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PP 01: Time spent in the clinic and overall patient satisfaction in a tertiary care diabetic clinic

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INTRODUCTION: Due to the overcrowding in the hospital clinics patients spends much time waiting to get a clinic number to see the doctor and to collect medications from the pharmacy.

OBJECTIVES: To determine whether the time patients spend in the clinic affect the overall patient satisfaction of clinic services.

METHODS: A descriptive cross-sectional study was conducted among Type 2 Diabetic patients attending the diabetic clinic in a tertiary care hospital in Colombo. 367 patients were included by randomly selecting 20 patients per day for 3 consecutive weeks. Data was collected through an interviewer-administered questionnaire.

RESULTS: Women accounted for 75.9% of the study sample and 50% of patients were in the age range of 60-80 years. Only 25% of the patients were employed. On average, patients spent 62 min (SD$\pm$47.6) to obtain a clinic number, 74 min (SD$\pm$57.5) to be seen by a doctor and 47.5 min (SD$\pm$ 26.9) to collect the medicines from the pharmacy. The mean time taken by a doctor for the review was 9.6 min (SD$\pm$3.4). The majority of the patients were not satisfied with the time they had to wait to get a clinic number and collect medications from the pharmacy (59 % and 78 % respectively) while 52% were satisfied with the time they spent at the doctor. A significant number (90%) indicated that the overall clinic services were satisfactory or better.

CONCLUSIONS: Although overall satisfaction level for clinic services were good, improving the waiting time to get a clinic number and waiting time to collect medications can result in higher overall patient satisfaction.

PP 02: Meal patterns and drug compliance among Type 2 diabetic patients on the days of attending a tertiary care hospital diabetic clinic

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INTRODUCTION: Due to overcrowding, patients tend to come to hospital clinics very early often skipping their morning meal. When antidiabetic medications are taken without a meal, this puts the patients at risk of developing hypoglycaemic episodes.

OBJECTIVES: Was to determine the extent of meal patterns alteration and medication compliance on the days of attending the diabetic clinic.

METHODS: A descriptive cross-sectional study was conducted among Type 2 diabetic patients attending the diabetic clinic at a tertiary care hospital in Colombo. 367 patients were included by randomly selecting 20 patients per day for consecutive 3 weeks. Compliance to diabetic medications and meal patterns on the day of the clinic was assessed by an interviewer-administered questionnaire.

RESULTS: Study sample consisted of 75.9% females and 24.1% males and 50% of patients were in the age range of 60-80 years. The majority (87.3%) of the patients took their morning diabetic medications at home, while travelling or at the clinic while 12.8% missed the morning medications on the clinic days. 94.8% took the breakfast on the clinic days while 5.2% skipped the breakfast altogether.10% of the patients who took morning diabetes medication at home, didn't take the breakfast at home while all the patient who skipped the breakfast due to attending the diabetic clinic, took the morning medications either at home, while travelling or at the clinic.

CONCLUSIONS: Although meal patterns and compliance to diabetic medications on the clinic days were good, taking medications either skipping or delaying the morning meal would predispose the clinic patients to develop hypoglycaemia.

PP 03: Relationship between visceral fat and neck circumference in Diabetic patients with Metabolic Syndrome

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INTRODUCTION: Overweight and obesity may be associated with fat deposition in the neck and neck circumference could, therefore, be used as a convenient method in a busy clinic setup to identify high-risk diabetes patients.

OBJECTIVES: To find the correlation between neck circumference and visceral fat percentage in patients with Type 2 Diabetes and Metabolic Syndrome (MS).

METHODS: A prospective cross-sectional study was carried out at the diabetes clinic of the National hospital of Sri Lanka to find the prevalence of Metabolic Syndrome among Type 2 Diabetes mellitus patients. Data from this study was used to find the correlation between visceral body fat percentage and neck circumference. The visceral fat percentage was calculated using a bioelectrical impedance analyzer (OMRON HDBS-362).

RESULTS: Data from 391 subjects (109 males, 282 females) were analyzed and mean visceral fat level was 9.1% (SD $\pm$ 4.5). The prevalence of MS according to the International Diabetes Federation criteria was 63.7%. The mean neck circumference was 34.8cm (95% CI 34.2- 35.4 cm) in those without metabolic syndrome, and 36.1 cm (95% CI 35.7-36.5cm) in those with metabolic syndrome. Statistically significant positive correlation was demonstrated between neck circumference measurements and the visceral fat percentage in all diabetic patients irrespective of the presence of metabolic syndrome (r=0.58, P<0.001) similar to the relationship between waist circumference and visceral fat percentage (r=0.75, P <0.001).

CONCLUSIONS: Neck circumference could be used as a convenient measurement to identify diabetic patients who are at high risk of increased visceral fat levels.

PP 04: The prevalence of macro and microvascular complications among patients with type 2 diabetes attending the diabetic clinic at a tertiary care hospital in Sri Lanka.

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INTRODUCTION: T2DM causes many long term chronic complications, which reduces the quality of life of the patient and incurs heavy burden to the health care system by increasing morbidity and mortality. Assessing disease burden is important to plan out strategies to minimized occurrence of debilitating consequences

OBJECTIVES: To determine the prevalence of macro and microvascular complications among patients with T2DM attending a tertiary care centre in Sri Lanka.

METHODS: An ongoing descriptive cross-sectional study targeting 3000 adult patients with T2DM attending the diabetic clinic at National Hospital Sri Lanka. Patients with diabetes for at least 3 months were sampled systematically.

RESULTS: The study population had 73% females and 27% males. Mean age was 58.27+/- 10.48 years. The mean duration of diabetes was 10.71+/-7.32 years. Mean BMI was 27.16+/-5.61. Mean HbA1c was 8.31+/-2.67. The mean Systolic and diastolic blood pressures were 130.70+/- 19.9 mmHg and 79.38 +/- 10.49 mmHg respectively. Retinopathy was present in 29.5% of patients while neuropathy was present in 62.27%% of patients. EGFR was less than <60 ml/min/1.73 m^2 in 30.47% of patients. 3% of patients had experienced ulcers and 2.1% of patients had amputations involving lower limbs. Macrovascular

complications of ischemic heart disease, stroke/transient ischemic attack and peripheral vascular disease were present in 10.7%, 1.1%, 3.1% respectively.

CONCLUSIONS: This study highlights the major burden of long-term complications in this patient population. The microvascular complications were considerably more prevalent than the macrovascular complications. Strategies to prevent such complications are needed to be planned out to reduce disease burden and improve the quality of life.

PP 05: Prevalence of depression and associated factors among patients with type 2 diabetes attending the diabetic clinic at a tertiary care hospital in Sri Lanka

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INTRODUCTION: Diabetes is a fast growing health problem in Sri Lanka. Depression is common in diabetes and is associated with poor outcomes. Prevalence of 30-40% has been reported from diabetics in South East Asia.

OBJECTIVES: To determine the prevalence of depression and associated factors among patients with T2DM attending a tertiary care centre in Sri Lanka.

