

STUDY TO DETERMINE THE INFLUENCE OF DIFFERENT ANALGESIC DRUGS BETWEEN TRAMADOL SODIUM AND PARECOXIB SODIUM INTRAMUSCULAR ON EXPERIMENTAL PLEURODESIS INDUCED BY ERYTHROMYCIN OR BLEOMYCIN INTRAPLEURAL IN RABBITS

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Introduction: Malignant pleural effusion, recurrent spontaneous pneumothorax, and recurrent benign pleural effusions were common complications encountered in the daily clinical practices especially those with advanced malignant diseases. These debilitating complications of advanced disease may contribute to poor quality of life, recurrence hospital stay, and increase hospital cost. However, optimal treatment is controversial and there is no universally standard approach.

Objectives: The aim of study is to determine the influence of different analgesic drugs between Tramadol Sodium and Parecoxib Sodium intramuscular on experimental pleurodesis induced by Erythromycin or Bleomycin intrapleural in rabbits.

Methods: A pilot study was designed where 28 White New Zealand rabbits were divided into 4 groups of 7 rabbits (each about 2 months of age weighing 2 to 4 kg) and scheduled to receive different agents as labelled into group A (Erythromycin and Parecoxib Sodium), B (Erythromycin and Tramadol Sodium), C (Bleomycin and Parecoxib Sodium) and D (Bleomycin and Tramadol Sodium) at right hemithorax. The left hemithorax was subjected as control measures labelled as CONTROL. After 30 days, the rabbits were euthanised for evaluation of presence of pleural adhesions macroscopically and microscopically by blinded respective pathologist.

Result: This preliminary pilot study demonstrated that the degree of pleurodesis induced by the intrapleural injection of Erythromycin was superior compared to Bleomycin as sclerosing agent in the experimental rabbits ($P = 0.003$). The use of sustained systemic administration of concomitant analgesia in this study observed that centrally acting opioids, Tramadol Sodium surprisingly reduces the degree of pleurodesis as compare to selective cyclooxygenase-2 inhibitors, Parecoxib Sodium ($P = 0.009$) which thought to be an anti-inflammatory agent.

Conclusion: As a conclusion, extrapolation of

these results to human suggests that the use of intrapleural Erythromycin as potent chemical pleurodesis agent and insensitive to the action of concomitant analgesia of Parecoxib Sodium will give important clinical implication for the effectiveness of chemical pleurodesis in future.

Supervisors:
Assoc Prof Dr Ziyadi G
Dr Andee D

STUDY OF CONCENTRATION AND MORPHOLOGY OF MECHANORECEPTORS IN THE MUCOSA OF UNCINATE PROCESS OF THE HUMAN NOSE

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Objective: To study the mechanoreceptors in the human nasal mucosa and to compare the mean concentration of mechanoreceptors in the uncinat process mucosa in patients with and without nasal polyp.

Method: Subjects were 12 adult patients; 6 participants in the study group (patient with nasal polyp) and 6 participants in control group (patients without nasal polyp). Both groups underwent functional endoscopic sinus surgery for their nasal pathology. During operation 1 × 1 cm from the uncinat process mucosa was excised then fixed with formalin and sent to the pathology laboratory for staining, each sample was stained for Calretinin-labeled antibody and Neurofilament-labeled antibody. After the staining process, the slides were examined by light microscope.

Result: There were no cells identified to be stained by Calretinin antibody in all 12 samples. However sample that stained with Neurofilament antibody showed the presence of the nerve terminals in the mucosa of all 12 samples. The mean concentration of nerve terminals was significantly higher in patients without nasal polyp (20.67 ± 5.046) than for patients with nasal polyp (11.67 ± 7.257).

Conclusion: As a conclusion, the results suggest that there are no specific cells in the nasal mucosa that act as mechanoreceptors. However the presence of the nerve terminals in the nasal mucosa and between the epithelial cells suggests that they are C-mechanoreceptors which are thought to be polymodal nerve terminals. In addition, reduction in the concentration of nerve terminals in patients with nasal polyp can be the reason for the reduction or absence of the feeling of

nasal obstruction in some patients with nasal polyp.

