public places a major barrier. These facts were supported by photographs. Suggestions for improvement included awareness programs among people involved in transportation, cost effective transportation modes, mass media acknowledgments of rights of elderly and disabled, more effective legislation and improved road infrastructure.

Conclusions: It is evident that many places the study population frequently travels are located in the city. They face many risks when travelling to these destinations. It is proposed to improve road conditions, modify modes of transportation, rigorous law enforcement and awareness programs among public to minimize the road related risks faced by disabled and elderly

OP 11

Doctors' and nurses' perceptions towards the introduction of clinical pharmacy service to the Sri Lankan healthcare system: Experience from a tertiary care hospital

Shanika LGT¹, Wijekoon N², Jayamanne S¹, Coombes J¹, Dawson A¹, De Silva HA²

¹South Asian Clinical Toxicology Research Collaboration, ²Faculty of Medicine, University of Kelaniya

Objectives: To evaluate the rate of acceptance of the clinical pharmacist's (CP's) recommendations regarding Drug Related Problems (DRPs) by healthcare team, to determine the quality and quantity of drug information queries directed to the CP and to assess the level of acceptance of clinical pharmacy service (CPS) by other members of the ward staff.

Methods: This was a controlled trial conducted in a tertiary care hospital. The control group received standard care. The intervention group received a CPS in addition to the standard care. DRPs were classified according to the adapted PCNE classification system V5.01. The CP discussed the identified potential DRPs with healthcare team. All the drug related questions directed to the CP by healthcare staff were recorded. A staff survey was carried out before and after the study.

Results: A total of 270 drug related recommendations were directed to the healthcare team. 83% ($P < 0.001$) of the recommendations were accepted by doctors and 74% ($P < 0.001$) were acted upon. 17 medication-related questions were directed to the CP from the team. The perceptions of doctors regarding ward-based CPS were satisfactory at baseline period. At end of study, the majority of doctors were happy to welcome a service from a competent CP. Nurses were resistant to this collaboration.

Conclusions: There was high acceptance of CP's recommendations regarding DRPs by the medical team. Doctors were satisfied with the inclusion of a ward-based pharmacist to the healthcare team. However there is a need to improve liaisons between CP and nursing staff.

OP 12

Scope of practice of midwifery within the nursing profession: Perception of Midwifery Trained Registered Nurses, a qualitative study

Jayathilake MRS¹, Samarasinghe K², Perera PPR¹, Jayasuriya MVF³, Molligoda HD⁴

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²School of Health and Society, Kristianstad university, Sweden, ³Faculty of Community Services, Ryerson University, Toronto, ⁴Postgraduate Institute of Medicine, University of Colombo

Objectives: Midwifery scope of practice within the nursing profession has been a contentious issue in South Asian settings. To address a knowledge gap in Sri Lanka, we explored Midwifery Trained Registered Nurses' (MTRNs) perceptions of their role in intra-natal and post-natal units in Tertiary care hospitals in Western province of Sri Lanka.

Methods: Three focus group discussions (FGDs) were conducted with 22 MTRNs from selected hospitals. FGDs were recorded, transcribed verbatim, and analyzed using qualitative content analysis.

Results: Three emerging themes were identified: role of MTRN, role of other professionals and role disagreements. MTRNs described 'my role' in terms of individual tasks, placing themselves outside of the arena of the others in the team. Their role was characterized by observation of their own seniors and peers. 'Others' including midwives and medical officers, who were identified outside of the realm of their group, performed tasks and held responsibilities which constantly overlapped with their own. Disagreements with regards to their roles and responsibilities were common between MTRN and others, resulting in confusion, frustrations and conflicts. Labour room was the most contentious setting where lack of clear role identification created conditions for conflict.

Conclusions: MTRN's practice was circumstance driven and limited in scope. Different professional groups lacked clarity regarding their own roles and responsibilities and as a result, failed to develop a team identity. Clear job descriptions, written protocols and delegation of responsibilities should define MTRN's scope of practice in order to improve the dynamics within maternity healthcare team.

Abstracts of poster presentations

PP 1

Clinical diagnosis by junior doctors - How confident and accurate are they?

Sudusinghe DH¹, Indrakumar J¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objectives: Aim of this study is to determine the ability of junior doctors to document a clinical diagnosis and accuracy of the diagnosis.

Methods: This single centre study included case records of patients admitted to the Professorial Medical Unit (PMU) and Emergency Treatment Unit (ETU) at Colombo South Teaching Hospital (CSTH). The junior doctors' on admission diagnosis is compared with the medical consultants' diagnosis. Only case records of patients belonging to four common specialty domains were studied.

Results: In the PMU out of 200 case records no diagnosis or symptom as a diagnosis was documented in 99(49.5%) cases and a diagnosis was documented in 68(34.0%) case records of which 53(77.9%) diagnoses were concordant with the medical consultants' diagnosis. When case records of patients admitted to ETU were considered, no diagnosis or symptom as a diagnosis was documented in 56(56.0%) case records and a diagnosis was documented in only 21(21.0%) case records of which 15(71.4%) diagnoses were concordant with the medical consultants' diagnosis. Documentation of correct diagnosis improved with the grade of the doctor, from IMO to MR in both study settings and also with the order of clerking.

Conclusions: Recording of symptom based diagnosis or no diagnosis remains high among most of the junior doctors in all specialty domains and at all grades.

PP 2

Single center study of mortality in out of working hours' acute medical admissions

Sudusinghe DH¹, Indrakumar J¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objectives: Aim of this study was to find the outcome of acute medical admissions at weekend, out of hour's period and night.

Methods: This retrospective single center study included all acute medical admissions to Colombo South Teaching hospital during the first six months of the year 2011. We have compared the mortality rates at weekdays with weekend, working hours with out of working hours and night with day time. All these death rates were calculated for both overall mortality and late mortality.

Results: Total in hospital mortality was significantly increased for admissions on Thursdays, at night and during out of working hours. Although the mortality rates at weekends were higher than the mortality at weekdays for both overall deaths and late deaths the difference was not statistically significant. For late deaths (after seven days) mortality is significantly increased only for admissions at night when compared with the day time.

Conclusions: Patients with acute medical conditions are more likely to die in hospital if they are admitted on a Thursday, at night or at out of working hours' period. This effect is likely to be due to the disease severity on admission as well as reduced staffing level at night and out of hour's period.

PP 3

Knowledge and skills regarding adult cardio-pulmonary resuscitation among doctors and nurses

Jagoda AI¹, Samarakoon MASC¹

¹*Postgraduate Institute of Medicine, University of Colombo*

Objectives: to assess the knowledge and skills regarding adult cardio-pulmonary resuscitation (CPR) among doctors and nurses working in Kegalle district, Sri Lanka.

Methods: To assess core knowledge regarding CPR, a self administered questionnaire was used. For skills assessment each candidate was asked to perform CPR on Lateral Resuci Anne skill trainer manikin. Performance was video recorded and evaluated for correct CPR steps while manikin data was analyzed to check the effectiveness of chest compressions and ventilation. 100 doctors and 284 nurses were included in the study.

Results: Only 45.08% of doctors and 36.75% of nurses had adequate core knowledge on CPR and the knowledge deteriorate with time. A good core knowledge on CPR was associated with a good perceived level of competency regarding CPR. One third of doctors and 70.08% nurses have never received an update on CPR. The use of Ambu bag was the most preferred way to deliver ventilations but 83.5% of the time rescue breaths were inadequate, the average volume of ventilation being 392 ml. Only 36.84% of doctors were confident regarding their endotracheal intubation skills while 84.68% had never performed a cricothyrotomy. Only 20.6% of chest compressions had adequate depth while 14.7% were performed at a correct rate. The mean value of a duty cycle was 52.13%. Almost all the respondents did not adhere to the correct CPR steps. The positive aspect was that emergency treatment units (ETUs) were adequately equipped to resuscitate patients.

Conclusions: Core knowledge and skills regarding adult CPR is inadequate among doctors and nurses working at government hospitals in Kegalle district. Therefore it is recommended to arrange training programs on CPR based on latest guidelines and conducted by an expert panel.

PP 4

Anterior abdominal wall hematoma, a rare complication of dengue fever: A case report

Sudusinghe DH¹, Sivagamaroobasunthari S², Wijekoon PWMCSB¹

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Professorial Medical Unit, Colombo South Teaching Hospital*

Introduction: Dengue fever has many complications. Although minor bleeding is common massive bleeding in the absence of leakage and shock is rare.

Case report: We report a 52 year old female who presented with fever, myalgia and abdominal pain. Dengue IgM was positive. On the 6th day she developed a tender lump over left abdominal wall which increased in size rapidly. Ultra sound scan and CT scan of abdomen confirmed an anterior abdominal wall haematoma. There was no evidence of capillary leakage at any time in the course of the disease.

She developed hypotension and severe anemia which required transfusion of twelve units of blood. Opioid analgesics were given for pain. Surgical evacuation was not done considering the risk of re-bleeding associated with thrombocytopenia. When she was discharged after 16 days she was stable and the platelet count was normal. Repeat ultra sound scan showed an organized haematoma. Two days later she was re-admitted to a surgical unit of a different hospital with abdominal pain where the haematoma was surgically evacuated. Organized blood was removed; there was no fresh blood. Second hospital stay was for 14 days.

Discussion: Massive abdominal wall haematoma is a rare complication of dengue fever which can lead to shock requiring multiple blood transfusions. It can present in the absence of capillary leakage. Ideal management of this complication is not clear. This patient was initially managed conservatively but later underwent surgical intervention with prolonged hospital stay. It is necessary to study more cases to determine the ideal way of management.

PP 5

Usefulness of Michigan Neuropathy Screening Instrument (MNSI) in diagnosis of diabetic neuropathy in a Sri Lankan diabetic clinic

Nisansala MWN¹, Wimalasekera SW¹

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura*

Objectives: Diabetic sensory neuropathy is a common complication of diabetes mellitus causing considerable morbidity and disability. The objectives were to determine the proportion of diabetic neuropathy among the patients attending the diabetic clinic of the Colombo South Teaching Hospital and the use of Michigan Neuropathy Screening Instrument (MNSI) in screening for diabetic neuropathy.

Methods: A descriptive cross sectional study was done on 384 subjects diagnosed with having Type 2 diabetes mellitus (T2DM) attending the diabetic clinic of the Colombo South Teaching Hospital. An interviewer administered questionnaire assessed socio demographic data. MNSI, Diabetic Neuropathy Index (DNI) and Monofilament tests were used in the assessment of neuropathy. Diabetic neuropathy was confirmed by a positive score of two of the above three tests. Data analysis was done by using the SPSS 16 version software.