METHODS: Ongoing descriptive cross-sectional study recruited 2700 patients with T2DM attending diabetic clinic, National Hospital Sri Lanka. Patients with diabetes for at least 3 months and without prior psychiatric disorder were sampled systematically. Depression was assessed by the Becks depression index, a 21 question multiple choice inventory. A subset of the population was interviewed by a psychiatrist to validate the questionnaire. All patients underwent screening for micro/macrovascular complications

RESULTS: Study population constituted 73% females and 27% males. Mean age 58.27+/- 10.48 years and mean duration of diabetes 10.71+/-7.32 years. Prevalence of depression was 6.1% with 4.2%, 1.6% and 0.3% having mild, moderate and severe depression respectively. 68.2% and 3.1% were not affected and severely affected by diabetes respectively. Depression was significantly associated with female sex (p=0.001), extended family (p=0.02), civil status (P=0.001), income (p=0.001), occupation (p=0.04) and level of education (p=0.001). There was no association with duration of diabetes, age, Insulin use, HbA1c, BMI, pill burden, macro and microvascular complications. Doctor inquiring on mental well-being and difficulties in coping with diabetes was only in 14.5%.

CONCLUSIONS: Depression prevalence was significantly low comparatively to neighbouring countries and was associated with sociodemographic factors and not with disease variables.

PP 06: Proportion of patients with type 2 diabetes who are at risk of developing oral Candida infection in a Sri Lankan setting: a molecular based identification

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INTRODUCTION: Oral Candida colonization is a major oral health problem associated with patients with diabetes as it may lead to many oral and systemic complications including periodontitis and endocarditis.

METHODS: Two hundred and fifty diabetes patients who were attending the Endocrinology clinic at Colombo South Teaching hospital and eighty healthy volunteers were included in this study. Oral rinse samples were collected and concentrated oral rinse samples (CRC) were used for genotypic and phenotypic identification Candida colony count was

obtained and ≥2000 CFU/ml was considered as patients at risk of infection. *A multiplex PCR was used to identify C. albicans, C. parapsilosis, C. glabrata and C. tropicalis directly from the concentrated oral rinse samples.*

RESULTS: Patients were age between 33 to 85 years old and the mean age was 60 years. Out of the 250 patients 139 were females (55.6%) and 111 males (44.4%). Of the 250 patients 204 were positive for *Candida* species and 75 (30%)had colony count >2000CFU/ml and were at risk of candida infection. Out of 80 healthy samples 11(14%) had colony count >2000CFU/ml. *C.albicans* was the most predominant organism followed by *C.parapsilosis*, *C.tropicalis* and *C.glabrata* based on the results of multiplex PCR and culture identification.

CONCLUSION: Diabetes significantly predisposed to Candidia infection. *Candida albicans* was the dominant species identified among the patients with diabetes followed by *C.parapsilosis.*

PP 07: Patterns of coronary lesions in patients with diabetes: A Sri Lankan tertiary cardiac centre experience

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INTRODUCTION: Variable patterns of coronary arterial involvement had been observed in patients with diabetes. Published data on coronary angiographic patterns in Sri Lankan diabetics with coronary artery disease (CAD) is scarce.

OBJECTIVES: To evaluate the patterns of coronary lesions in a Sri Lankan cohort of diabetics with CAD.

METHODS: Patients who had undergone coronary angiographic evaluation for CAD in 2015 were selected. Coronary angiograms were reviewed and lesions were visually quantified by two examiners independently.

RESULTS: Of the 1531 patients reviewed, 37.5% were diabetics and 62.5% were non-diabetics. Among diabetics, mean age was 56.76±8.5 years with 69% of males. Single vessel disease (SVD) was seen in 30.3% whereas 27.6% and 26.9% had dual vessel disease (DVD) and triple vessel disease (TVD) respectively. Higher prevalence of DVD (p=0.005) and TVD (p=0.001) was statistically significant in diabetics when compared to non-diabetics whereas the prevalence of SVD was statistically insignificant (p=0.55).
Among SVD patients, left anterior descending artery (LAD) was more frequently involved (16.4%), followed by the right coronary artery (RCA) (7.3%) and left circumflex artery (LCX) (6.5%). Chronic total occlusion (CTO) in diabetics (41.9%) was statistically significant (p=0.003) in comparison with non-diabetics (32.7%). Significant proximal lesions (i.e. stenosis >70%) were seen in 35.6%, 17.4%, and 26.7% of LAD, LCX and RCA respectively whereas 13.4%, 13.5% and 10% had significant distal LAD, LCX and RCA involvement respectively. There was 35.4% diagonal and 25.4% obtuse marginal vessel involvement among diabetics, which was statistically significant (p=0.001) compared to non-diabetics.

CONCLUSIONS: CTO, multi-vessel disease and side branch involvement have a higher predilection towards diabetics. In patients with SVD, the most frequently affected territory is LAD.

PP 08: Do diabetics have a greater affinity to left main coronary artery involvement in our population with coronary artery disease?

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INTRODUCTION: Left Main Coronary Artery (LMCA) stenosis is a relatively infrequent but important cause of symptomatic CAD. Limited data is available on this subject among Sri Lankan diabetics.

OBJECTIVES: To evaluate the patterns of LMCA involvement (≥40% luminal stenosis) in diabetic patients.

METHODS: Descriptive cross-sectional study was performed in Cardiology Unit Kandy among all patients who underwent routine coronary angiography for evaluation of CAD in 2015. The coronary angiograms were analyzed by two investigators.

RESULTS: Among the 1531 patients reviewed, there were 37.5% diabetics, in whom the mean age was 56.76±8.5 years and the majority was male (69%). Only 8.6% of the total population showed LMCA involvement and among them, 27.3% had osteo-proximal involvement whereas 19% had mid and 68.7% had distal vessel involvement. There were 35% with visual calcifications in the fluoroscopy.
Of the diabetics 10.4% had LMCA involvement in which, 34.5% and 65.5% had proximal and distal LMCA disease respectively. Only 1.3% had critical LMCA stenosis (>90% stenosis). In diabetics, occurrence of proximal LMCA versus distal LMCA lesions was not statistically significant (p=0.168). Diabetic patients did not have a statistically significant (p<0.067) the occurrence of LMCA involvement over non-diabetics. The occurrence of multi-vessel disease in diabetics (49%) was statistically significant compared to non-diabetics (p<0.001). However, LMCA involvement in patients >45 years was statistically significant (p=0.001) compared to those <45 years regardless of their having diabetes.

CONCLUSIONS: The occurrence LMCA disease has a higher inclination towards advanced age over the presence of diabetes. However, the dominant pattern observed among diabetics was the multi-vessel disease.

PP 09: Prevalence of incidentally detected abnormalities of Pituitary, Adrenals, Pancreas and Ovaries in a Sri Lankan Population-Preliminary results of a post-mortem study

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INTRODUCTION AND OBJECTIVES: Incidental tumours in endocrine organs are being diagnosed with increased frequency. Their prevalence and clinical correlations are required to establish guidelines for screening and management. This study aims to determine the prevalence of pathological abnormalities incidentally detected in pituitary, adrenal, pancreas and ovaries.

METHODS: This is a prospective study of autopsies conducted at the institute of Forensic Medicine and Toxicology, Colombo from June 2014 to May 2016. Using an interviewer-administered questionnaire a brief history was taken from next of kin, and an external examination was performed on corpses. The collected specimens were examined macroscopically and microscopically by a histopathologist.

RESULTS: Total number of autopsies studied was 248; 174 (70.16%) males and 74 (29.83%) females. Pituitary microadenoma and fibrosis with calcification were present in 2(0.8%) and 1(0.4%) cases respectively. Abnormal fat infiltration in the pancreas was present in 35(14.9%) and fibrosis in 12(5.1%). Four (1.6%) had adrenal nodular hyperplasia and 2(0.8%) had granulomatous inflammation with caseous necrosis suggestive of tuberculosis. Out of 74 female bodies examined 16(21.6%) had multiple cystic follicles and 2(2.7%) had hemorrhagic cysts.