Supervisor:

Assoc Prof Dr Rosdan Salim

Co-supervisor:

Dr Ramiza Ramza

Dr Sharifah Emila

A RANDOMISED CONTROLLED TRIAL OF MGS04 THERAPY FOR 24 HOURS VERSUS EARLY CESSATION IN PATIENTS WITH SEVERE PRE-ECLAMPSIA

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Introduction: Magnesium sulphate has been shown to be the optimal anticonvulsant in preventing the recurrence of seizures in eclampsia and in seizure prophylaxis in pre-eclampsia. Traditionally, seizure prophylaxis has been administered before delivery and continued postpartum for an arbitrary time, usually 24 hours.

Objectives: The primary objectives of this study were to evaluate the safety and effectiveness of using clinical parameters to signal cessation of postpartum magnesium sulphate therapy among patients with severe pre-eclampsia.

Methods: A randomised trial of postpartum magnesium sulphate therapy was conducted in Hospital Raja Perempuan Zainab II, Kota Bharu and Hospital USM, Kubang Kerian from December 2009 to September 2010. The control group received 24 hours of therapy and the intervention group received therapy until fulfilled clinical criteria for discontinuation of seizure prophylaxis. The independent *t*-test, Chi-square test and Fisher's exact test were used for analysis of data. A *P*-value was considered statistically significant.

Results: There were 52 patients in the control group and 50 patients in the intervention group. The intervention group had a significantly shorter duration of therapy ($P < 0.05$). There were no differences in the mean booking BMI, weight on admission, systolic blood pressure and platelet level between the 2 groups. However, there were significance differences in the mean age of the patients, delivery gestational age, diastolic blood pressure, and uric acid level between 2 groups. There was no patient in this study had eclampsia or required the reinitiation of therapy.

Conclusions: Clinical parameters can be used effectively and safe to shorten the duration of postpartum magnesium sulphate therapy in patients with severe pre-eclampsia.

Supervisor:

Associate Professor Dr Nor Aliza Abd. Ghaffar

Co-supervisor:

Dr Zainal Abidin Hanafiah

COMBINED SPINAL EPIDURAL ANALGESIA IN LABOR: COMPARISON BETWEEN INTRATHECAL OF 2 MG PLAIN BUPIVACAINE VERSUS HEAVY BUPIVACAINE WITH FENTANYL

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Introduction: Spinal opioid analgesia utilizing analgesics has been one of the major developments during the past decade in the management of acute and chronic pain. The relief of pain is due to the interaction of the opioid injected epidurally or intrathecally with a specific opioid receptor in the spinal cord.

Objectives: The use of opiates in the conjunction with the spinal or epidural local anesthetic such as bupivacaine afford prolonged post-operative pain relief (Aboulish et al., 1988, Akerman et al., 1988). A possible synergistic analgesic effect between the local anesthetic and opioids may have important clinical implications. However, this effect is difficult to evaluate in man (Akerman et al., 1988).

Methods: As there are only few studies on analgesic duration of plain bupivacaine, a double blind randomised prospective study was conducted on 90 patients who had undergone parturient in labour in Hospital Universiti Sains Malaysia, Kelantan. The aim of our study was to ascertain whether a smaller dose of intrathecal bupivacaine can preserve the quality of analgesia while generating fewer adverse effects. 90 patients with no complicating obstetric and medical problem, whose age ranges from 18–42 years were selected randomly into 2 groups. For group 1, the patients received 2 mg of plain intrathecal bupivacaine with 25 mcg fentanyl and group 2 received 2 mg intrathecal heavy bupivacaine with 25 mcg fentanyl. The pain was assessed on the variables at time 0 (time at the start of IT injection) and at 5, 15 and 30 minutes.

Conclusion: The result revealed that the use of 2 mg heavy bupivacaine with 25 mcg fentanyl produce adequate level of analgesia at T10 and no incidence of high sensory block. It was statistically significant comparing both groups with a *P*-value of 0.003. In terms of side effect, our study has shown less incidence of side effect including nausea and/or vomiting as well as incidence of pruritus is significantly reduced in the study population (nausea and/or vomiting *P*-value at 0.049 and pruritus *P*-value = 0.026).