Results: 175(45.6%) of the subjects had diabetic neuropathy according to the diagnostic criteria. On study of clinic records only 16% of patients had been previously diagnosed with neuropathy. 165(43%) subjects of the neuropathy group were diagnosed positive for both MNSI and DNI. The MNSI score was positively correlated with the PPBS level of the diabetic subjects (correlation coefficient 0.235, $p=0.011$).

Conclusions: The data reveals a high frequency of diabetic neuropathy in this study. All diabetic patients should be screened for neuropathy annually in Sri Lanka as recommended by the American Diabetes Association. MNSI was confirmed as a useful, easily implementable tool to screen for neuropathy in diabetic clinics in Sri Lanka.

PP 6

A young man with acute onset shortness of breath: a case of pheochromocytoma with normal urinary metanephrines

Sandakumari GVN¹, Pilapitiya SD², Weerawansa MRP², Dahanayaka NJ², Siribaddana SH²

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura*, ²*Teaching Hospital, Anuradhapura*

Introduction: Pheochromocytomas are neuroendocrine tumors of the adrenal medulla or extra-adrenal chromaffin tissue. Diagnosis of pheochromocytoma is based on measurement of catecholamines and metanephrines in plasma or through a 24 hour urine collection. Plasma and urinary catecholamines can be normal in episodically secreting tumours, when measured between paroxysmal attacks.

Case report: A 38 year old patient was admitted with acute onset of shortness of breath of 3 days duration, associated with orthopnoea. On examination there were bilateral extensive fine inspiratory crepitations in lung bases. His BP was 170/100 mmHg. Cardiac apex was heaving in nature and shifted to left.

His ECG and 2D echocardiogram revealed left ventricular hypertrophy. His ejection fraction was 42%. Ultra sound scan and contrast CT of the abdomen showed a solid mass compatible with a left suprarenal tumour. His 24 hour urinary metanephrines were 8.9 micrograms (25-312). Pheochromocytoma was diagnosed, despite having normal urinary metanephrines. This could be explained by the fact that certain pheochromocytomas secrete catecholamines only intermittently. In such patients pheochromocytoma can exist with normal urinary metanephrines.

Discussion: He was started on antihypertensives. Resection of the tumour was done under the cover of alpha blockers at National Hospital of Sri Lanka and histology of the tumour confirmed the diagnosis of pheochromocytoma. This was one of the rare cases of a symptomatic pheochromocytoma without elevated urine catecholamines and metanephrines. Plasma free metanephrines would be the ideal test for biochemical detection of the tumour. But tumours can exist even with normal metanephrines.

PP 7

A lady with malignancy associated dermatomyositis –A case report

Sandakumari GVN¹, Karunaratne P²

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Colombo South Teaching Hospital

Introduction: Adult onset dermatomyositis is a paraneoplastic syndrome. It has an association with ovarian, lung, pancreatic, stomach and colon cancers and with non-Hodgkin lymphomas. Ovarian cancer has the highest association and the association of dermatomyositis with other gynecologic malignancies is relatively rare

Case report: A 58 year old lady who had undergone surgery for an endometrial carcinoma nine months back followed by chemotherapy and radiotherapy, presented with facial, periorbital and generalized body swelling for three months along with dysphagia and proximal muscle weakness for two months. Examination revealed facial puffiness most prominently in the periorbital area and bilateral malar erythema with erythema of anterior chest wall. Ragged cuticles of nail folds were observed. Proximal muscles of bilateral upper limbs were tender with a muscle power of 4/5.

Investigations revealed features suggestive of polymyositis in muscle biopsy and EMG features were those of an inflammatory myopathy. Her CPK was elevated. She was started on oral prednisolone 60 mg daily which was planned to be continued for six months with slow tapering thereafter. Additionally she was given methotrexate 5 mg weekly, alendronate 70 mg once a week along with calcium, folic acid and iron supplements. Her symptoms improved gradually with treatment, but she has defaulted steroids for one month and readmitted with recurrence of symptoms. Steroid therapy was reinstituted and her symptoms showed a remarkable improvement.

Discussion: Although adult onset dermatomyositis occurs as a paraneoplastic manifestation of variety of malignancies such as ovarian, bronchial, pancreatic, stomach and colon cancers and in non Hodgkin's lymphoma, association of dermatomyositis with endometrial carcinoma is relatively rare.

PP 8

Rhinocerebral mucormycosis : A case report

Gunasekera GCS¹, Patabendige CGUA¹, Jayasekera PI², Dayasena RP³

¹Department of Microbiology, National Hospital of Sri Lanka, ²Department of Mycology, Medical Research Institute, ³Department of ENT, National Hospital of Sri Lanka

Introduction: Rhinocerebral mucormycosis is a life threatening fungal infection occurring in humans, caused by ubiquitous saprophytic fungi of the order Mucorales. Timely diagnosis in patients with predisposing factors leading to immunosuppression is of great importance in reducing morbidity and mortality.

Case report: We present a case of rhinocerebral mucormycosis involving the paranasal sinuses and the orbit which manifested as unilateral facial numbness/pain, ophthalmoplegia, and ptosis/proptosis. The patient had type II diabetes mellitus for nine years and was also a heavy alcoholic. A high level of clinical suspicion and imaging studies guided the clinical diagnosis. Microbiological and histopathological diagnoses were confirmatory. Direct visualization of broad, aseptate fungal filaments and isolating the fungus which had morphological features of *Rhizopus* spp. were diagnostic. Surgical removal of the fungal material on several occasions, prompt commencement of systemic anti-fungal therapy with intravenous amphotericin-B and maintaining a good glycaemic control made the management so far, successful. Renal/liver function tests and serum K^{2+}/Mg^{2+} levels were closely monitored to prevent adverse effects of the drug. After thirty days of systemic amphotericin-B therapy, our patient achieved a profound clinical recovery. The duration of treatment is highly individualized and depends on repeat imaging and negative biopsies/cultures.

Discussion: A high level of clinical suspicion is essential to make a timely diagnosis. Comprehensive management includes correction of predisposing factors, surgical de-bulking and systemic antifungal treatment.

PP 9

Glycaemic control behaviors in type 2 diabetes: a qualitative study of patients' perspectives in Sri Lanka

Amarasekara AATD¹, Fongkaew W², Turale S³, Wimalasekera S¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Chiang Mai University, Thailand, ³Ewha Womans University, Korea

Introduction: Type 2 diabetes mellitus (T2DM) is escalating globally and now the most important non-communicable disease causing serious health issues in Sri Lanka. The complications of T2DM burden individuals, their families, the economy and the health care system. However, there is limited data on the perspectives of adults about their glycaemic control behaviors in Sri Lanka. Understanding these perspectives is critical in reducing complications, improving health and well-being among adults with T2DM.

Objective: To explore the perspectives among adults with T2DM regarding their glycaemic control behaviors.

Methods: In this qualitative study, in-depth interviews were conducted among 17 adults with T2DM. Matrix analysis was used to analyze data

Results: Our rich data resulted in two themes centering on reasons for adequate glycaemic control and barriers to glycaemic control. The reasons for good glycaemic control were: understanding the illness, sufficient family support, adequate income, a higher level of education and motivation to control. The barriers were: insufficient knowledge about the illness, low socioeconomic status, lack of family support and poor compliance to health advice. The participants believed that doing diet control, regular exercise and taking medication properly on daily, long-term basis is very challenging.

Conclusions: Nurses and health care personnel need to address the barriers and reasons for glycaemic control behaviors in planning, assessment, treatment protocols and health policies to provide better diabetic care in primary health care and hospital settings. It confirms the need for culturally appropriate diabetic care and advice.

PP 10

Description of practices related to insulin injection therapy and sharp disposal among patients attending the diabetic clinic, Colombo North Teaching Hospital

Atukorala KR¹, Sumanasekera RDN², Wickramasinghe KH³, Wickramasinghe SI⁴

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Faculty of Medicine University of Kelaniya, ³National Eye Hospital, ⁴MOH Office, Boralesgamuwa

Objectives: Diabetic patients on insulin therapy are compelled to use sharps such as insulin needles and lancets on a regular basis. As a result thousands of used sharps and blood stained materials are generated daily by them. While there is a huge concern over sharps disposal practices in healthcare settings, the sharps disposal practices of diabetic patients living at home has been poorly documented.

Methods: Randomly selected sample of 158 diabetic patients were obtained from the diabetic clinic, Colombo North Teaching Hospital. Data collected using an interviewer administered questionnaire and clinic records.

Results: Sample population was aged between 21-90 years. Mean age 60 years. Majority 131/158(83%) had used insulin for more than 1year. Very few 5/158(3%) used the insulin pen while majority used syringes to inject insulin. Only 10(6%) regularly checked blood sugar using needles/lancets. Majority132/158(84%) injected insulin more than twice per day and $\geq 50\%$ used the same needle more than 6 times, for more than 3days. Majority150/153(98%) of the syringe users recapped the needle. A significant number 73/158(46%) also involved others when injecting and disposing needles. Used needles/pens were disposed in to a common household garbage bin, sharps container, toilet pit, garbage dump and indiscriminately by 66(42%), 9(6%), 8(5%), 14(8%), 11(7%) respectively. 143(93%) respondents had received no information on how to dispose of their sharps. Those who recalled receiving information were more likely to dispose of their sharps safely.

Conclusions: Insulin dependent diabetic patients are not educated on safe sharps disposal methods, leading to unsafe disposal of needles. Appropriate education on the correct disposal of sharps should be an integral part of their diabetic counseling.

PP 11

Use of a rapid diagnostic test to detect cutaneous leishmaniasis in Sri Lanka

de Silva G¹, Somaratne V², Senaratne S¹, Vipuladasa M², Premachandra J¹, Munasinghe H¹, Munasinghe C¹, Ranasinghe S¹, Wickremasinghe R¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²General Hospital Hambantota

Objectives: This study was initiated to determine the sensitivity and specificity of a commercially available rapid diagnostic test (RDT) to detect leishmania antigen in cutaneous leishmaniasis (CL) skin lesions among Sri Lankan patients compared to PCR and Slit skin smear (SSS).