CONCLUSIONS: The prevalence of incidental tumours in endocrine organs is very low. However, non-tumour pathological conditions were present in a significant number or cases.

PP 10: The Association between Thyroid malignancy and Thyroid nodule size, a Descriptive analysis of single unit experience.

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OBJECTIVES: Thyroid nodule size is an important predictor of malignancy. However, there are conflicts among different guidelines about the suspicious nodule size. The scope of our study is to demonstrate the association between thyroid malignancy and nodule size using our unit experience.

METHODS: Retrospective analysis of patients who underwent thyroidectomy during a period of 4 years from 2012-2016 was performed. Among these, 42 patient records were identifies as having a diagnosis of any kind of thyroid malignancy. Those patient records were sorted and analyzed in respect of age, sex, nodule size and type of malignancy. Nodule size was analysed according to 5 categories (<10mm, 10-20mm, 20-30mm, 30-40mm and >40mm). The incidence between type of thyroid malignancy and nodule size was recorded.

RESULTS: 3 patient records were excluded from the study because of insufficient data. Descriptive analysis of our data showed 83.3% of females and 16.6% of males having malignancy. The mean age for females was 38.1years and in males 44 years. 73% of malignancies were papillary carcinoma of the thyroid and rest were as follows 17% for follicular, 4.8% medullary and 4.8% hurthle cell type. The majority of patients (46%) had a nodule size of 10- 20mm at the time of surgery. 18% of patients had nodules less than 10mm and 13.9 % had larger nodule more than 40mm at the time of surgery. Only 4.6% had nodules of 30-40mm size. Out of patients having papillary carcinoma of the thyroid 63% had nodules in between 0-20mm size, 13.3% had nodules >40mm. Among patients having follicular carcinoma of thyroid, the majority 85% had nodule in between 10-30mm size.

CONCLUSIONS: Our study didn't show any clear pattern of nodule size increment in relation to malignancy.

However, the study results demonstrated that thyroid malignancy do present with smaller nodule size in the majority of patients. So the importance of investigating patients with thyroid nodule size less than 20mm is further highlighted by this study. Nevertheless, the association between thyroid malignancy and nodule size still needs to be investigated in a larger sample of patients.

PP11: Prevalence of incidentally detected liver abnormalities in a Sri Lankan population-preliminary results of a post-mortem study

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INTRODUCTION: Liver is a common site for many pathological abnormalities; most are asymptomatic, which either goes undiagnosed or found incidentally. Knowledge on the prevalence of such pathology is necessary to determine optimal strategies for management and prevention of such conditions. Such data is sparse or not available in Sri Lanka and in the South Asian region.

OBJECTIVES: This study aims to determine the prevalence and evaluate the histological characteristics of the incidental pathology of liver.

METHODS: Specimens were collected prospectively from consecutive autopsies conducted at the Institute of Forensic Medicine and Toxicology, Colombo, from June 2014 to May 2016. Next of kin provided Informed written consent. Gross and microscopic pathology were examined by consultant histopathologists.

RESULTS: Males and females were 174(70.2%) and 74(29.8%) respectively. Mean age was 52.6 years (SD=16.9). Alcohol consumption and Ayurvedic medication use were 120(51.7%) and 13(5.6%) respectively. Less than 2% had signs of liver disease on external examination.

Mean weight of the liver was 1.28kg. Fatty change, cirrhosis, chronic portal inflammation, granulomatous inflammation, focal fibrosis and ductal malformation were seen in 145(59.2%), 21(8.6%), 7(2.8%), 5(2%), 5(2%) and 1(0.5%) respectively. The fatty liver was severe, moderate and mild in 10.4%, 20.8%, 68.8% of cases respectively. Alcohol use was seen in 71(49%) cases with fatty liver. The fatty change was severe, moderate or mild in 6.6%, 26.2% and 67.2% of non-alcoholics respectively. Cirrhosis was detected in 7(33.3%) of non-alcoholic cases.

CONCLUSIONS: Fatty liver was a common incidental finding in autopsy specimens and did not have a significant association with alcohol use (p = 0.988).

PP 12: An audit on the method of insulin storage and transport practiced by diabetic patients following medical clinic at District General Hospital (DGH) Trincomalee .

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INTRODUCTION: Insulin therapy is the mainstay of treatment for type I diabetes and also adjunct therapy for type 2 diabetic patients. Proper storage and transport of insulin play an important role in long-term optimal blood sugar control. Exposure to a higher temperature during storage and use may degrade insulin by hydrolysis or transform it to higher molecular weight components. The average temperature in Trincomalee is 32^{o}C. Improper temperature maintenance would significantly affect the glycemic control of our patients.

OBJECTIVES: To assess the methods practiced for insulin storage and transport among diabetic patients

METHODS: This audit was conducted among 52 diabetic patients attending medical clinic between 22nd and 28th February 2016. Insulin storage and transport techniques were assessed using a pre-designed questionnaire. Poor glycemic control was defined as fasting blood sugar (FBS) ≥126 mg/dL.

RESULTS: The mean age of the participants was 53.5 (±13.1) years. The majority of the participants were female at 52%. 44.2% achieved good glycemic control (FBS≤126 mg/d). Only 25% of the subjects used the proper method to transport insulin from the hospital. 40.4% practiced correct method of storage. 36.5% used correct methods to transport during long distance travelling. A significant proportion (11.5%) did not carry their insulin during travel and continued only with their oral medications.

CONCLUSION: Regular patient education and the assessment on insulin storage and transport technique are necessary to improve glycemic control.

PP 13: Accuracy of ultrasonographic findings with FNAC in diagnosis of thyroid nodules: a prospective study

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INTRODUCTION: Ultrasound scan (USS) is useful in assessing thyroid size and differentiate cystic from solid nodules, but cannot be used to distinguish benign and malignant disease. However, there are some US characteristics which favour either benign or malignant lesions and these can be used to select the nodules for fine needle aspiration cytology (FNAC).

OBJECTIVE: Aim of this study is to evaluate the accuracy of USS with FNAC in the diagnosis of thyroid nodules.
Material and methods: A prospective study was carried out on 100 cases with nodular goitre attending the Base Hospital Kalmunai from May 2015 to June 2016. All patients under went USS by a single experienced radiologist and nodule size more than 1cm were subjected to FNAC.

RESULTS: Radiologically, 74% cases were diagnosed as benign thyroid lesion, 19% as malignant and 6% were diagnosed as indeterminate. While on FNAC, 82% were benign thyroid lesions and 12% were malignant, and 5% were indeterminate. The accuracy of USS findings with FNAC for benign, and malignant and indeterminate lesions were 86.2%, 100% and 0% respectively. USS detected all malignant lesions as malignant but it has 36% of false positives in detecting malignant lesions.

CONCLUSION: In the present study, we had concluded that in the diagnosis of thyroid lesions USS is a useful guide to select nodules for FNAC with high sensitivity for malignant lesions and benign lesions if done by an experienced person.

PP14: Prediction of adrenocortical insufficiency in clinically suspected patients using 9am basal cortisol level

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INTRODUCTION: Hypothalamo pituitary adrenal (HPA) insufficiency is diagnosed by the presence of sub optimal cortisol response in standard short synacthen test (SST). The safe level of basal cortisol which would predict the possibility of adrenal insufficiency is controversial.