Supervisor:

Dr Gnandev Phutane

COMPARISON OF EFFECTIVENESS AND SAFETY OF KETAMINE WITH MIDAZOLAM AGAINST HIGHER DOSE OF KETAMINE AS PROCEDURAL SEDATION FOR LUMBAR PUNCTURE IN PAEDIATRIC LEUKEMIC PATIENTS

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Introduction: Children with leukemia undergo several invasive procedures. Sedation is used to make these procedures more comforting to the patient as it is necessary for successful outcome. However sedatives can have devastating effects. In our centre as well as others, combination of ketamine with midazolam has been used for years without specific protocol.

Objectives: To compare the effectiveness and safety of combination ketamine and midazolam against higher dose of ketamine as procedural sedation for lumbar puncture in pediatric leukemic patients.

Method: A total of 29 paediatric leukaemia patients underwent 58 lumbar punctures in a double blinded crossover clinical trial. The 2 regimes compared were ketamine-midazolam (KM) regime who received combined intravenous midazolam 0.1 mg per kg with ketamine 1 mg per kg against ketamine-ketamine (K2) regime who received higher dose of intravenous ketamine (i.e. 2 mg per kg). The main outcomes measured were time to achieve the desired sedation (Ramsay level of sedation at 6), time to complete lumbar puncture, time to regain consciousness (Aldrete recovery score of at least 8), and adverse effects.

Result: 27 patients (93%) were successfully sedated with each of the regimens. Mean time taken for sedation and mean time to be fully conscious after sedation were significantly less ($P < 0.05$) in K2 regime. Mean time taken for sedation in K2 regime was 7.56 minutes \pm 4.4 and in KM regime it was 8.74 minutes \pm 3.6. Mean time to be fully conscious was 132 minutes \pm 93.5 for K2 regime while it took 173 minutes \pm 88.8 for patients in KM regime. There is no statistically significant difference in mean time taken to complete LP between the 2 regimes ($P = 0.06$). 2 patients in K2 regime developed tachycardia and 1 patient had pain after procedure while no patient in KM regimen had either of these. 5 patients from either of the groups had desaturation. This was not statistically significant (McNemer test = 0.250) but it could be clinically relevant. 8 patients (30%) in KM regime required top-up doses of ketamine and 7 patients (26%) required top-up doses of ketamine in K2 regime.

Conclusion: Ketamine as a sole agent is as effective and safe as combination of midazolam and ketamine. It should be considered in procedural sedation for lumbar puncture in pediatric leukemic patients. It has faster induction and reversibility but it cause more adverse reactions and do not

reduce time taken for lumbar puncture. An initial dose of 2 mg per kg is safe to be used with another top up dose of 0.5 mg per kg. Top up doses are frequently required.

Supervisor:
Dr Mohd Suhaimi bin Ab Wahab
Co-supervisors:
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THE EXPRESSION OF INSULIN-LIKE GROWTH FACTOR-RELATED PROTEIN 1 (IGFBP-rP1) IN COLORECTAL CARCINOMA IN HOSPITAL UNIVERSITI SAINS MALAYSIA

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Introduction: Insulin-like growth factor (IGF)-binding protein-related protein 1 (IGFBP-rP1) is a member of the IGF axis. IGFs have numerous functions such as potent mitogens, anti-apoptotic survival factor, promoting cell migration and in glucose metabolism. Type 2 diabetes mellitus or in hyperinsulinemia state is hypothesised to promote colorectal carcinogenesis directly or indirectly by increasing the insulin-like growth factor-1 (IGFBP-rP1), a potent mitogen and inhibitor of apoptosis.

Objectives: To determine the expression and association of IGFBP-rP1 protein in patients having colorectal carcinoma (CRC) with and without diabetes mellitus type 2 (DM2) in our population.