Methods: Patients clinically suggestive of CL lesions were subjected to parasitological investigations. The clinical history was collected by the researcher. Samples were collected by a qualified trained medical officer from the suspected CL lesions at the dermatology clinic in the Hambantota hospital and from the patients coming to the Department of Parasitology, Faculty of Medical Sciences, University of Sri Jayewardenepura. RDT was done at the Hambantota hospital and samples were brought to the Department of Parasitology, to perform SSS, PCR and cultures.

Results: Fifty samples have been collected thus far and PCR was performed only in 48 samples. Out of the 50 samples only 9 were positive by RDT and 32 by SSS and PCR. The 9 samples that were positive for RDT were positive by SSS and 7 positive by PCR. Of the 41 samples that were negative by RDT, 16 were negative by PCR as well as SSS.

Conclusions: From the data collected it can be concluded that RDT is not the best method to diagnose CL skin lesions in patients in Sri Lanka. Also it confirms that the best method to diagnose leishmaniasis is PCR.

PP 12

Knowledge attitude and practices related to childhood urinary tract infections among carers of patients with urinary tract infections –A single centre experience

Arunath V¹, Gnanasekar B¹, Coonghe PAD¹, Sathiadas MG¹

¹ Faculty of Medicine, University of Jaffna

Objectives: Objective was to describe the knowledge attitudes and practices related to management of childhood urinary tract infections (UTI) and influence of socio economic demographic factors on it among carers of children with UTI attending to paediatric clinic in Teaching Hospital of Jaffna.

Methods: This study was performed as a descriptive cross sectional study which included 172 carers. A structurally prepared interviewer administered questionnaire was used to collect data from April to July 2014. Chi square test and independent samples t test were used for analysis.

Results: Among participants 163 (94.8%) were female and 151 (87.8%) were mothers. The knowledge about childhood UTI was good 55.8%. More than two third of participants had good knowledge on symptoms (73.8%), urine collection techniques (73.3%) and investigations (68.6%). Around two fifth of carers had good knowledge regarding causes (44.8%) and treatment (46.5%). Of the participants, 84.9% worried about their child's illness. About 44% of carers used nappy for their child and 81.4% of participants washed their child's anal region front to back after defecation. One tenth of carers used home remedies to manage UTI. Almost all brought their child to clinic regularly and received explanations about UTI. The factors significantly associated with mean of total knowledge score included carer's age, educational level, occupation, and monthly income. Knowledge of carers was significantly associated with usage of home remedies and health education by health professionals.

Conclusions: Knowledge attitude and practices of carers were satisfactory but need to improve in some aspects. Health education should be more effective and it should augment the awareness and eliminate misconceptions in the community.

PP 13

Knowledge attitudes and practices on infection control among funeral industry workers in selected provinces in Sri Lanka

Abeykoon AI¹, Gunasekara TDCP¹, Weerasekara MM¹, Fernando SSN¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objectives: The study was aimed at assessing the knowledge, attitudes and practices of embalmers and their helpers regarding infection control.

Methods: A descriptive cross sectional study was carried out among funeral industry workers in Colombo, Gampaha and Matara districts in 2014, using an interviewer based questionnaire. A score of 1 was given for each correct response, attitude or practice. A total score of more than 75% was considered good, 50-74% moderate and less than 50% poor for each category.

Results: Our study included 70 participants of which 41(59%) employed as embalmers and 29(41%) employed as helpers. 47(67%) participants had been employed for >10 years.

The participants had an overall moderate knowledge (52%), poor Attitudes (42%) and moderate practices (53%) regarding infection control. While 42(60%) respondents had heard of Hepatitis B, of them 41(98%) had poor knowledge regarding its transmission, symptoms and prevention. Further, 66(94%) respondents were unaware of the availability of Hepatitis B vaccine. 38 (54%) respondents identified pricks / cuts as occupational accidents but only 19 (50%) of them knew it could transmit infections, while 33(47%) individuals stated embalming bodies infected with HIV, HBV or rabies was acceptable.

Thirty six (52%) individuals did not adhere to good practices during cadaver handling. Among them, 15 (42%) embalmers claimed to have embalmed bodies infected with HIV, HBV or Rabies. Although none had received formal training in cadaver handling and infection control, all respondents wanted to obtain professional training in this regard.

Conclusions: Majority of funeral industry workers are at risk of occupational exposure to infectious agents. Formal training programmes and guidelines are needed to improve the embalming practices and reduce the possibility of occupational infection in this group.

PP 14

Laboratory diagnosis of *Cryptosporidium parvum* and *Giardia intestinalis* in children with diarrhoea; a hospital based study.

Rathnayake RGL¹, Ranchigoda CM¹, Roshan RG¹, Samarasinghe S², Banneheke BMHA¹

¹ Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Department of Parasitology, Medical Research Institute

Objectives: This study was conducted to determine the proportion of *Cryptosporidium parvum* and *Giardia intestinalis* among children less than 12 years old with diarrhoea and to study the socio demographic aspects including the source of drinking water, level of hygiene in food preparation and hand washing practices of mothers/caretakers of children with diarrhoea

Methods: Children who attended the Lady Ridgeway Hospital for children with diarrhoea during August to October 2012 were enrolled into the study. We collected stool samples from 145 children with diarrhoea and tested them using Modified Ziehl Neelson stain for *C.parvum* and microscopy of saline and iodine wet mount and formal ether sedimentation technique for *G. intestinalis* infections in the laboratory. Interviewer administered questionnaire was administered to gather information on food preparation and hand washing practices of the mothers/caretakers of the children with diarrhoea.

Results: *C.parvum* was detected in 48(33%) out of 145 stool samples. There were no positives for *G.intestinalis*. Children who were more than 12 months of age were more infected with *C.parvum* compared to children who were less than 12 months in age ($p<0.05$).The level of hygiene in preparing food was excellent in 74% of the mothers/caretakers. Correct hand washing practices had been adopted by 91% of mothers/caretakers.

Conclusions: *C.parvum* showed a higher proportion (33%) in stool samples collected from children with diarrhoeal illness compared to the other studies conducted locally decades ago. In the absence of an effective treatment to eradicate *C.parvum* from the patient, attention should be paid for preventive measures.

PP 15

A Case of severe MRSA sepsis

Niroshana GAL¹, Opatha OKDST¹, Kanchana JLS¹, Nanayakkara GS¹, Gamage B¹

¹*Professorial Surgical Unit, Colombo South Teaching Hospital*

Introduction: Methicillin-resistant *Staphylococcus aureus* (MRSA) is a bacterium that has developed resistance to beta-lactam antibiotics and is more difficult to treat with standard types of antibiotics and thus more virulent. The epidemiology of MRSA may be changing, as the isolation of MRSA is no longer limited to hospitalized patients and can cause serious infections in otherwise healthy persons with no links to healthcare systems.

Case report: An 11 year old school boy presented with right thigh swelling and fever for six days with a history of cough & haemoptysis. Initially he was managed as deep vein thrombosis with pulmonary embolism which was ruled out after further investigations. Large thigh abscess was drained and treated for severe sepsis at the surgical intensive care unit (SICU) for 21 days with six antibiotics. Subsequently he underwent drainage of pus from different parts of his all four limbs in eight times under general anaesthesia within two weeks. During this period his oxygen saturation continued to drop and was diagnosed to have disseminated sepsis due to community-acquired MRSA with necrotizing pneumonia and multiple soft tissue abscesses (pyomyositis). Features of sepsis gradually subsided only after 18 days and he was discharged after 35 days on oral antibiotics which continued for 42 days. Subsequent screening for immune-deficiency was negative.

Discussion: MRSA should attract the attention of the medical community with high degree of suspicion, illustrating the urgency to develop better ways for early diagnosis and treatment with appropriate antibiotics as severe infections can be a great burden to health care system requiring expensive antibiotics and ICU care.

PP 16

Knowledge and attitudes regarding rabies among grade ten students in the Nugegoda education division

Jayawardene DMS¹, Gunawardena NS¹

¹*Faculty of Medicine, University of Colombo*

Objectives: Rabies continues to contribute to the mortality, morbidity and economic burden of Sri Lanka, despite the conducive environment prevalent in our isle for its elimination. A lack of knowledge, and unfavourable attitudes have been attributed as the main cause of this dilemma. Awareness activities targeting children aged 15 years and younger have been advocated as a solution to bridge the gap between the present state of burden caused by rabies and the desired state of a rabies free country. Hence this study describes the knowledge, and attitudes regarding rabies, among grade ten students in the Nugegoda education division

Methods: A cross-sectional study with multistage cluster sampling using probability proportionate to the size of the grade 10 student population was used to collect data from 694 students in Type IAB and IC schools, using a self-administered questionnaire.

Results: 473(68.2%) students were found to have poor knowledge regarding rabies. 509(73.7%) students were not aware that a lick by an infected animal on mucous membranes results in transmission of the disease. Only 4.7% (n = 22) of those who had heard of rabies correctly identified sterilisation of dogs as a rabies preventive strategy. However, a majority (n=543, 78.2%) were of the view that the public should have a responsible attitude towards their dogs in order to control rabies among the dog population.

Conclusions: A majority of students had poor knowledge regarding rabies although most had favourable attitudes pertaining to the prevention of rabies.

PP 17

A Preliminary study on Oral Leukoplakia: Candida Associated Leukoplakia and risk factors

Dilhari KAA¹, Siriwardhana SJAP¹, Maheshika LO¹, Gunasekera TDCP¹, Karunathilaka AHTS², Fernando SSN¹, Weerasekera MM¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Colombo South Teaching Hospital

Objectives: The study aimed to investigate the Candida Associated Leukoplakia (CAL), and associated risk factors among the individuals with Oral Leukoplakia (OL) attending the Oral and Maxillofacial (OMF) clinic at Colombo South Teaching Hospital

Methods: A total of 33 individuals with OL were included. Data was collected using a pretested interviewer administered questionnaire. A specimen was taken by a medical officer using a sterile swab adhering to standard precautions. An oral swab was collected from the lesion for direct microscopy and culture. Control swab was collected from an unaffected area. Total colony count of yeast, species identification and antifungal susceptibility tests were carried out at the Department of Microbiology at University of Sri Jayewardenepura

Results: The OL was predominantly seen in patients over 50 years (27/33) and male to female ratio was 27:6. Majority of patients had non-homogenous leukoplakia (20/33) followed by homogenous leukoplakia (13/33). The percentage of CAL among OL patients were 58%(19/33). *Candida albicans* 16/19(84%) was the predominant species identified in CAL. Of the patients with OL 33%(11/33) had oral cancer. Among the oral cancer patients CAL was observed in 7/11. Relative risk (RR) of CAL was high for both betel-quid chewing and oral cancer (RR= 1.43).