OBJECTIVES: To identify a reference basal cortisol value in the diagnosis of HPA insufficiency in clinically suspected patients.

METHOD: All SST did for the evaluation of suspected HPA insufficiency, from January 2012 to January 2016 at Endocrinology Unit, Teaching Hospital, Kandy were retrospectively analyzed. A normal response to the SST was defined as a peak serum cortisol of > 500 nmol/l at 30 min. The cut-off values of basal cortisol were determined in relation to the gold standard test.

RESULTS: Two hundred and seventeen patients suspected of having adrenal insufficiency were recruited, and 51% were females. There were 103 healthy and 112 diseased patients. The basal cortisol value (0900h) for the healthy adults was normally distributed with mean 336.5 and +/- 123.7 SD. For the diseased adults the distribution was positively skewed with a median 144.7 and 97.5th percentile at 478.

CONCLUSION: When the basal cortisol level is <89.1nmol/l (mean- 2 SD of the healthy adults) the possibility of HPA deficiency is high. Patients with HPA deficiency are unlikely to have a basal cortisol level more than 478 nmol/l. Therefore, it can be concluded with 95% confidence that the adults who have basal cortisol levels less than 89.1 nmol/l are likely to be diseased and those who have values above 478 nmol/l are unlikely to be diseased. Adults who have values between 89.1 and 478 need further tests (SST) to confirm or exclude the disease.

PP 15: Aetiology and outcome in critically ill patients with hyponatraemia

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INTRODUCTION: Hyponatraemia is one of the common electrolyte imbalances in the critically ill patients. It has been found to be an independent prognostic factor in the Intensive Care Unit (ICU) patients and also Sodium level is used in various clinical severity scoring systems like APACHE.

OBJECTIVES: To ascertain the prevalence, prognosis and aetiology of hyponatraemia in patients admitted to ICU.

METHODS: A Descriptive analytical study conducted in Colombo South Teaching Hospital. Data of 176 consecutive consented patients were collected from medical and surgical ICUs over 3 months. Serum Sodium levels on admission were considered as the grouping variable. APACHE II score was obtained to evaluate the disease severity.

RESULTS: Mean age was 51.26yrs (SD±16.89). The percentage of hyponatraemia was 29%. Median APACHE II score of normonatraemic group was 7 and hyponatraemic group was 15. The median of ICU stay in days for normonatraemia and hyponatraemia was 4 and 7 (p=<0.05) and for hospital stay was 9 and 12(p=0.082). The odds ratio of death in the hyponatraemic group is 2.41(1.65-3.54). Definite cause was not identified in 59.6% (28). Heart failure (19.9%, Median APACHE=24.5), SIADH (12.8%, Median APACHE =19) and hypovolemic hyponatraemia (8.5%, Median APACHE =8) and drugs (4.3%, Median APACHE =12) were identified as other causes.

CONCLUSIONS: Hyponatraemic patients had higher mortality risk and longer ICU stay than patients with normal sodium levels. Most of the cases the aetiology was not identified. Heart failure, SIADH and drugs were other known common causes.

PP16: Effects of antenatal exercise in overweight and obese women on developmental programming of long term health in the offspring

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INTRODUCTION: Fetal life exposure to an abnormal in-utero metabolic milieu programs long-term adverse health effects in the offspring of overweight/ obese women. The effects of maternal antenatal exercise, on developmental programming of these offspring, is unknown.

OBJECTIVES: To determine the effects of antenatal exercise in overweight and obese pregnant women on early life determinants of life-long health in the offspring (birth weight, body composition, maternal and cord blood metabolic markers).

METHODS: A parallel two-arm randomised controlled trial was conducted in healthy overweight/obese (BMI>25 kg/m2) women with singleton pregnancies. Women were randomised in mid-pregnancy to an intervention arm (16-week home-based moderate-intensity non-weight-bearing exercise program) or a control arm (no exercise intervention). Offspring birth anthropometry, body composition (DXA scanning) and maternal and cord blood metabolic markers were compared between groups. Long term follow-up is planned.

RESULTS: 75 participants were enrolled (intervention 38, control 37). Intervention group completed an average of 22 exercise sessions. Birth weight and maternal metabolic markers were similar between groups. Offspring in the exercise arm had lower cord serum interleukin 6 levels (adjusted mean difference -13.97 pg/ml; p=0.026), and higher bone mineral content (MD 9.1 g; p=0.010). Male offspring in the intervention arm had higher adiposity (higher fat mass (MD 110 g; p=0.017) and body fat% (MD 1.6%; p=0.044).

CONCLUSIONS: Maternal non-weight-bearing antenatal exercise led to lower inflammatory markers, and increased bone mass in offspring of overweight and obese women, while male offspring had increased adiposity. Follow up will help determine lasting effects on offspring metabolic and bone health.

PP 17: Metabolic complications in overweight and obese children followed up at a tertiary care obesity clinic

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I**NTRODUCTION:** Childhood obesity is associated with metabolic complications which can be asymptomatic. The effects of gender and birth weight on metabolic complication rates have not been explored.

OBJECTIVES: To determine the prevalence of metabolic complications in overweight/ obese children, and the associations between gender, birth-weight and complication rates.

METHODS: Overweight/obese children aged 5-15 years, registered at the Obesity clinic, Lady Ridgeway Hospital, Colombo were screened for metabolic complications defined as follows: impaired fasting glycaemia (IFG)- fasting glucose of 100–125 mg/dl, impaired glucose tolerance (IGT)- 2-h OGTT 140–199 mg/dl, dyslipidemia total cholesterol ≥ 200 mg/dl, LDL ≥ 150mg/dl, HDL <40mg/dl, triglycerides ≥ 150mg/dl, and liver involvement -ultrasound evidence of fatty liver or ALT >40 IU/l. Prevalence of complications were compared by gender and birth-weight category (<2.5/ 2.5-3.5/ >3.5kg) using chi-square tests.

RESULTS: 162 children were studied (boys=109, girls=53). Commonest metabolic complications were fatty liver (46.7%), elevated ALT (27.4%), low HDL (48.7%), hypercholesterolemia (26.7%), elevated LDL (16.4%), hypertriglyceridemia (16.4%), IGT (11%) and IFG (3.1%). More than half the subjects (58%) had at least one metabolic complication, and more than a third (37%) had two or more complications. Prevalence of metabolic complications was similar between birth weight groups.

Compared to boys, girls had higher rates of dyslipidemia (low HDL 64.9% vs 40.5%, p=0.013, hypertriglyceridemia 27% vs 11.8%, p=0.036) and IGT (19.5% vs 6.7%, p=0.027).

CONCLUSIONS: Overweight/obese Sri Lankan children have a high prevalence of metabolic complications, especially girls. Abnormal birth-weight in overweight/obese children does not appear to be associated with an increase in metabolic complications.

PP 18: Prevalence of Diabetic Retinopathy among patients attending to Diabetes Clinic in National Hospital of Sri Lanka

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INTRODUCTION: Diabetic retinopathy is the most common cause of irreversible vision loss among people with diabetes and a leading cause of blindness among working-age adults.

OBJECTIVE: Study was conducted to determine the prevalence of diabetic retinopathy in patients attending the Diabetes Clinic, National Hospital of Sri Lanka and to determine the risk factors associated with progression of retinopathy.