Methods: This is a case control study of 111 cases of CRC with or without clinically confirmed DM2 in Hospital Universiti Sains Malaysia (HUSM) Kelantan from January 2000–April 2010. The Chi-square test was used to compare the immunoreactivity of IGFBP-rP1 expression among CRC cases with or without type 2 DM, and its association by using multiple logistic regression test. All calculations performed by using SPSS version 18.0, P -value < 0.05 was taken as statistically significant.

Results: A significant difference in the expression of IGFBP-rP1 among CRC cases with and without DM2. The over-expression of IGFBP-rP1 staining was observed in (18/26) 69% of CRC cases with DM2, while in CRC cases without DM2 only (24/57) 42%. Univariable analysis showed significant finding for DM2 ($P < 0.022$) and cancer stage ($P < 0.005$). This result was further strengthened by using Multiple logistic regression test whereby both variables, DM2 ($P < 0.019$; adjusted OR = 3.50, 95% CI, 1.23–9.97) and cancer stage ($P < 0.005$; adjusted OR = 0.25, 95% CI, 0.10–0.66) were statistically significant.

Conclusion: In this study, we found that there was an increased in the expression of IGFBP-rP1 in

our colorectal cancer patients with DM2. This study supports the theory, that chronic hyperinsulinemia may indirectly promotes colorectal carcinogenesis via the IGFBP-rP1, which might play an important role in the initiation and promotion of the cancer.

Supervisor:

Prof Dr Nor Hayati Othman

Co-Supervisor:

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FACTORS AFFECTING CHOICE OF DELIVERY AMONGST PATIENTS AND DOCTORS AND FETOMATERNAL OUTCOME IN BREECH PRESENTATION IN TWO LARGE HOSPITALS IN MALAYSIA

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Objectives: To assess the factors leading to the preference of mode delivery in breech presentation amongst women and doctors in 2 large hospitals and its feto-maternal outcome.

Methods: 175 patients from Hospital Universiti Sains Malaysia (HUSM) in Kelantan and 164 patients from Hospital Tuanku Ja'afar (HTJS) in Seremban, Negeri Sembilan with a term breech presentation were interviewed with standard questionnaire on the preferred mode of delivery threshold for complication rates where patients switch preferences were documented. A total of 50 doctors were also interviewed with a standard questionnaire on the preferred mode. Difference in preference and factors affecting it were tested using Chi-square test.

Result: Assisted vaginal breech delivery, external cephalic version (ECV) and cesarean section was preferred mode in 36.6%, 38.9% and 24.5% of patients in HUSM and 8.5%, 28.7% and 62.8% in HTJS respectively. This confirmed a regional variation in preference. In HUSM and HTJS, a significant amount of women finally did not undergo the mode of delivery they desired (P -value = 0.001). Only 64.7% (44 out of 68 women) and 35.7% (5 out of 14 women) proceeded with AVBD, 23.4% (15 out of 64 women) and 42.6% (19 out of 47 women) proceeded with ECV. 93% and 98% had successful LSCS respectively. Education level, occupation, parity, religion, culture and believes were contributing factors to women in Kelantan while the wide availability of knowledge through the internet and making a combined decision with their doctors were contributing factors in Seremban in decision making. The fetal outcome and maternal outcome were similar in both the Assisted Vaginal Breech Delivery group and cesarean section group

(P = 0.33 and 0.243, respectively). Vaginal breech delivery was a preferred choice in 62% of the trainees who were confident in the management of vaginal breech delivery as long as a strict criteria of selection was done.

Conclusion: Most women are becoming more aware of breech presentation as a high risk pregnancy and would rather opt for cesarean section. Nevertheless, there are still women who are keen for vaginal breech delivery. Therefore, it is not the best option to subject all women to cesarean section for breech. With proper selection a good number of women with breech presentation will be able to achieve a vaginal delivery without complications. Supervision and credentialing of medical officers needs to be looked into and updated as it is proven that confidence and individual preferences of doctors do also play the final role in mode of delivery of term breech pregnancies.