Conclusions: *Candida albicans* was the main pathogen associated with CAL in this group of patients. Relative risk (RR) of CAL was high for both betel-quid chewing and oral cancer (RR= 1.43).

PP 18

Multi centre study from Malaysia on student preparedness for clinical learning: Perspectives of lecturers and students from medicine, pharmacy and allied health sciences

Banneheke H¹, Ravindranath S², Sameera A², Ramamurthy S², Effendie B³, Jeevaratnam K⁴, Chellamuthu L², Krishnappa P², Peterson R⁵, Nadarajah VD²

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²International Medical University, Malaysia,

³Monash University, Malaysia, ⁴Perdana University, Malaysia, ⁵University of Adelaide, Australia

Objectives: To determine the characteristics important in health profession students' preparedness for clinical learning from the perspectives of lecturers and students

Methods: A descriptive cross sectional study was conducted at International Medical University, Perdana University and Monash University in Malaysia. All lecturers involved in preparing students for clinical learning in medicine, dentistry, nursing, pharmacy, nutrition and dietetics, chiropractic and Chinese medicine and immediate preclinical students were invited. We explored views regarding student preparedness on knowledge and understanding, willingness to learn, professionalism, communication and interaction, personal attributes and interpersonal skills rated on a 7 point Likert scale in a questionnaire with 62 items.

Results: A total of 187 lecturers and 317 students participated. Fifty percent of lecturers had 5-9year of experience. Neither the lecturers nor the students had differentiated or identified specific characteristics as more important over the others but rated all 62 items as important (score >5) for training. The mean score of the 6 themes for lecturers and students respectively were for knowledge and understanding (5.44,5.09), willingness (5.95,5.51), professionalism (5.89,5.49), communication and interaction (5.54,5.34), personal attributes (5.54,5.35) and interpersonal skills (5.54,5.38). Interesting suggestions such as promotion of inter-professional learning among student from different disciplines, case discussions as a team with other professional categories, self reflection for lecturers regarding their attitudes towards students and teaching methods had been stated by students.

Conclusions: Both lecturers and students deem that the knowledge and understanding is not the most important characteristic that makes a student better prepared for clinical learning.

PP 19

Squamous cell carcinoma of the ampulla of vater – A case report

Rajapakse A¹, Malewana E¹, Jayasinghe J³, Kailasapathy B¹, Pathirana A¹, Prematilleke I¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Faculty of Medicine, University of Jaffna

³Colombo South Teaching Hospital

Introduction: Ampullary carcinoma comprises up to 2% of all gastrointestinal malignancies. Primary squamous cell carcinoma of the ampulla is a very rare neoplasm, with only three reported cases in literature. Due to its rarity, the biological behavior is largely unknown. We highlight such a case, and its diagnostic workup.

Case Report: A 61 year old woman presented with painless obstructive jaundice of 2 months duration. MRI scan showed a stricture in the distal common bile duct suggestive of a neoplasm. Biopsy at ERCP showed a poorly differentiated ampullary carcinoma. The specimen received at Whipple's surgery showed a white tumour surrounding the ampulla, 25 mm in maximum dimension. Histology and immunohistochemistry (CK 7+/20 -, CA 19-9+, CK5/6 focally+) pointed towards a poorly differentiated squamous cell carcinoma. A primary squamous carcinoma elsewhere was excluded. The patient is alive nine months after surgery.

Discussion: Ampullary squamous cell carcinoma is most often metastatic from sites such as the larynx, esophagus, lung and uterus. A squamous carcinoma therefore requires ruling out of a primary site elsewhere or a glandular component (adenosquamous carcinoma). These were excluded in this patient. Immunohistochemistry differed from that of primary adenocarcinoma of the ampulla.

PP 20

Grading of non-invasive papillary urothelial tumours: evaluation of the Royal College of Pathologists minimum dataset guidelines

Prematilleke I¹, Cui H², Griffiths C³, Roberts I⁴

¹ Faculty of Medical Sciences, University of Sri Jayewardenepura, ² Churchill Hospital, Oxford UK, ³University of Oxford UK, ⁴ John Radcliffe Hospital Oxford UK

Objectives: The Royal College of Pathologists minimum dataset recommends the concurrent use of both WHO 1973 and 2004 grading systems for urothelial tumours. In this study, we determine whether the 1973 grades add prognostic value when using the 2004 system.

Methods: Non-invasive bladder tumours diagnosed in a single centre between 2005 and 2008 were reviewed. All had been initially graded using both 1973 and 2004 systems. Of 270 patients identified, 195 had a follow-up of >4 years and were included for analysis.

Results: The mean follow-up was 6 years (range 4-8.7). Recurrences were more frequent in patients with low grade papillary urothelial carcinoma (PUC) than PUNLMP (55v26% p=0.02) but there was no significant difference in grade or stage progression between these groups. Of 117 patients with low grade PUC, 36 were 1973 grade G1 and 81 G2. There was no significant difference in rate of recurrence (53v56%), grade progression (14v15%) or stage progression (0v5%) between G1 and G2 groups. Of 55 patients with high grade PUC, 18 were 1973 G2 and 37 G3. Recurrence was more frequent in patients with high grade G2 than G3 tumours (72v43% p=0.051) but there was no difference in stage progression (17v16% respectively).

Conclusions: The use of the 1973 grading system, in addition to WHO 2004, adds no clinical value. Our findings do not support the concurrent use of both systems.

PP 21

Association of endometriosis and p53 gene codon 72 polymorphism in a group of Sri Lankan women

Silva N¹, Nanthaparakash T², De Silva S², Senanayake H³

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, ³Faculty of Medicine, University of Colombo

Objectives: To evaluate the association between endometriosis and the p53 gene polymorphism in a group of Sri Lankan women.

Methods: A case control study was conducted in a tertiary care hospital where women with endometriosis (N=25) were compared with women without endometriosis (N=25), both confirmed by laparoscopy or laparotomy. Genotype distribution of the p53 codon 72 polymorphism was analyzed by allele specific polymerase chain reaction and direct sequencing. Allele frequency was compared using chi square test to determine the association.

Results: Allele frequencies of the three p53 genotypes, Arg/Arg, Arg/Pro and Pro/Pro in the study population (26%, 60% and 14% respectively) conformed with the Hardy-Weinberg equilibrium. There was no statistically significant difference ($p = 0.155$) in the frequency of proline allele between the cases and controls {odds ratio of 1.5 (95% CI 0.83- 2.73)}. However among the women with endometriosis the proline allele frequency was 36.7% in stage IV and 50% in stage III compared to 25% and 16.7% respectively in stages II and I.

Conclusions: In this group of Sri Lankan women, p53 codon 72 polymorphism was not associated with endometriosis although a higher frequency of proline allele was observed in advanced stages of the disease.

PP 22

Histological findings in a *Helicobacter pylori* infected dyspeptic patient population

Ubhayawardana DLNL¹, Weerasekera DD¹, Fernando SSN¹, Kishokumar A², Wanigasooriya IWMP², Weerasekera MM¹, Gunasekera TDCP¹, Samarasinghe K¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Colombo South Teaching Hospital, Kalubowila

Objectives: The objective of this study was to compare endoscopic and histological findings with *H. pylori* infection in a dyspeptic patient population in Sri Lanka.

Methods: Eighty four dyspeptic patients who underwent upper gastro intestinal endoscopy at Endoscopy unit at Colombo South Teaching Hospital were enrolled. Two biopsy specimens were collected from the antrum during endoscopy. A biopsy was used for PCR targeting the glmM gene to identify *H. pylori* infection. The other specimen was fixed in formalin followed by paraffin embedding and stained with H&E stain. Histopathological changes were examined and gastritis was classified microscopically according to the modified Sydney system.

Results: Of the 84 dyspeptic patients 17 were positive by PCR and 15 patients were positive by histology for *H. pylori* infection. *H. pylori* infection was seen in 18% (11/62) of antral gastritis patients, 17% (2/12) of patients with gastric ulcer, 29% (2/7) of patients with gastric ulcer and gastritis. In the study population three patients had duodenitis but were negative for *H. pylori* infection. Of the total study population 69 had mild to moderate chronic non specific gastritis and 15 had *H. pylori* associated chronic gastritis according to histopathology. None of study population had gastric atrophy, mucosal ulceration or metaplasia by histological findings. All the biopsies of *H. pylori*-positive patients had infiltration of mononuclear cells and neutrophils.

Conclusions: The results show that 18% of patients with dyspeptic symptoms had *H. pylori* associated active chronic gastritis.

PP 23

Large schwannoma in the ulnar nerve in axilla - A case report

Niroshana GAL¹, Kanchana JLS¹, Opatha OKDST¹, Weerasekera D¹

¹Professorial Surgical Unit, Colombo South Teaching Hospital

Introduction: Schwannomas are nerve sheath tumours which majority is benign. Only one case of solitary schwannoma in the ulnar branch of brachial plexus in the axilla is so far reported. Some are asymptomatic while others having pain and neurological disability. For diagnosis, imaging studies such as ultrasonography, computerized tomography, magnetic resonance imaging, electromyography and aid of electron microscopy and immunohistochemistry are used. Non-surgical treatment is appropriate for slow growing and asymptomatic tumours. Surgical treatment is aimed to prevent progressive neurological deficit. Damage to the parent nerve is a known complication.

Case report: A 44 year old female was investigated for a lump in her left axilla. Ultrasonography showed well defined hypoechoic solid mass, suspicious of an enlarged lymph node in the axilla with normal breasts. Tru-cut biopsy was compatible with histological appearance of schwannoma. A large (7.0x5.5x4.0cm³) well circumcised white mass of tissue arising at the origin of ulnar nerve deep in the left axilla was enucleated. Histologically lesion was compatible with a schwannoma with an intact capsule. Diffusely positive S-100 protein was demonstrated immunohistochemically and malignancy excluded. Post-operatively patient had ulnar nerve palsy confirmed by nerve conduction studies. Hand physiotherapy was offered and nerve function gradually improved.

Discussion: Benign schwannoma of the ulnar nerve is not a common condition encountered in general clinical practice, hence delay in diagnosis is of concern. MRI and histology is needed to diagnose schwannoma accurately and to exclude malignancy. Treatment is complete excision while preserving nerve function preferably under intra-operative electrophysiological guidance.