METHOD: A descriptive cross-sectional study was carried out at Diabetes Clinic, National Hospital of Sri Lanka. 1000 Patients diagnosed with diabetes were selected. All the patients underwent retinopathy screening using slit lamp examination. Statistical analysis was done using Statistical Package for Social Sciences version 20.0.

RESULTS: Prevalence of Diabetic Retinopathy (DR) was 31.2% (n=312). Prevalence of Non-proliferative retinopathy (NPDR) was 27.8% (n=278). Prevalence of maculopathy was 7.1% (n=71). 1.8% (n=18) patients had either proliferative/ advanced retinopathy (Sight-threatening retinopathy). 26.9% (n=84) had developed DR within five years of onset of diabetes. Multiple logistic regression showed that age is an independent risk factor in diabetic patients having DR (OR = 1.014, 95%CI=1.001-1.028). Therefore, there is only a 1.4 % increase risk of having DR with increasing age in diabetes patients. Also, duration of diabetes is an independent risk factor in diabetic patients having DR (OR =2.189, 95%CI=1.635-2.931). Therefore, there is a 218% increase risk of having DR with increasing duration of diabetes.

CONCLUSION: This shows that about one-third of diabetes population has diabetes retinopathy and the need for intensification of current eye screening to minimize the complications associated with DR.

PP 19: Prevalence of cataract and glaucoma among patients attending a tertiary care hospital Diabetes Clinic

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INTRODUCTION: Cataract and glaucoma both occurs with increased frequency in patients with diabetes making it worthwhile to screen for them in diabetes patients and refer for early treatment to prevent irreversible vision loss.

OBJECTIVE: Study was carried out to determine the prevalence of cataract and glaucoma in patients attending the Diabetes Clinic, National Hospital of Sri Lanka.

METHOD: A descriptive cross-sectional study was carried out at Diabetes Clinic, National Hospital of Sri Lanka. 1000 diabetes patients were randomly selected and screened for cataract and glaucoma using slit lamp and intraocular pressure measurements.

RESULTS: The prevalence of cataract among diabetic patients was 29.9% (n=299) it is 2.9% (n= 29) for glaucoma. Surgically corrected cataract prevalence was 18.6% (n=186). Multiple logistic regression showed that age is an independent risk factor in

diabetic patients having cataract (OR = 1.12, 95% CI=1.10-1.14). Therefore, there is a 12% increase risk of having cataract with increasing age in diabetes patients. Also, duration of diabetes is an independent risk factor in diabetic patients having cataract (OR =1.434, 95% CI=1.044-1.970). Therefore, there is a 43% increase risk of having cataract with increasing duration of diabetes. Furthermore, analysis showed that both age (OR = 1.036, 95% CI=0.997-1.077) and duration of diabetes (OR = 2.038, 95% CI=0.917-4.530) are not independent risk factors in diabetic patients having glaucoma.

CONCLUSION: Prevalence of cataract and glaucoma in the population was 29.9% and 2.9% respectively. Age and duration of cataract were independent risk factors for cataract in diabetic patients.

PP 20: Prevalence of incidentally detected abnormalities of thyroid in a Sri Lankan population: Preliminary results of a post-mortem study

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INTRODUCTION/ BACKGROUND: Thyroid pathologies are diagnosed with increased frequency due to the availability of sophisticated imaging facilities and ultra-sound guided fine needle aspiration cytology. Sri Lanka and many other Asian countries lack data on the prevalence of incidental thyroid pathology in general the population.

OBJECTIVES: This study aims to determine the prevalence and histological characteristics of incidentally detected pathological abnormalities in Sri Lanka.

METHODS: Specimens were collected from consecutive autopsies conducted at the Institute of Forensic Medicine and Toxicology, Colombo, from June 2014 to May 2016. Informed written consent was obtained from next of kin. Gross and microscopic pathology of thyroid were examined by a histopathologist.

RESULTS: Total number was 248; males 174(70.2%), females 74(29.8%). The mean age was 52.6 years (SD=16.9). None had thyroid disease. One had a family history of thyroid carcinoma. At least one microscopic abnormality was seen in 136(56.7%): papillary microcarcinoma(PMC) 25(10.4%), colloid nodules 18(29%), hyperplastic nodules 6(2.5%), chronic autoimmune thyroiditis(CAT) 52(21.7%). PMC was equally prevalent in males and females (10.5% and 10% respectively) with no association with age ($p>0.05$). Thyroiditis was present in 33(63.4%) females and 19(36.6%) males ($p<0.01$); diffuse in 31(12.9%), focal in 21(8.8%). The mean age of those having colloid nodules was 59.8years.

CONCLUSIONS: Colloid nodules were the commonest microscopic abnormality detected. The prevalence of PMC and CAT which goes undiagnosed is considerably high. Similar to other parts of the world, the prevalence of CAT was significantly higher among female population in Sri Lanka.

PP 21: Attitudes on diabetic nephropathy in a group of adolescents with type 1 diabetes and increased urinary albumin excretion: a qualitative study

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INTRODUCTION: Persistently increased urinary albumin excretion (UAE) in adolescents with type 1 diabetes carries a high risk of developing chronic kidney disease at a younger age. Their attitudes influence the management of UAE for which there are no Sri Lankan studies.

OBJECTIVES: Describe the perceptions, concerns and expectations of this adolescent group with type 1 diabetes and increased UAE.

METHODS: A purposive sample of consecutive patients with increased UAE, selected from adolescents with type 1 diabetes registered and followed up at the National Diabetes Centre(n=19) were invited to participate in structured focus group discussions. Verbatim recording and documenting of the responses and emotions were conducted by four independent observers. Following transcription, thematic analysis was carried out by the investigators using framework method.

RESULTS: All recognised that albuminuria needs special attention. Almost all were concerned that progression of albuminuria could lead to kidney damage and most perceived poor sugar control as the cause of albuminuria. Majority believed that albuminuria could be cured with good control of sugar. Perceived barriers for sugar control were inadequate time for exercise, difficulty in refusing food when among friends, irregular meals and missing insulin due to work or extra-classes. Most did not recognize a connection between blood pressure control and albuminuria. Their expectations from parents were to treat as normal children in public, doing the needful without worrying too much and to keep them happy in addition to routine support to health care.

CONCLUSIONS: Misperceptions, inadequate understanding of proteinuria and its effects and management need to be addressed.

PP22: Extreme hypernatremia as a probable cause of fatal arrhythmia -Case Report

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INTRODUCTION: Extreme hypernatremia defined as sodium levels >190 mmol/l is rare. The literature on electrocardiographic changes (ECG) occurring at this degree of hypernatremia is extremely scarce.

CASE PRESENTATION: An 11-year-old girl presented with an altered level of consciousness and seizures. Imaging revealed possible craniopharyngioma with hydrocephalus. Ventriculoperitoneal shunt was inserted and she had been infused with 3% hypertonic saline to reduce intracranial pressure. On admission to the neurosurgical intensive care unit she was dehydrated and hypotensive. Serum sodium was 226 mmol/l. She was treated with 5% dextrose and water was to correct the fluid deficit of 6 litres over 36 hrs. Sodium levels dropped to 160 mmol/l on the following day. ECG showed wide spread QT prolongation, ST segment depressions and elevations which progressed to fatal ventricular tachycardia. Serum potassium, calcium and magnesium levels were normal

DISCUSSION: Actual pathophysiology of hypernatremia on cardiac dysfunction is unknown. It is hypothesized that increased extracelluar sodium causes more calcium to exit cells via sodium calcium exchanger on the sarcolemma. This results in reduced levels of intracellular calcium levels available for cardiac myocyte contraction causing a negative inotropic effect. Hypertonic saline has been used to reduce intracranial pressure however, serum sodium levels >180 mmol/l have been associated with poor outcome.