Supervisors:

Prof Dr Nik Mohamed Zaki Nik Mahmood

Prof Dato Dr Sivalingam Nalliah

Dr Tham Seng Woh

MAGNETIC RESONANCE MEASUREMENT OF TOTAL INTRACRANIAL VOLUME AMONG MALAY POPULATION: ACCURACY OF ALTERNATIVE MEASUREMENT METHODS

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Introduction: Total intracranial volume (TIV) is defined as the volume within the cranium, including the brain, meninges, and cerebrospinal fluid. It provides a stable and accurate normalisation factor for estimating volumetric changes of brain structures in studies of ageing process, various neurological and neuropsychiatric diseases as it is constant and did not changed with increasing age and less vulnerable to pathological changes. With the advance of the technology, magnetic resonance (MR) imaging has made possible accurate measurements of the brain and its substructures. Various methods of MR volumetric measurement of TIV had been established and manual method is the best. The best manual MR volumetry is obtained by measuring each MR slices that cover the brain. However, obtaining TIV via the standard manual method is time consuming. Therefore alternative volumetric measurement methods which reduced the time consumption in measuring TIV without alteration of their accuracy and reliability should be established. This study had calculated the estimation of TIV using alternative measurement and standard methods. Thus, comparison of the accuracy of measuring TIV using alternative measurement methods with the standard measurement method can be evaluated.

Objectives: To compare the accuracy of MR volumetry of TIV using alternative measurement methods with the standard measurement method.

Methods: This was a cross-sectional comparative study of TIV measured using alternative measurement methods and standard measurement method among normal Malay population. The study involved the data from total of 59 subjects (32 females and 27 males) with the age ranging from 15 to 50 years old. All the patients' data were taken from archive images from PACS system. TIV measurement was performed manually using OsiriX version 3.2.1 using 3 methods namely Half Cranial Measurement Method on right and left side, Alternate Slice Measurement Method, and a Standard Measurement Method by 2 observers. The rater was initially undergone reliability. The mean and standard deviation (SD) of TIV measured using the alternative and standard methods were calculated, analysed and compared. Mean difference of TIV between genders were also calculated.

Result: Mean total intracranial volume of all subjects was 1375.67 (148.61) cm³. Mean total intracranial volume for male and female were 1439.14 (142.49) cm³ and 1322.12 (133.12) cm³ respectively. There were significant differences in the total intracranial volume between male and female subjects ($P = 0.002$). There were good correlation between the TIV obtained from the alternative measurement methods and that from the standard method (ICCs [0.977 to 0.981] and Cronbach's Alpha [0.991]).

Conclusion: The study had shown comparable alternative measurement methods for total intracranial volume without significant loss of the accuracy and reliability of these methods as compared to the standard measurement method. This study also revealed that the male subjects had significantly larger total intracranial volume as compared to female subjects.

Supervisor:

Dr Mohd Shafie Abdullah

Co-supervisor:

Dr Win Mar @ Salmah Jalaludin

UNIVERSAL AND RISK FACTOR BASED SCREENING FOR GESTATIONAL DIABETES IN HOSPITAL RAJA PERMAISURI BAINUN: A PROSPECTIVE COHORT STUDY

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Introduction: Diabetes mellitus is major public health and economic problem of global significance, responsible for significant mortality and morbidity among general population. Prevalence of diabetes continues to rise and increasingly affects individuals of all ages, including young adults, children

and women of childbearing age that who are at increased risk of diabetes during pregnancy and the rate is expected to go higher in the foreseeable future. The World Health Organization (WHO) has estimated that in 2030, Malaysia would have a total number of 3 million diabetics compare to 0.94 million in 2000. In concordance with this, the prevalence of gestational diabetes mellitus is (GDM) increasing as well. The mean prevalence of GDM lies between 3% and 5% with an upper boundary of 14%. GDM represents the most common metabolic complication of pregnancy, and is associated with maternal (pre-eclampsia, hypertension and cesarean section) and fetal morbidity (macrosomia, birth trauma, hypoglycemia, hyperbilirubinemia, hypocalcemia and respiratory distress syndrome).