PP 24

Management of traumatic pancreatic transection – experience in a single surgical unit

Niroshana GAL¹, Nandasena RGMS¹, Opatha OKDST¹, Wijerathne TK¹, de Silva WMM¹

¹Professorial Surgical Unit, Colombo South Teaching Hospital

Introduction: Pancreatic transection (PT) is a rare entity of pancreatic injury encountered following blunt abdominal trauma. Management of PT is controversial and treatment depends on patient's injury status, facilities and expertise available for diagnosis and treatment. Isolated PT is a diagnostic challenge. We present four patients with PT following blunt trauma, their management and outcome.

Case report: Case-1 A 24-year old male presented four months after blunt trauma to abdomen with a bicycle-handle, with abdominal pain & distension. CT showed pseudocyst communicating with main pancreatic duct and lacerated neck of pancreas. Pancreatic duct was stented at endoscopic-retrograde-cholangio-pancreatography (ERCP) and patient recovered. Case-2 A 26-year old male presented with acute abdomen following road-traffic-accident underwent emergency exploratory laparotomy. PT was initially managed conservatively. Pancreatic duct was stented at ERCP. Patient later developed a pseudocyst and elective distal-pancreatectomy is planned. Case-3 A 26-year old male with acute abdomen following road-traffic-accident underwent exploratory laparotomy at a Provincial General Hospital. PT identified and distal pancreatic segment anastomosed to a jejunal-loop. Patient deteriorated post-operatively and transferred. Re-exploration revealed necrosed distal pancreas with anastomotic leakage. Patient succumbed due to acute severe pancreatitis and multi-organ failure. Case-4 A 27-year old male with acute abdomen following run-over injury underwent exploratory laparotomy and distal pancreatectomy performed. Patient had an uneventful recovery.

Discussion: High-index of suspicion is needed for the mechanism of initial injury when diagnosing isolated pancreatic injury which presents late. ERCP is safe and reliable when treating stable patients with PT. Damage control surgery is recommended than reconstructive surgery in unstable patients.

PP 25

Occupational health problems and associated factors among nurses working in paediatric critical care setting in a tertiary care children hospital in Colombo, Sri Lanka

Madawala SGML¹, Warnakulasuriya SSP²

¹Lady Ridgway Hospital for Children, ² Faculty of Medical Sciences, University of Sri Jayewardenepura

Objectives: Purpose of this study was to describe the prevalence of work related health problems and associated factors among pediatric critical care nurses at Lady Ridgway Hospital for Children in Colombo.

Methods: Purposively selected 130 nurses working in the pediatric critical care section at *Lady Ridgway Hospital for Children* in Colombo were given a pretested self administered questionnaire to ascertain work characteristics and data related to work related health problems

Results: Only 114 participants had returned the questionnaires giving response rate of 87.6%. All the participants were female and 28% (n=32) were married. Among work related health problems, majority 78 % (n=89) had at least one musculoskeletal disorder (MSD) during the past 12 months. Common MSD were low back pain 45.5%(n=52) followed by knee pain 39.5%(n=45), ankle pain 34.2%(n=39), shoulder pain 26.3 % (n=30), neck pain 14%(n=16) wrist pain 13.2%(n=15). In addition, 8.8%(n=10) participants suffered from hand dermatitis. About 30.7 % (n=40) had painful varicose veins at the time of data collection. With regards to associated factors, age was significantly associated with elbow pain (OR= 1.1; 95% CI=1.0-1.3). Prevalence of varicose vein significantly associated with knee pain (OR= 4.9; 95% CI=2.1-11.6) and increased number of working hours (OR=2.6; 95% CI=1.2-6.2). Knee pain shown significant association with experiencing stresses during the working hours (OR= 4.2; 95% CI=1.1-15.4).

Conclusion: Prevalence of work related health problems among pediatric critical care nurses was high. Predominant health problems were pain in low back, knee, shoulder, ankle and painful varicose veins. Action needs to be taken to reduce risk factors of musculoskeletal disorders in the pediatric critical care.

PP 26

Incidence of needle prick injuries and awareness regarding prevention among third and fourth year medical students

Medagoda M¹, Hansika PAM¹, Prematilleke I¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objectives: To determine the following regarding needle prick injuries among 3rd and 4th year medical students of the University of Sri Jayewardenepura: Incidence and causes, Awareness of the potential dangers and preventive measures, Adherence to proper procedures following such injuries.

Methods: This was a descriptive cross sectional study conducted among 260 medical students in 3rd and 4th years of the MBBS course, Faculty of Medical Sciences in the University of Sri Jayewardenepura in 2012. Interviewer administered questionnaires were used for data collection.

Results: 16.9%(n=44) of participating medical students had experienced at least 1 needle prick injury. The commonest cause was recapping needles (36.4%), followed by blood drawing procedure (29.6%). 93.5% had an average theory knowledge regarding blood-borne infections, while 52.7% had good practical knowledge regarding prevention of needle prick injuries and blood-borne infections. 96.7% of medical students knew of hepatitis B vaccination. Only 45.5 % had taken proper post-injury follow up action.

Conclusions: Although the majority of the study population was aware of needle prick injury and its dangers, good knowledge of safe practices was average. Adherence to proper procedures after needle prick injuries was inadequate. Further education and training of medical students attending clinical wards may be needed in this area.

PP 27

Diabetic patients; their knowledge, practices and attitudes regarding oral health

De Silva DTN¹, Edirisinghe RMSD¹, Weerasekera MM¹, Gunasekera TDCP¹, Fernando SSN¹,
Bulugahapitiya U²

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Colombo South Teaching Hospital

Objectives: To assess the knowledge, attitudes and practices regarding oral health among patients attending the diabetic clinic at Colombo South Teaching Hospital

Methods: A descriptive cross-sectional study among 427 patients attending the diabetic clinic was carried out using an interviewer administered pretested questionnaire.

Results: Of the 427 patients, majority (74%) were females above 50 years of age. Of the patients 56% recognized an association between diabetes and oral health. Only 15% knew that they were more prone to oral fungal infections due to diabetes though 89% knew that diabetes resulted in delayed wound healing. Oral cancer (72%) was mainly recognized as a complication of poor oral hygiene but majority were unaware of the risk of endocarditis. Regarding attitudes, 98% believed that diabetics should be vigilant regarding their oral hygiene. While 29% believed that a dentist should be visited at least twice a year, only one patient practiced this. A majority (93%) was of the attitude that brushing teeth twice a day is important to maintain good oral hygiene and 92 % claimed to practice this. Overall study population had moderate knowledge (64%) good attitudes (77%) and moderate practices (73%) with regard to their oral health. All patients were willing to receive advice and information regarding oral hygiene or be directed to relevant dental clinics during their diabetic clinic visit.

Conclusions: Educating diabetics regarding oral health is a timely need as diabetes is a major health burden in Sri Lanka.

PP 28

Knowledge and practices on biomedical waste management among healthcare workers at a tertiary care teaching hospital in Sri Lanka

Kaunatilaka HDNU¹, Perera TAM¹, Beneragama D¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objectives: This study was conducted to describe knowledge and practices on bio medical waste (BMW) management among five categories of health care workers involved in BMW management at a tertiary care teaching hospital in Sri Lanka.

Methods: A descriptive cross sectional study was conducted with an observation checklist and a semi-structured questionnaire that collected data from consented participants. 30 randomly selected wards/labs/sections in the selected hospital and a total of 325 health care workers were assessed from August-November 2012. The study sample comprised 81 doctors, 115 nurses, 22 medical laboratory technologists, 21 attendants and 86 of sanitation staff. SPSS for windows was used for statistical analysis.

Results: A statistically significant difference was observed among the five job categories regarding the knowledge ($p<0.001$) & practices ($p<0.001$) on BMW management. Doctors, nurses, medical laboratory technologists, attendants and sanitation staff had mean scores of 58.7, 66.9, 65.1, 78.2, 68.9 respectively on knowledge and mean scores of 62.0, 68.5, 65.7, 77.0 and 76.2 respectively on practices out of a total score of 100. A statistically significant relationship was observed between knowledge and practices ($p<0.01$) and attendance of training programmes with knowledge ($p<0.001$) & practices ($p<0.01$) on BMW management. Deficiencies in facilities for BMW management were also observed.

Conclusions: A wide variation of knowledge and practices on BMW management was observed among the five job categories. A positive relationship was seen between knowledge on BMW management on the correct practices. Lack of facilities was seen as a cause for unsatisfactory practices.

PP 29

Assessment of laboratory safety knowledge among Allied Health Sciences students at the University of Sri Jayewardenepura

Withanage ND¹, Priyadarshani AMB¹

¹ Faculty of Medical Sciences, University of Sri Jayewardenepura

Objectives: To determine the knowledge regarding laboratory safety precautions amongst Allied Health Sciences students at the University of Sri Jayewardenepura

Methods: Cross-sectional study of Allied Health Sciences students was conducted using a standardized, 60-item structured self-administered questionnaire which enquired about knowledge, attitude and practices regarding laboratory safety precautions. The questionnaires were administered to a batch of 229 students. Descriptive statistics was generated using SPSS 16th version. Students scoring ≥ 75 , 74-60, 50-59 and ≤ 49 were classified as “excellent”, “good”, “moderate” and “poor” respectively.

Results: Participants included the students from B.Pharm 36.7% (n=84), B.Sc. (Medical Laboratory Sciences/MLS) 45.4% (n=104) and B.Sc. (Nursing) 17.9% (n=41), degree programs. Students’ overall knowledge towards the laboratory safety precautions is as follows; excellent 7.4% (n=17), good 27.5% (n=63), moderate 22.7% (n=52) and poor 42.4% (n=97). In general, students had a “good” knowledge in relation to safety laboratory practices, personal protective equipments, traceability and waste disposal. Knowledge regarding gas, chemical storage and glassware hazards was “moderate”. But their awareness was “poor” regard to safety equipments, emergency procedures, health awareness, laboratory equipments and instruments. A significant difference ($p < 0.05$) was observed among the degree programs: B.Pharm: excellent 1.2% (n=1), good 10.7% (n=9), moderate 23.8% (n=20), B.Sc (MLS): excellent 15.4% (n=16), good 49% (n=51), moderate 18.3% (n=19) and B.Sc (Nursing); good 7.3% (n=3), moderate 31.7% (n=13). But there was no significant difference observed among the students belonging to different academic years of their Degree program.

Conclusions: The knowledge on laboratory safety precautions amongst Allied Health Sciences students are inadequate.