Reports on ECG changes in extreme hypernatremia is scarce. There are no established guidelines on rate and mode of correction of such high sodium levels. This case highlights the ECG changes in extreme hypernatremia, controversies in managing increased intracranial pressure with hypertonic saline and dilemmas in managing extreme hypernatremia.

PP 23: Extreme Rare Skeletal Manifestations in a Child with Primary Hyperparathyroidism: Case Report

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INTRODUCTION: Primary hyperparathyroidism (PHPT) is uncommon among children with an incidence of 1:300,000. It can be due to adenoma, hyperplasia or rarely carcinoma.

CASE PRESENTATION: A 12-year-old Sri Lankan girl presented with progressive difficulty in walking since 1 year. Examination revealed, bilateral genu valgum. Skeletal survey revealed bilateral SUFE, epiphyseal displacement of bilateral

humeri, rugger jersey spine and subperiosteal bone resorptions. There were no radiological manifestations of rickets. Metabolic profile revealed hypercalcemia with hypophosphatemia. Intact parathyroid hormone levels were elevated at 790 pg/ml. Vitamin D levels were deficient. She had low bone mineral density with Z score of -3.4. Vitamin D supplementation resulted in worsening of hypercalcemia without a reduction in PTH levels. Tc 99 Sestamibi uptake scan showed abnormal tracer retention in left inferior pole of thyroid. A large parathyroid gland was removed with histology favoring parathyroid adenoma. Post-operatively she developed hypocalcemia. The bilateral osteotomy was done for SUFE and further surgeries for correction of limb deformities planned.

DISCUSSION: PHPT in children is diagnosed late when irreversible organ damage has occurred. Children can present with non-specific symptoms involving gastrointestinal, musculoskeletal, renal and neurological systems. PHPT can cause disarray in bone and epiphysis in children during pubertal growth spurt. There are only 10 and 9 reported cases on genu valgum and SUFE respectively in PHPT. So far no cases have been reported on epiphyseal displacement of humeri. Awareness regarding these rare skeletal manifestations especially during puberty is important for early diagnosis to prevent irreversible outcomes.

PP 24: Testicular Adrenal Rest tumors in a patient with Congenital Adrenal Hyperplasia (CAH)

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INTRODUCTION: Testicular adrenal rest tumours (TART) is an important complication of congenital adrenal hyperplasia (CAH), which probably develop from ectopic remnants of intra-testicular adrenal tissue stimulated by Adrenocorticotropic hormone (ACTH) hypersecretion. These tumors can be mostly found in childhood and puberty and are usually, but not always, responses to suppressive medical therapy. TART leads to testicular structural damage, spermatogenesis disorders and infertility. Here, we present a rare case of TART which presented as a mass forming lesion.

CASE DESCRIPTION: This patient was a diagnosed as having congenital adrenal hyperplasia (CAH) with 3 β hydroxysteroid dehydrogenase deficiency at 40 days of age, when he presented with ambiguous genitalia and salt wasting crisis. Soon after the diagnosis he was commenced on hydrocortisone and minerolocorticoid replacement therapy. 17 hydroxy progesterone (17OHP), which is formed by the peripheral convertion17 hydroxy pregnenolone was used as an indirect marker to assess the adequacy of replacement since 17 hydroxy pregnenolone was not available. He poorly complied with the treatment and his 17OHP levels were persistently elevated with mean value of 10.5 ng/dl. He developed premature pubarche as well as precocious puberty. At the age of 15 he presented with a palpable testicular mass and the ultra sound scan showed hypoechoic lesions in both testes near mediastinum testes with lobulated margins with minimal vascularity suggestive of TART. Largest on right side was 3.0 cm* 1.1 cm and left was 2.8 cm * 1.2 cm. Normal beta HCG and alfa fetoprotein levels excluded other forms of testicular tumors. Importance of drug compliance was reemphasized. However, his 17 OHP levels remained elevated and the sizes of TART slowly increased in size. His seminal fluid analysis showed evidence of oligoteratospermia. However, his gonadotrophins and testosterone remained normal. His plasma renin level was also elevated. He was started on dexamethasone with a plan to keep 17 OHP at upper limit of normal range and minerolocorticoid replacement was optimized to keep renin at upper limit of normal range. Cryopreservation of sperm samples were arranged and repeat USS testes was planned in 6 months to assess the sizes of TART.

CONCLUSION: TART is a preventable complication of CAH. The response to medical management of TART depends on the remaining testicular tissue available. Unresponsiveness to optimized medical management will indicate irreversible testicular damage which warrants testicular sparing surgery after staging of TART with a biopsy in order to relieve discomfort. Therefore, optimal management of CAH, active surveillance TART during puberty is mandatory.

PP 25: Parathyroid venous sampling in a patient with complicated hyperparathyroidism

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INTRODUCTION: Persistent hyperparathyroidism following surgical management for parathyroid hyperplasia is challenging. Localization studies are mandatory prior to revision surgery in patients with persistent hyperparathyroidism in order to improve surgical outcome and to reduce the risk of lengthy explorations. Parathyroid venous sampling (PVS) has been used as useful adjunct in this situation.

CASE DESCRIPTION: 37-year-old male presented with bilateral nephrolithiasis with hypercalcemia and was diagnosed as primary hyperparathyroidism. Findings of the ultrasound scan of the neck were in favor of four gland hyperplasia. Therefore, he underwent neck exploration for 3 1/2 gland removal with implantation of ½ gland in the forearm. However, histology of the excised glands showed only 3 glands containing parathyroid tissue. Following surgery, he had evidence of persistent hyperparathyroidism. Unfortunately he defaulted follow up and turned up after 4 years with hypertension and moderate impairment of renal functions (S.Cr- 1.6 mg/dl). Pheochromocytoma, Cushings syndrome and Conns syndrome were excluded by relevant investigations. His repeated PTH was elevated at 190 pg/ml and his ionized calcium was marginally elevated. Vitamin D level was normal. Ultrasound scan of the neck, Sestamibi parathyroid scanning, Contrast CT scan of the neck and chest did not localize focus of PTH secretion. Therefore, parathyroid venous sampling was performed and highest PTH concentration was detected in the left inferior thyroidal vein (128pg/ml). The magnitude of the ratio between the peripheral sample and the highest sample measured was 1.3 and the findings of PVS did not localize the focus of PTH secretion. Therefore, he was offered medical management.

CONCLUSION: Even though PVS may be a valuable adjunct to noninvasive localization studies in complicated hyperparathyroidism it may not localize the focus of PTH secretion in some patents.

PP 26: A rare case of thyrotoxicosis: Thyrotrophin secreting pituitary tumor (TSHoma)

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INTRODUCTION: TSHomas are rare tumors accounting for about 0.5-3% of all pituitary tumors and the prevalence being *around one case* per million.