Objectives: The aim of the study is to determine the fetomaternal outcomes in GDM mothers (antenatally, intrapartum and postpartum) and to compare the adverse outcome between glucose challenge test (GCT) negative, GCT false positive and GDM mothers.

Methods: This is a prospective cohort study carried out in the Obstetrics and Gynaecology Department, Hospital Ipoh from June 2009 to January 2010. All pregnant women attending antenatal clinic at Hospital Permaisuri Bainun were included into the study once they fulfill the inclusion criteria. Once enrolled the progress of the pregnancy was followed up until delivery. All the recruited mother were subjected to 50 g oral glucose challenge test (OGCT) regardless to fasting state. 1-h venous plasma glucose concentration of > 7.2 mmol/l was arbitrarily considered as a positive screening result. Patients with a positive OGCT subsequently underwent a 75 g 2 h OGTT, which was considered as the actual diagnostic test for GDM. In addition, women with risk factors (negative GCT) for GDM also underwent a 75 g OGTT regardless of the result of OGCT. In this study, GDM was diagnosed if either or both of fasting plasma glucose is ≥ 5.6 mmol/L or 2 hour plasma glucose is ≥ 7.8 mmol according to WHO guideline. The various maternal and fetal outcomes were compiled with the help of a questionnaire. All the data entry and analysis were carried out using the SPSS version 12 (SPSS Inc., Chicago, IL). A P -value of less than 0.05 was considered statistically significant.

Results: Number of patients enrolled in this study was 992. The main bulk of the study population were Malays (46%), but when analysed individually the highest prevalence of GDM was seen among Chinese (25%). Majority of the study group in GDM category were multiparous (88.8%) and moderate obesity (BMI range 26–29). There were strong association between obesity and incidence of GDM ($P < 0.001$). Using a multivariate analysis even after adjusted for the possible confounders the following conditions were significantly associated with GDM mother (odds ratio [OR], 95% confidence interval [CI], incidence of polyhydramnios) (OR: 4.21, 95% CI, 2.43–7.31), incidence of PPRM (OR: 3.21, 95% CI, 1.89–5.47), incidence of preterm labour (OR: 3.99, 95% CI, 2.53–6.30), incidence of gestational hypertension (OR: 2.09, 95% CI, 1.31–3.34), incidence of caesarean delivery

(OR: 3.80, 95% CI, 2.63–5.49), incidence of instrumental delivery (OR: 3.49, 95% CI, 1.69–7.20), incidence of macrosomic baby (OR: 1.80, 95% CI, 1.02–3.19), incidence of shoulder dystocia (OR: 5.60, 95% CI, 1.67–18.77), incidence of extended perineal tears (OR: 3.60, 95% CI, 1.32–9.78). Where else among the GCT false positive mothers: Incidence of PPROM (OR: 2.03, 95% CI, 1.08–3.84), incidence of caesarean delivery (OR: 3.74, 95% CI, 2.51–5.58), incidence of macrosomic babies (OR: 2.15, 95% CI, 1.19–3.88), extended perineal tears (OR: 5.82, 95% CI, 2.22–15.27). There were no significant differences were noted in following aspects like pre-eclampsia, babies born with low APGAR score (< 6 in 5 minutes), cord blood pH and delayed discharge from ward following LSCS. There were also noted trends of adverse fetomaternal outcome among the patients with false positive GCT.

Conclusion: Gestational diabetes mellitus is an independent risk factor for a number of adverse obstetric outcomes; in our population 50 g OGCT appears to identify a higher number of GDM than risk factor based screening. Combined with risk factor screening a few more cases of GDM would be found. GCT false positive mothers had an increased likelihood of an adverse pregnancy outcome as well.

THE RELATIONSHIP OF LENS THICKNESS AND ANTERIOR CHAMBER DEPTH WITH INTRAOCULAR PRESSURE DURING HEMODIALYSIS

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Introduction: Hemodialysis is a common renal replacement therapy in the end-stage renal failure. Fluctuation of intraocular pressure occurred during hemodialysis. Individuals with compromised aqueous outflow facility have increased risk of symptomatic elevation of intraocular pressure. Lens thickness changes may result in alteration of anterior chamber depth that can further compromise aqueous drainage. Early detection of the lens thickness changes during hemodialysis can prevent elevation of intraocular pressure and visual loss. Thus, evaluation of the lens thickness and anterior chamber depth with intraocular pressure changes during hemodialysis are essential.