PP 30

Characteristics of patients utilizing the Out Patient Department of Colombo South Teaching Hospital and their association with presenting complaints

Rajapathirana U¹, Abeywickrama A¹, Fernando K¹, Ching C¹, Diyasena H¹, Chandrasiri A²

¹Colombo South Teaching Hospital, ²Postgraduate Institute of Medicine, University of Colombo

Objectives: An outpatient department(OPD) serves a vital role in providing health care services. Identification of patient characteristics and their relationship with presenting complaints is important in improving quality of care. Objective of this study was to describe characteristics of patients utilizing OPD at Colombo South Teaching Hospital (CSTH) and their association with presenting complaints.

Methods: Cross sectional study was conducted by recruiting 850 subjects who attended OPD by systematic sampling. A pre-tested interviewer administered questionnaire was used. Relevant descriptive statistics were calculated and comparisons were done to elicit statistical significance using p value.

Results: Total sample was consisted of 801 subjects giving a non response rate of 5.8%. Mean age was 32.4 (SD+/- 18.5) and highest age group was 26-35. Majority were females (53.6%), were Sinhala (88.6%) Buddhists (79.5%), had secondary education (55.5%), were employed (52.6%) and were married (77.4%). Majority were presented with acute illnesses (75.2%) and also conditions related to respiratory system (48.2%) Cough was the commonest main presenting complaint (18.8%) followed by fever (16.7%) and backache (10.1%). More patients were in younger age group who complained cough as the major problem ($p=0.0001$). Among those who came with back ache, majority were females ($p=0.0003$) and from elder age group ($p=0.0180$).

Conclusions: Among patients utilizing OPD of CSTH majority were females, from 26-35 age group, Sinhala, Buddhist, had secondary education and married. Acute respiratory related medical problems were the commonest and cough was the top presenting complaint and most of them were from younger age group.

PP 31

We need guidelines to do better: An audit on intravenous fluid usage in a single paediatric unit.

Gamage MAMN¹, RupasingheD¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objective: To observe the current practice of Intravenous Fluid (IVF) in a paediatric unit in relation to indications, type, rate and practice of the monitoring process to identify complications.

Method: Bed Head Tickets (BHT) of all children who received IVF were analyzed retrospectively using a Performa, during a period of 3 months.

Results: During 3 months 163 children out of 986 patients received IVF. Among them there were 83 males. 95 (58%) were in the under 5 years age group. Commonest indication for IVF was poor oral intake while the next was significant vomiting. In 48 children no indication for IVF was mentioned. Proper clinical assessment records indicating the degree of dehydration was found only in 10 BHTs analyzed. Thirteen (08%) received 10ml/kg normal saline fluid boluses. Commonest fluid used as maintenance was N/2+5%dextrose. A hundred and three (63%) received IVF for more than 24 hours. But input, output charts were maintained only by 68%. Electrolytes and blood sugars were monitored in 90(63%). Interestingly, only complication recorded was fluid extravasation in seven BHTs.

Conclusion: In this unit IV fluid administration was done not according to any standard practice. New guidelines should be prepared to guide usage of IV fluids in paediatric patients.

PP 32

Effect of playing Nathaswaram on lung function

Harivallavan N¹, Maruthainaar A¹, Ariyaratnam L¹, Sriskandaraja S¹, Shanmuganathan N¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objectives: To compare the respiratory function of Nathaswaram players with other players of the same troupe in Colombo district.

Methods: A descriptive study was conducted on 30 nathaswaram players and 30 other instrument players in Colombo district. Information of sociodemographic variables, habits and illnesses were obtained using an interviewer administered questionnaire. Clinical examination was conducted and respiratory function tests were performed using a Vitalograph spirometer.

Results: The mean age, height and weight of the players and other players were comparable ($p > 0.05$). The mean FVC of the Nathaswaram players was statistically significantly higher than the other players ($2.99 \text{ L} \pm 0.79 \text{ SD}$ of players Vs $2.11 \text{ L} \pm 0.84 \text{ SD}$ of controls, $p < 0.05$). The mean FEV1 of the Nathaswaram players were statistically significantly higher than the other players ($2.81 \text{ L} \pm 0.84 \text{ SD}$ of players Vs $1.90 \text{ L} \pm 0.78 \text{ SD}$ of controls, $p < 0.05$). The mean FEF of the Nathaswaram players were statistically significantly higher than the other players ($4.10 \text{ L} \pm 1.41 \text{ SD}$ of players Vs $3.45 \text{ L} \pm 1.63 \text{ SD}$ of controls, $p < 0.05$).

Conclusions: This study suggests regular playing of the Nathaswaram improves large airway function. However the smaller airway function did not show any significant change.

PP 33

Characterization of an anti-hyperglycemic coumarin from the fruits of *Averrhoa carambola* (Star Fruit)

Wijayabandara MDJ¹, Choudhary MI², Adhikari A²

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²H. E. J. Research Institute and University of Karachi, Pakistan

Objectives: The present study was carried out to isolate and characterize the anti-hyperglycemic principles of the fruits of *Averrhoa carambola*.

Methods: The fresh ripe fruits of *A. carambola* were collected from Mathugama area (Southern Province) in July 2014. The fruits were cut into small pieces and dried at 40⁰ C. The dried and powdered fruits of *A. carambola* were successively extracted with n-hexane, CH₂Cl₂ and CH₃OH using soxhlet apparatus. The CH₂Cl₂ extract was subjected to silica gel column chromatography (CC), eluting in a stepwise gradient with hexane and ethylacetate (EtOAc) mixtures. The fractions eluted with hexane: EtOAc (60:40) yielded a mixture which with preparative thin layer chromatography (CH₂Cl₂ : EtOAc – 9:1) afforded JW-AC-3 (20 mg). The structure of JW-AC-3 was elucidated on the basis of its UV, IR, MS, NMR including DEPT, COSY, NOESY, HMQC, HMBC experiments and direct comparison with reported data.

Results: The JW-AC-3 was identified as scopoletin by direct comparison of its spectral data with reported data of scopoletin. Although this compound has previously been isolated from various plant species, this is the first report of this compound from *A. carambola*.

Conclusions: Scopoletin has been shown to possess significant anti-hyperglycemic activity by previous workers. The results clearly indicated that the majority of the anti-hyperglycemic activity of the fruits of *A. carambola* could be attributed to scopoletin. As the fruits are used in traditional medicine for anti-hyperglycemic effects, the results obtained in this study could be used in the rationalization of ethnomedical use of the fruits of *A. carambola*.

PP 34

Knowledge on side effects and toxicity of paracetamol among mothers attending to the well baby clinics in Colombo district

Indunil W¹, Ranuja S¹, Jayawardane P¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objective: Poor knowledge on paracetamol toxicity among mothers could lead to increased incidence of paracetamol induced liver damage in children. Thus the objective of this study was to assess the level of knowledge on side effects and toxicity of paracetamol among mothers attending the well baby clinics in Colombo district.

Methods: A descriptive cross sectional study was performed among mothers attending well baby clinics in Colombo district. The sample was selected using clustered sampling method in 17 MOH divisions of Colombo district. Data were collected using a pretested interviewer administered questionnaire. Data analysis was done by SPSS Software version 21.

Results: 403 mothers participated in the study. Only 59.4% of the participants knew that paracetamol can cause toxicity. Of that 98.8% were aware that administering high doses (higher than specified dose according to weight of the child) could contribute to toxicity and 91.7% were aware frequent administration of a specified dose (more than 4 times a day) of paracetamol may be harmful. Mothers under the age of 20 years and mothers who are unemployed have a significantly poor knowledge on paracetamol toxicity compared to other age groups and employed mothers respectively (p>0.05). 82.4% of the participants did not know that inappropriate use of paracetamol can cause liver toxicity.

Conclusion: The study results indicate that knowledge on toxicity of paracetamol is not highly satisfactory. Awareness programmes specially targeting the young and unemployed mothers are required to enhance the knowledge on paracetamol toxicity.

PP 35

Appropriateness of medication used among the elderly in the community setting to improve medication safety

Premadasa SPK¹, Siripala UGS¹, Samaranayake NR¹, Wanigatunge CA¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Objective: To assess the appropriateness of medication used among the elderly in a community setting and to identify issues related to medication safety in a community setting.

Methods: The study was conducted in a selected Grama Niladhari division in Colombo district. Cluster sampling was used to select households. All aged ≥ 60 years living in each of these household were interviewed by two pharmacists and regular medicines used by them were recorded from health records. Potentially inappropriate medications (PIMs) were detected using the 'Screening tool of older people's prescriptions (STOPP) and Screening tool to alert to right treatment (START)' criteria.

Results: Among the 246 households, data were collected only from 68 patients. The rest were excluded as some residents (N=144) were uncooperative (did not open gate or not at home), and some (N=34) did not have their health records. The most common non-communicable diseases among the interviewed patients were hypertension (61.8%), and diabetes (52.9%). There were 42 patients with at least one PIM. Of the 79 PIMs detected among the interviewed patients, 36.7% were related to STOPP, and 63.3% to START criteria. The highest number of PIMs were associated with statins (N=15) and antiplatelet drugs (N=15). Of the health records assessed, there was at least one inadequate information in 24 health records.

Conclusions: PIMs were identified in the prescriptions of elderly. Although it is important to frequently assess their medications, it is a challenging task in the community due to incomplete and unavailability of health records.

PP 36

Antimicrobial activities of selected herbs and two herbal decoctions against Methicillin Resistant *Staphylococcus aureus* (MRSA)

Ragunathan K¹, Radhika NDM¹, Gunathilaka DPP¹, Weerasekera MM¹, Hewageegana S², Fernando SSN¹, Gunasekara TDCP¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Institute of Indigenous Medicine, University of Colombo

Objectives: To determine the antimicrobial activity of selected herbs against MRSA.

Methods: Aqueous extracts, of dried stem bark of *Pongamia pinnata* (magulkaranda), dried stem of *Rubia cordifolia* Linn (Welmadata), tender leaves of *Jasminum officinale* Linn (Jasmine), dried stem of *Berberis ceylanica* (Daruharidra), *Garcinia zeylenica* (Goraka) and two ayurvedic decoctions were prepared following the traditional ayurvedic practice by boiling chopped pieces of herbs in 6 volumes of water down to 1 volume to obtain neat and down to half volume to obtain double (2x) concentrations of the extract. Five clinical isolates of MRSA, were tested in triplicates using well diffusion method with cloxacillin and vancomycin as positive controls. Further minimum inhibitory concentration (MIC) of the aqueous extracts were determined using the pour plate method.