CASE DESCRIPTION: 40-year-old lady, a mother of two children presented with gradually worsening thyrotoxic symptoms over 5 years. She neither had a goiter nor any features suggestive of graves' disease. There was no family history of thyroid dysfunction. Thyroid function tests revealed elevated thyroid hormone levels with non-suppressed TSH repeatedly. Antibody interference of the TSH assay was excluded. TRH stimulation test showed a blunted response and Alpha subunit was elevated (6 IU/L {< 1}); supporting the diagnosis of a TSHoma rather than thyroid hormone resistance (THR). Confirming the suspected diagnosis, MRI of pituitary showed a mass lesion of 19 x 18 x 15 mm size ,which encircled internal carotid arteries partially. She underwent transphenoidal resection of the pituitary tumor and histology confirmed a TSHoma. Postoperatively her symptoms were *improved but* her free T4 and T3 levels remained elevated with non-suppressed TSH. MRI of the pituitary showed a residual tumor.

DISCUSSION AND CONCLUSION:
Central hyperthyroidism should be suspected in the presence of elevated thyroid hormone levels with non-suppressed TSH. Absence of family history of similar illness, dynamic tests (TRH test) and the measurement of alpha subunit helps to differentiate it from THR. MRI of pituitary should be interpreted along with clinical and biochemical investigations as it can detect incidentalomas. Although surgery is the definite therapy, many patients will need other treatment modalities as well. As the tumor encircled the internal carotid arteries in this patient, complete resection wasn't possible. She will need radiotherapy or medical management with somatostatin analogues to reduce the tumor burden and the hyperthyroxinemia.

PP 27: A lady with Cushing's syndrome due to ectopic ACTH secreting thymic tumor

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INTRODUCTION: Ectopic ACTH secreting tumors constitute 15% of Cushing's syndrome. Lung carcinomas, bronchial, thymic and pancreatic carcinoids are the most common tumors associated with this disorder. We describe a lady with ACTH secreting thymic carcinoid presenting with Cushing's syndrome.

CASE DESCRIPTION: A 49-year-old lady presented with recent onset diabetes and hypertension and spontaneous ecchymotic patches for one year. She had Cushingoid appearance including facial plethora, hirsutism, purple striae in her lower abdomen and proximal myopathy. Her serum potassium was persistently low and she needed potassium supplementation.Overnight dexamethasone suppression test (ODST) and Low Dose Dexamethasone Suppression Test (LDDST) failed to suppress serum cortisol levels to less than 50 nmol/L. The ACTH level was high (259 pg/ml) indicating ACTH dependent Cushing's syndrome. As the MRI scan of the brain showed a normal pituitary gland and an ectopic source of ACTH was suspected. The contrast CT revealed an anterior mediastinal mass of 2.4 cm*3.4 cm*2.6 cm size.
Patient underwent thymectomy via partial sternotomy. Histology and immunocytochemistry confirmed an ACTH secreting carcinoid.
Post operatively she achieved complete cure from the Cushing's syndrome with normalization of serum cortisol and she remained normoglyceamic and normotensive after withdrawal of antidiabetic and antihypertensive medication.

CONCLUSION: Localization of Cushing's syndrome due to ectopic ACTH secreting tumor may not be easy. However, if the source could be localized, removal of the tumour will cure the disease provided there is no metastasis. CT of the chest, abdomen and pelvis with contrast is a sensitive investigation in this regard.

PP 28: Spontaneous disappearance of a Rathke's Cleft Cyst: A case report

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INTRODUCTION: Rathke's cleft cysts are benign cystic growths found in the sellar region lined by cuboidal or columnar ciliated epithelium which may regress over time. Possible mechanisms of regression include spontaneous rupture, apoplexy or hemorrhage in to the cyst. Spontaneous disappearances of Rathke's cleft cysts have been reported less frequently.

CASE DESCRIPTION: A 49-year-old lady was incidentally found to have a large dumbbell shaped cystic sellar mass with supra sellar extension, which is compressing the optic chiasm. The lesion showed homogenous high signal intensity in both T1W and T2W MRI. Further clinical and biochemical evaluation revealed bitemporal hemianopia and mild hypopituitarism. Patient was managed conservatively with anterior pituitary hormone replacement and close visual field monitoring. The cyst gradually regressed and completely disappeared over 3 years. Her vision is improved but pituitary function did not recover.

CONCLUSION: We present a case of large cystic sellar lesion clinically and radiologically compatible with a Rathke's cleft cyst. It showed spontaneous disappearance over several years. The mechanism for spontaneous resolution of RCC in this patient was not clear.

PP 29: A post-menopausal lady with empty sella syndrome

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INTRODUCTION: Empty sella syndrome is an incidental anatomical finding which can occasionally present as hypopituitarism. Here we present a post-menopausal lady with empty-sella syndrome and anterior pituitary hormone deficiency.

CASE DESCRIPTION: A 69-year-old mother of 4 children presented with progressively worsening lethargy and constipation. Her last pregnancy at 24 years was complicated with post-partum hemorrhage. She had breastfed her last child for 1year. She attained menopause at 45 years. Investigations revealed Normocytic anemia; Hb 10 g/dl, Sodium 134 mmol/l, Potassium 4.1mmol/l. Calcium 2.29mmol/l. TSH normal (2.09mu/l), free T4 low (<0.07 ng/dl), 9 am cortisol 44.5 (171-536nmol/l), FSH 6.79 (Postmenopausal 30.6-106.3 mIU/mL), LH -2.08 (Postmenopausal 15.0-62.0 mIU/mL), Prolactin 142 (40-530 mIU/l). Non-contrast CT brain- CSF within sella-turcica, suggestive of empty-sella syndrome.

She was treated with hydrocortisone followed by thyroxine.

CONCLUSION: Patients with hypopituitarism exhibit a slow and progressive loss of pituitary function with vague symptoms. Free-T4 is needed along with TSH, when screening for secondary hypothyroidism. Although our patient had a history of post-partum hemorrhage, establishment of breastfeeding and regular menstruation makes Sheehan syndrome less likely as a cause for hypopituitarism, as well as a secondary cause for empty-sella syndrome. Although female sex, age of presentation and multiparity supports the diagnosis of primary empty-sella syndrome, it may be a combination of both primary and secondary causes.

PP 30: Clinical MEN 1 syndrome presenting with giant prolactinoma at young age: Case Report

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INTRODUCTION: Multiple Endocrine Neoplasia(MEN) 1 syndrome is characterized by combined occurrence of tumours in parathyroid, pancreas, anterior pituitary and other endocrine/ non endocrine glands. Giant prolactinoma is a rare entity with complex management issues.

CASE DESCRIPTION: This Sri Lankan female first presented at the age of 20 years (in 2006) to emergency department with mass effects of a suprasellar tumour. But she gave a history of intermittent galactorhoea and secondary amenorrhoea since age of 16 years. Investigations revealed a giant prolactinoma with severe hyperprolactinaemia(serum prolactin 8930ng/ml). She responded well to the medical therapy with dopamine agonists (cabergoline) with normalization of prolactin over 1 year and tumour shrinkage over 5 years. At 10 years since the onset of disease she was found to have a cystic and solid lesion in the pancreas on imaging. It turned to be a non-functioning pancreatic neuroendocrine tumour (PNET) and treated with surgical resection. Her parathyroids were normal. She fulfilled the criteria for the diagnosis of clinical MEN 1 syndrome, but there was no positive family history.