Objectives: To determine the mean lens thickness and the relationship between lens thickness and anterior chamber depth, between anterior chamber depth and intraocular pressure as well as between lens thickness and intraocular pressure during hemodialysis.

Methods: 70 eyes from 70 study subjects were recruited from Hemodialysis Unit, Queen Elizabeth Hospital. Lens thickness, anterior chamber depth and intraocular pressure were measured at 0 hour, 2 hour, and 4 hour of

hemodialysis. The mean lens thickness, anterior chamber depth and intraocular pressure changes based on time effect of hemodialysis were analysed with repeated measures ANOVA and multiple paired samples T-test with bonferonni correction ($P = 0.017$). The relationship between study variables were evaluated with correlation analysis.

Result: There were significant increased mean lens thickness and intraocular pressure among all study subjects by 0.21 ± 0.69 mm ($P = 0.015$) and 1.26 ± 3.02 mmHg ($P = 0.001$) in the first 2 hours of hemodialysis. The anterior chamber depth changes was insignificant. The mean lens thickness and intraocular pressure were increased more in diabetic and older age group in the first 2 hours of hemodialysis but significant for intraocular pressure changes only. At 2 hours of hemodialysis, there were inverse correlation between lens thickness and anterior chamber depth, inverse correlation between anterior chamber and intraocular pressure and linear correlation between lens thickness and intraocular pressure but not significant. At 4 hour of hemodialysis, there was a significant fair inverse correlation between lens thickness and anterior chamber depth ($r = -0.286$, $P = 0.016$) but the correlation between other variables were not significant.

Conclusion: In the first 2 hours of hemodialysis, there were significant increased mean lens thickness and intraocular pressure but no significant correlation between study variables suggested other mechanisms of raised intraocular pressure were involved rather than due to lens thickness changes only. A significant inverse relationship between lens thickness and anterior chamber depth was established at 4 hours of hemodialysis but it did not lead to significant raised intraocular pressure in normal eyes. Intraocular pressure rise may become significant if individuals have compromised aqueous drainage. Diabetes mellitus and age had significant influence on intraocular pressure but not on lens thickness and anterior chamber depth during hemodialysis.

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Associate Professor Dr Mohtar Ibrahim
Co-supervisor:
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THE ASSOCIATION OF BODY MASS INDEX (BMI) WITH CLINICAL OUTCOMES IN PATIENTS WITH PULMONARY TUBERCULOSIS

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Introduction: It is accounted for the top 10 leading cause of death especially in the middle income countries. Globally, according to World Health Organization (WHO),

there were an estimated 9.4 million new cases of pulmonary tuberculosis (TB), in 2008 with 140 new cases per 100 000 population. Several studies showed that patients with active TB are more likely to have low body mass index (BMI = wt [kg]/ht [m²]) compared to healthy individuals.

Objectives: The aim of this study is to identify the use of BMI to predict clinical outcomes of TB, so that this relatively simple measurement can be used for clinical benefit especially in resource limited setting. With this objective in mind, the present study was aimed at clarifying the association of the BMI with the clinical outcomes of TB patients and subsequently help in improving the treatment outcomes among TB patients.

Methods: During the study period, a total of 127 patients were recruited for this study. The total of estimated sample size ($n = 156$) cannot be recruited due to time constraint. The mean age of presentation was 44.74 ± 17.38 years. The study population had male predominant (53.1%) and Malay's ethnic contributed to the highest proportion of the study subjects (96.9%). A quarter (26.6%) of patients did not have formal education level and 36.7% had either primary or secondary education's level. Other than that, patient had background of college or university level, 25.0% and 10.9% respectively.