Results: *Garcinia zeylenica* had an average zone of inhibition of 13mm against MRSA. The ayurvedic preparation which consists of Dummulla, Ginger, Aralu, Bulu, Nelli, Gon Kekiri, Lunuwila, Katukarosana, dried Turmeric, Venivel and Rasakinda had a 14mm zone of inhibition, and the decoction which consisted of Venivel, Rasakinda, Jasmine, dried grapes, Asamodagam, Aralu, Bulu and Nelli, gave a 16mm zone of inhibition. *Jasminum officinale*, *Pongamia pinnata*, *Rubia cordifolia* Linn and *Berberis ceylanica* did not give a zone of inhibition. The neat concentration was the lowest concentration tested which inhibited growth of MRSA isolates in all three extracts.

Conclusions: Aqueous extracts of *Garcinia zeylenica* and the two decoctions have potential antimicrobial activity against MRSA and further studies should be carried out to determine the cell cytotoxicity and in vivo activity of this extract.

PP 37

The access to essential medicines for selected non communicable diseases in Sri Lanka.

Dabare PRL¹, Wanigatunge CA¹, Beneragama BVSH²

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Division of Medical Technology and Supplies, Ministry of Healthcare and Nutrition, Sri Lanka

Objectives: To investigate the availability and affordability of essential medicines (EM) prescribed to treat hypertension, acute coronary syndrome (ACS), asthma and diabetes in public and private sectors of Sri Lanka.

Methods: Methodology was based on WHO/HAI manual. Data were collected from a representative sample of public hospital's (PH) OPD pharmacies, Raajya Osusalas (RO) and private pharmacies (PP). Availability and prices of EMs in lowest priced generic (LPG) and originator brand (OB) for above diseases were collected. Percentage availability, median prices, median price ratio (MPR) to the international reference price (IRP) and MPR of OB to government workers LPG were calculated. Affordability was determined using the daily incomes of the lowest paid unskilled

Results: RO had the highest (>80%) availability of LPG. Price of 62%(n=21) of selected medicines was less than 10 Sri Lankan Rupees (SLR). There is no significant difference in prices between RO and PP. The price of OB less than 10 SLR was 81%. There is a significant difference of prices among LPG and OB. The MPR to IRP was less than one for 7 LPG. The OB price for 7 medicines was more than five times of price of LPG. For most of the population, generic medicine prices are affordable. 48% of drugs required less than the daily wage to purchase one LPG for a month.

Conclusions: The EMs for above diseases are readily available in both public and private sectors. Such medicines are affordable to the lowest income earners in the community.

PP 38

Socio- demographic profile of whole body donors registered with Department of Anatomy, University of Sri Jayewardenepura

De Silva LJ¹, Yasawardene SG¹, De Silva LSD²

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Ministry of Healthcare and Nutrition, Sri Lanka

Objectives: Knowledge of gross anatomy has evolved through and continues to be dependent on the human cadaveric dissections. The aims of this study were to identify the characteristics of individuals who bequeathed to donate their body to Department of Anatomy, the source of information on bequest program and the reasons for donation.

Methods: A descriptive cross sectional study was done among all the donors registered with Department of Anatomy, University of Sri Jayewardenepura in a selected year. Data was collected by using a pre tested interviewer administered questionnaire via telephone interviews and analyzed using SPSS software.

Results: Response rate was 83.3% (145/175). Mean age was 59.7 years (SD=14.6 years). Of the participants, 99.3% were Sinhalese (n=144); 97.9% Buddhists (n=142); 66.2% married (n=96); 32.4% employed (n=47); 53.1% educated above G.C.E (O/L) (n=77) with a median income of Rs.15,000.00 (IQR=Rs. 15,000/=). Of the participants, 82.8% had decided to donate as an altruism (n=120), 68.3% had been educated about donation from non medical source (n=99) and 16.6% & 42.2% has a known person who was working in this field (n=24) & had donated (n=62) respectively. There were significantly more participants educated above O/L had got information from a medical sources (p=<0.01) and had someone working in the field of medicine (p=0.02). Similarly, those having higher income had someone working in the field of medicine (p=0.01).

Conclusions: Sinhalese, Buddhists, with higher levels of education in the view of altruism registered for body donation. Level of income and education were associated with source of information that influences the decision of body donation.

PP 39

Preservation of human tissues by room-temperature resin casting technique: an effective teaching tool in human anatomy

Edirisinghe EAST¹, De Fonseka HFDG¹, Kotalawala DEH¹, Yasawardene SG¹

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura*

Objectives: The objective of this study were to develop a durable technique to preserve human tissues in a manner that detailed anatomy and almost all relevant properties are retained and to develop a cost effective method to preserve human tissues

Methods: The tissues are initially preserved using formalin to stop the decaying since soft tissues are subjected to rapid decomposition. The water content significantly removed using series of 99.9% pure acetone baths while maintaining the original tissue architecture. Dehydrated tissue part is embedded in a degassed clear liquid resin after mixing with the catalyst, which will be polymerized into a solid resin cast. The human specimens were taken from the cadavers that were donated to the Department of Anatomy, FMS, USJP with written consent obtained prior to death to use the cadaver for medical teaching and research.

Results: In this invention, dehydrated human tissues, while preserving the original shape and volume are embedded in a clear synthetic resin cast having zero exposure to formalin when students are handling the specimens. This is an appropriate method for preserving human body cross-sections at specific vertebral levels. The specimens are more durable than other specimen preservation methods used in Sri Lanka, tissue waste is minimum and there by the cost of preservation and maintenance of cadavers are reduced drastically. Currently these resin casts are used for teaching/learning anatomy at FMS, USJP.

Conclusions: Detailed anatomy is best learned by cadaver dissections. Resin casting is a highly successful, cost effective supplementary method of teaching/learning gross and cross sectional Anatomy with no exposure to formalin.

PP 40

Preliminary study of variations/anomalies of umbilical cord of term placenta in a Sri Lankan population

Edirisinghe EAST¹, De Fonseka HFDG¹, Yasawardene SG¹

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura*

Objectives: To assess the umbilical cord variations/anomalies of term placenta in a Sri Lankan population presenting to a selected centre

Methods: Two hundred and fifty two (252) normally delivered term placentas, collected from Colombo South Teaching Hospital during years 2012/2013 were dissected and observed for placental attachment of umbilical cord and umbilical vessels.

Results: Majority 81%(204/252) of the placenta had eccentric cord attachment and out of that, 63.2%(129/204) had non furcate blood vessel arrangement. Percentage 17.9(45/252) had central attachment while 53.3%(24/45) were furcate. Percentage 0.8(2/252) had marginal attachment with 100%(2/2) furcate and 0.4%(1/252) villamentous. Single umbilical artery was found in 0.8%(2/252) and both were eccentrically attached with single umbilical vein. Percentage 0.4(1/250) had two umbilical veins with two normal umbilical arteries. Majority had two umbilical arteries and non furcate 59.6%(149/250) while 1.3%(2/2) contained single umbilical artery and non furcate

Conclusions: Majority of umbilical cords had eccentric cord attachment with non furcate variety. Presence of single umbilical artery in Sri Lankan population is comparable with 0.5% -2.5 % of Indian studies. Villamentous attachment is rare [0.4%(1/252)] and low compared to western data(0.75%). As umbilical cord anomalies are known to be associated with other congenital anomalies early diagnosis of umbilical cord anomalies could give an insight to the former.

PP 41

Congenital macrothrombocytopenia: A case report

Seneviratne TSP¹, Kumanan T¹, Sooriyakumar T¹

¹Teaching Hospital Jaffna

Case report: A 23 year old previously healthy sailor was evaluated for isolated thrombocytopenia. He did not have any bleeding manifestations. His physical examination was unremarkable. On direct questioning he admitted that his mother's sister living abroad having a haematological condition. On request the medical team received a document stating the diagnosis of his aunt as May- Hegglin Anomaly. On investigation his platelet count was ranging between 34 000- 70 000 during the past six months of follow up. The mean platelet volume was high.15.4fl (6.8-12fl). There was no other abnormality noted in the Full Blood Count(FBC).The other laboratory work up including hepatitis screen, renal, liver profile and coagulation profile were normal. The ultrasonography of abdomen was unremarkable. Blood picture revealed marked thrombocytopenia with Giant platelets. The bone marrow examination also supported the above findings. Giant platelets with isolated thrombocytopenia and a normal coagulation, platelet aggregation studies strongly suggested the diagnosis of a congenital large platelet disorder. FBC of the mother showed thrombocytopenia (Platelet count 50 000- 100,000) and the blood picture showed giant platelets. FBC of the only sibling was normal.

Discussion: Considering the autosomal dominant nature of the disease; clinical presentation of the patient; pattern of inheritance; normal coagulation studies and the blood picture confirming congenital macrothrombocytopenia, May Hegglin Anomaly a MYH9 gene related disorder is the most probable diagnosis and immunohistochemistry is needed to confirm the presence of cytoplasmic NMMHC-IIA peptide.

PP 42

A retrospective analysis of the effect of filgrastim compared to pegfilgrastim on neutrophil recovery during the treatment of acute leukaemias

Fernandopulle KHBP¹, Khalafallah A²

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Launceston General Hospital, Tasmania, Australia

Objectives: The rate of neutrophil recovery is a crucial parameter for successful treatment of acute leukaemias. Traditionally, filgrastim, which is a short acting Granulocyte Colony Stimulating Factor (G-CSF) is used to reduce the period of post-chemotherapy neutropenia. It needs daily administration. The recently developed pegfilgrastim is a long acting G-CSF that has decreased renal clearance allowing for single injection dosing. The objective was to compare the effect of Filgrastim to Pegfilgrastim on post chemotherapy neutrophil recovery.

Methods: We retrospectively analysed the outcome of 103 episodes of chemotherapy in 33 patients who received induction and consolidation therapy for acute leukaemias with supporting G-CSF during the period from 2007 to 2009 at a single institution. 24 patients were treated for AML and 9 for ALL/lymphoblastic lymphoma. G-CSF was commenced according to body weight (filgrastin 5mcg/kg daily, pegfilgrastin 6mg, single dose) one day after completion of the chemotherapy. The time required for neutrophil recovery $> 0.5 \times 10^9/l$ and $> 1.0 \times 10^9/l$ were analysed for each patient for every treatment cycle. The study also incorporated other factors that may influence neutrophil recovery such as ECOG status of the patient, type of chemotherapy and the presence of febrile neutropaenia or sepsis.