DISCUSSION: According to published series of giant prolactinoma, prevalence is common among males around 4th to 5th decades. Giant prolactinoma in a female at a younger age is unusual. Despite the size, prolactinomas well respond to medical therapy. Non-functioning PNETs are the commonest type of PNETs in MEN 1 syndrome with unpredictable behaviour.

CONCLUSION: Giant prolactinoma at young age is unusual and it needs further evaluation for possible genetic predisposition. MEN 1 syndrome is such a genetic syndrome that has to be considered.

PP 31: Concurrent thyrotoxicosis and Gitelman syndrome: An association or coincidence

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INTRODUCTION: Hypokalaemic paralysis is a rare group of disorders with concomitant muscle weakness and hypokalaemia. Thyrotoxicosis is a recognized and a common cause for hypokalaemic paralysis among Asians, in which

intracellular shift of potassium is enhanced. Gitelman syndrome, an autosomal recessive renal salt loosing condition is characterized by hypokalaemia, hypocalciuria and hypomagnesaemia. Concurrence of these two conditions is very rarely reported.

CASE DESCRIPTION: We report two genetically unrelated Sri Lankan patients who presented with concurrent thyrotoxicosis and Gitelman syndrome. Both of them presented with symptomatic hypokalaemia and detected to have thyrotoxicosis. One had Graves' disease, while the other patient had toxic multinodular goiter. They were initially managed symptomatically for thyrotoxic hypokalaemic paralysis (THP). Despite rendering euthyroidism with medical management, they persisted to have symptomatic hypokalaemia. On evaluation for a second pathology, we detected them to have Gitelman syndrome, which is a rare concurrence.

DISCUSSION: In Asian region with high reported prevalence of THP, there is a natural tendency to conclude the diagnosis of THP in a hypokalaemic patient with thyrotoxicosis. But elevated thyroid hormone levels can precipitate a paralytic episode in a patient with subclinical chronic hypokalaemia due to an additional underlying disease.

CONCLUSION: Persistent hypokalaemia despite rendering euthyroidism in cases of thyrotoxic hypokalaemic paralysis, should be carefully evaluated for a concurrent pathology. Gitelman syndrome is one of possible pathologies, which should be actively looked for in such cases.

PP 32: X chromosome deletion in a patient with premature ovarian failure

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INTRODUCTION: Premature ovarian failure is characterized by amenorrhoea, elevated gonadotrophins and estrogen deficiency occurring in a female before the age of 40 years, in which X chromosome deletion has been identified as a rare cause.

CASE DESCRIPTION: A 15 years old girl presented with delayed menarche. She had otherwise normal physical and intellectual development without significant illness in the past. On examination her height was 144cm, body mass index was 29kg/m^{2}and no webbed neck, widely spaced nipples, cubitus vulgus deformity or obvious abnormality in her eyes. Her breast development and pubic hair growth were at Tanner 2, 3 respectively, with normal female external genitalia. Her cardiac, neurological and abdominal examination was clinically normal. Investigations showed evidence of premature ovarian failure, FSH 28.6mIU/L (3–20 mIU/mL), LH 6.6mIU/L(0.8–10.4 mIU/mL), Estradiol 3.5 pg/mL (10–77 pg/mL). Prolactin 6ng/ml (2.6-18), TSH 2.3mIU/L (0.4-4.6) and ultrasound scan of the abdomen revealed pre pubertal uterus, nonvisualized ovaries and no renal abnormality. In her oral mucosal smear 30% of superficial squamous showed Barr bodies. Karyotype showed 46XX Del (X) (q21.1-28) suggesting deletion of long arm of X chromosome. For the induction of puberty, she was started on Estradiol Valerate low dose, to be increased gradually.

DISCUSSION: In the evaluation of chromosome abnormality associated primary ovarian failure, 70% of the cases are due to 45X0 or it's variant. 46XX Del (X) (q21.1-28) is a rare X chromosome abnormality which could be associated with ocular abnormalities such as telecanthus, blepharophimosis, ptosis and epicanthus inversus in addition to the ovarian involvement.

Some of the affected individuals lack the typical morphological appearance of Turner syndrome, leading to delayed diagnosis.

PP33: Hypoglycaemia precipitated by protein ingestion: The hyperinsulinism/ hyperammonaemia syndrome

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OBJECTIVES: The hyperinsulinism-hyperammonia (HI/HA) syndrome is caused by an activating mutation in the glutamate dehydrogenase gene GLUD1., which causes increased insulin release following protein ingestion, leading to postprandial hypoglycaemia, and mild asymptomatic hyperammonemia. It is associated with mild learning disability and responds well to

diazoxide. We report HI/HA syndrome in a 5 year old Sri Lankan boy. This child also had hepatomegaly in early life, a feature not previously described.

CASE DESCRIPTION: This child presented at 9 months of age with hepatomegaly and hypoglycaemic seizures. Liver biopsy indicated metabolic hepatopathy and he was managed as glycogen storage disease. Despite frequent feeds and corn starch, intermittent hypoglycaemic seizures continued. On re-evaluation at 5 years of age, mid-afternoon lethargy /drowsiness, mild learning difficulty and obesity were noted while hepatomegaly had regressed.
During re-evaluation, his capillary blood glucose levels were continuously between 60-85mg/dl. He tolerated a supervised fast for 18 hours without hypoglycaemia, but developed a hypoglycaemic seizure one hour after consuming rice, dhal and egg, at which time urine ketone bodies were absent, and serum insulin was detectable. HI/HA syndrome was suspected and a protein loading test was performed. Symptomatic hypoglycaemia occurred within an hour of protein loading, and the hypoglycaemia corrected with IV glucagon. Serum ammonia was elevated. The child was commenced on oral diazoxide and a low protein diet. A good clinical improvement was seen, with disappearance of lethargy and hypoglycaemia, and improvement in obesity.

CONCLUSIONS: HI/HA syndrome should be suspected in postpradial hypoglycaemia. It can be confirmed and managed easily if suspected.

PP 34: Central precocious female puberty in a genetically female child with congenital adrenal hyperplasia reared as a male

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INTRODUCTION: Conventionally, 46 XX infants with congenital adrenal hyperplasia (CAH) are reared as females. However, lately male gender of rearing is receiving consideration. We report on a 9-year-old (46, XX) with CAH reared as a male, with central precocious female puberty.

CASE DESCRIPTION: This child presented with ambiguous genitalia at birth, and was diagnosed with salt wasting CAH due to 21 hydroxylase deficiency. Karyotype was 46 XX and ultrasound scan showed both ovaries and an infantile uterus. The external genitalia however, showed severe virilisation (Prader stage 4). Despite counselling, parents wanted to rear the baby as a boy. He was commenced on long term hydrocortisone and fludrocortisone. Compliance and follow up were suboptimal.

At 8 ½ years of age, he presented with bleeding per urethra. His bone age was 14 years, and ultrasound scan revealed a haematocolpus. Psychological assessment was compatible with a well-adjusted male gender identity and role. He was commenced on GnRH analogues to suppress puberty.

His management was discussed at multidisciplinary team meetings involving the family, paediatric endocrinology, child psychiatry and paediatric surgery teams. In order to suppress female puberty, GnRH analogs will be continued until the patient is at least 18 years of age, and is capable of making an independent informed decision regarding oophorectomy and hysterectomy. The timing of male hormone replacement therapy will be discussed in the future, when male peers enter puberty.

CONCLUSIONS: The management of severely virilised 46XX children with CAH is very complex and multidisciplinary team care and management guidelines are required.

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