Results: Patients who were treated with filgrastim (18 patients) had a neutrophil recovery $> 0.5/nl$ with a mean of 11 days compared to 12 days with pegfilgrastin, while neutrophil recovery $> 1.0/nl$ was observed on a mean of 12.5 days for both groups. There was no significant difference between the two groups with a p-value of 0.7 and 0.9 respectively. Further sub-analysis of induction and consolidation chemotherapies did not reveal a significant difference between the two cytokines, however it was noted that a prolonged neutropaenia occurred during induction- compared to consolidation chemotherapy in both treatment groups. Furthermore cost of the total course of filgrastim was three times the cost of a single dose of pegfilgrastim.

Conclusions: During the treatment of acute leukaemia, pegfilgrastim results in a comparable effect with filgrastim with decreased cost and less injections.

PP 43

Unusual localization of parathyroid gland inferior to the thyroid gland, absence of the isthmus of thyroid gland and intra thyroid thymic tissue - A case report

Niranjan R¹, Uthayakumar S¹, Yasawardene SG²

¹Faculty of Medicine, University of Jaffna, ²Faculty of Medical Sciences, University of Sri Jayewardenapura.

Case report: Ectopic parathyroid glands are not rare and can be seen anywhere between mandibular angle and mediastinum. Absent of isthmus of thyroid was noted in a 36 year Sri Lankan male at postmortem. Lobes of thyroid were connected only by pretracheal fascia. The length of right lobe was 4.7cm and left was 4.8cm. Superior parathyroid glands (SPGs) were normal in position, left near cricothyroid junction and right just above first tracheal ring. The right inferior parathyroid gland (IPG) (8mm), tan yellow in color was observed just below lower pole of thyroid on anterior surface and extracapsular in position. Left IPG(1cm), brownish red color glandular tissue was situated at lower pole posterolateral and intracapsular in position. Histology revealed normal right IPG tissue and on left side thymic tissue with Hassall's corpuscle present within thyroid capsule. Presence of ectopic thymic tissue within thyroid has been documented in children younger than 10 years. Agenesis of isthmus of thyroid may be due to a high division of thyroglossal duct. Thymus develops primarily from ventral and IPG from dorsal wing of third branchial pouch.

Discussion: Occasionally thymus and parathyroids can be present in ectopic sites. Ectopic thymic tissue can be present in thyroid and be asymptomatic. Anatomical and clinical significance of absence of thyroid isthmus and ectopic sites of parathyroids is important for surgeons operating on the thyroid gland. Present case report is an attempt to highlight such.

PP 44

Neonatal umbilical cord blood cardiac troponin as reflecting fetal growth, age and well being

Jayasinghe SB¹, Potter J², Kecskes Z², Nouri-Girones F², Hickman P², Koerbin G³

¹Canberra Hospital, Canberra, Australia, ²Australian National University Medical School, Canberra, Australia,

³University of Canberra, Canberra, Australia

Objectives: It has been proposed that an elevated concentration of cardiac troponin in umbilical cord blood may function as a surrogate marker of ischemic damage sustained in utero and/or during labour and delivery. The objective of this study is to document the umbilical cord blood concentrations of troponins I (cTnI) and T (cTnT) using high sensitivity assays and correlate these with maternal and fetal clinical history.

Methods: Umbilical cord blood was collected immediately following delivery from 416 babies, including 12 sets of twins. Clinical history was obtained from clinical notes. Ethics permission was obtained from ACT Health Human Research and Ethics Committee for the study and consent was obtained from mothers for their participation. Cardiac troponins were assayed using hs- cTnI on Abbott Architect (LoD 1.0 ng/L) and hs-cTnT on Roche E4111 (LoD 5.0 ng/L). Data are expressed as median and 25th and 75th percentiles.

Results: Umbilical cord blood consistently has higher median values of cTnT than cTnI such that the median ratios are 6.8 and 5.4 at <32 week gestation and 41 week babies respectively compared with T:I of 0.8 in adults. Babies of early gestation have higher concentrations of cTnT and cTnI as do babies with APGAR scores ≤4 at 1 min. Median cTn concentrations show a 50% decrease between babies born < 32 weeks and those at full term.

Relationship of birth weight and umbilical cord cardiac troponin concentrations. Low Birth Weight babies have ~50% higher cTn concentrations

Conclusions: These findings are consistent with a differential expression of cTnT and cTnI in utero with potential contributions from growth and re-modelling of the heart in addition to "ectopic" production in less differentiated non-cardiac muscle. The effect of intermittent ischemia which occurs as part of normal labour and delivery may superimpose on this increments.

PP 45

Health problems related to rubber tapping in Welikala, Horana, Sri Lanka

Kalubowila NS¹, Vidanapathirana M¹

¹*Faculty of Medical Sciences, University of Sri Jayewardenapura.*

Objectives: Rubber tapping causes health problems such as medical and musculo-skeletal problems, and health hazards. It varies from musculoskeletal aches to structural damage and poisoning due to chemicals. This study was conducted to describe the health problems of rubber tappers in Welikala, Sri Lanka.

Methods: A descriptive cross sectional study was conducted among a randomly selected 100 tappers using interviewer administered questionnaire. Anonymous data were analyzed using SPSS statistical package.

Results: Majority were females between 50-69 years. Twenty nine percent had medical problems. The most common musculoskeletal problem was backache (54%). There was a significant association between upper limb pain and number of trees tapped per day ($p < 0.05$). The health hazards included cuts (44%), eye injuries (32%), chemical injuries (26%) and snake bites (8%). Knowledge regarding safety measures had been gained by 30% tappers.

Conclusions: Usual medical problems were not common among rubber tappers. The most common hazard was cut injuries. There was no significant relationship of musculoskeletal problems with age or gender of the tappers, and carrying method of latex, but with number of tapped trees. The safety training programmes had been focused on safe use of equipment and agrochemicals but not on safe postures during work. Awareness programs should be conducted regularly.

PP46

Aetiology/risk factor and disability assessment in children with stroke presented to Stroke Unit, National Hospital of Sri Lanka.

Wijesekara DS¹ Gunaratne PS²

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura,* ²*Stroke Unit, The National Hospital of Sri Lanka*

Introduction: Aetiology for stroke in children may vary between different communities and geographical locations. The risk factors for stroke in children are numerous and differ greatly from adults; a thorough diagnostic evaluation can identify aetiology/risk factors in most patients. Further assessment of disability associated with such an event was not evaluated in many paediatric studies.

Objective: Evaluation of aetiology /risk factors and assessment of disability in children with stroke in Sri Lanka.

Method: The data of children aged 1 to 16 with stroke presented to stroke unit from January 2005 to June 2007 were analysed. Disability assessment was performed at the using the Barthel index for daily activities.

Results: There were 30 patients with an age range of 1-16years (mean age 8.5 years). Boys 53%. There were 25 (83%) ischaemic and 5(17%) intracerebral haemorrhages. Possible aetiology was detected in 25(83%). Of the intracranial haemorrhages two presented with AVM's and one each with haemophilia, low platelets and trauma. Commensest cause for stroke was cardioembolic (20%) followed by unknown causes (17%). Extra cranial carotid dissections, infective/inflammatory causes and Moya moya disease accounted for 7% each. Following snakebite one child had a stroke. Barthel index calculated at the onset of the event ranged between 3-15, while on follow up at 6 months it improved to 14-20.

Conclusions: Ischemic stroke is the commonest cause for paediatric stroke in the present series, an aetiology for ischemia was detected in 83%. Cardioembolic was the commonest cause identified. In 17% of patients no cause was identified despite extensive investigations. Disability assessment revealed that most children had an improvement in their daily activity scores over time.

PP 47

Laparoscopy versus open appendectomy: a Comparison of outcome

Wijerathne BPN¹, Rajapakse DC¹, Chulasiri MPPU²

¹Teaching Hospital, Kurunegala, ²National Dengue Control Programme, Narahenpita

Objectives: To assess the effectiveness of Laparoscopic appendectomy over open appendectomy

Methods: The study was done using the secondary data from the bed head tickets of the surgery wards in Teaching Hospital Kurunegala among 117 patients who were undergone appendectomy from 2014.04.01- 2014.09.30. The bed head tickets of the patients undergone appendectomy were selected randomly.

Results: Sixty nine males (59%) and forty eight females (41%) were undergone appendectomies. Eighty one (68%) had undergone laparoscopy appendectomy (mean age 24 years) and 36 (32%) had undergone open appendectomy (mean age 26 years). Abscesses were seen among 42 (36%) appendectomies: 26 (22%) among laparoscopic surgeries and 16 (14%) among open surgeries. Lesser post-operative days (mean- 3.35 days) were among laparoscopy surgeries compared to open appendectomies (3.69 days) which is not statistically significant ($p > 0.05$). Average time of anesthesia is higher among laparoscopy surgeries (44 min) over open appendectomy (30.67 min) which is statistically significant ($t = 2.7$, $p = 0.01$).

Conclusions: Considering the complications of surgery (post operative surgical site infections and ileus), post-operative days and cosmetic reasons, laparoscopic surgery is better option over the open appendectomy for both complicated (appendicular abscesses) and uncomplicated appendicitis.

PP 48

High tension electrocution: Long term complications and other medico-legal issues

Ariyaratne D¹, Hulathduwa SR¹

¹Faculty of Medical Sciences, University of Sri Jayewardenepura

Case history: A 33 year old plumber sustained high-tension electrocution from overhead cables as an occupational hazard while climbing up to the third floor of a building under construction. He was thrown on to the concrete slab of the second floor with multiple extensive burns. Though hurriedly taken to hospital, he remained unconscious for nearly two hours almost unattended. CT scan done at a later date showed cerebral infarctions. He was treated for neurological and other complications in the ward for two months. Other complications such as blindness were discovered subsequent to his discharge from the ward. He was re-admitted to the same ward only to die few hours after admission. The post-mortem examination revealed yet undiscovered complications and the cause of death was attributed to the complications of electrocution.

Discussion: Though short-term complications of electrocution are quite heard of, long-term sequelae are under-reported in the medical literature. Neurological, psychological, ocular and pain-related complications are not uncommon. The term diffuse electrical injury is used to designate combinations of such complications not directly related to the theoretical pathway of the current inside the body. Doctors working in emergency care and surgical units should be made aware of such complications and the importance of proper initial care in preventing or minimizing the above should be emphasized which might otherwise amount to medical negligence.