Results: The study shows no significant association between the variables (body mass index [BMI], age, gender, co-morbidities and smoking) with the sputum conversion rate ($P > 0.05$). No multivariate analysis was performed since all $P > 0.10$. Study also shows significant association between the smoking status with the weight gain ($P = 0.015$). Aside from that, there is no significant association between the variables with the adverse drug reactions ($P > 0.05$).

Conclusion: Between 64%–100% of smear positive sputum patients had sputum conversion irrespective of the initial BMI. Between 74%–100% of patients had weight gain irrespective of the initial BMI. 12% of patients developed allergic drug reactions and mostly in lower BMI groups.

A COMPARISON BETWEEN THE EFFECTIVENESS OF LYCRA AND SILON PRESSURE GARMENTS FOR TREATMENT OF HYPERTROPHIC SCAR IN BURNS

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Introduction: Hypertrophic scarring after burns remains a major challenge for burn care providers. Pressure garments and silicone sheets have been the mainstay of hypertrophic scar treatment. This study was to compare the effectiveness of the traditional Lycra pressure garment and the silicone incorporated pressure garment (Silon) and also to determine patients' satisfaction with pressure garment among

burns patients in Hospital Universiti Sains Malaysia.

Methods: This is a 2-phased study. Phase I was a retrospective study, which involved patients who were treated with the Lycra pressure garments from June 2007 until Jun 2009. Meanwhile, phase II was a prospective study, involving patients who were treated with the Silon pressure garments from June 2008 until June 2010. Demographic details collected included age, type and depth of burn, total burn surface area (TBSA) and cause of injury. The effectiveness of the treatment was determined based on the Vancouver Scar Scale score. Patients' scars were assessed 2 weeks after complete wound healing and every 4 months, for up to 1 year.

Result: Repeated measures ANOVA showed significant improvement in terms of scar vascularity, itch, and pain within each study group ($P < 0.05$). However, there was no statistical difference between the 2 pressure garment groups ($P > 0.05$). Meanwhile, there was no significant difference within and between the 2 study groups in terms of scar height, pigmentation and pliability. Majority of the patient complained of itch, sweating, discomfort and tightness upon wearing the pressure garments. In addition to interfering with their daily activities, they also reported no improvement of their scar appearance. Nevertheless, they still believe that compliance with the treatment is of great importance in order to gain optimal result.

Conclusion: We cannot conclude that the combined pressure garment and silicone therapy (Silon) was more effective than the traditional pressure garment (Lycra). Hypertrophic scars following burns injuries can take up to 2 years to reach maturity. Thus, it is recommended that scars should be monitored and pressure garment treatment should be carried out for at least 2 years.

*Supervisor:
Dr Ananda Dorai*

THREE DIMENSIONAL HIGH RESOLUTION MRI MYELOGRAPHY OF CERVICAL SPINE IN PATIENTS WITH CERVICAL SPONDYLOTIC RADICULOPATHY USING MODERATELY T2 WEIGHTED 3D TSE-FS SEQUENCE

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MMed (Radiology)

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Introduction: Neck pain is the most frequent cause of consultation in primary care worldwide. The most common cause of neck pain in adult more than 50 years of age is cervical spondylosis. These degenerative changes causing impingement of the nerve root that exit from the foramina producing the patient's clinical symptoms. MRI myelogram is a non-invasive radiation free procedure. Its special sequence is a new technique that complement conventional MRI in

making diagnosis by detecting nerve root impingement. The advantage of this new technique over the conventional MRI is still under investigation. The agreement of the findings between these procedures can give an additional information in the process of making MR myelography as an effective screening tool in the future.

Objectives: The objective of this study is to prospectively associate the clinical variables with nerve root impingement in both conventional MRI and MRI myelogram, to determine the agreement of findings (demonstration of foraminal nerve root impingement in cervical spondylotic radiculopathy) between these 2 procedures and to determine the interobserver variability between the 2 observers in depicting the nerve root impingement.

Methods: A randomised cross-sectional prospective study to depict the nerve root impingement in patients with clinical diagnosis of cervical spondylotic radiculopathy using both conventional MRI and MRI myelogram of the cervical spine. Images from both 2 imaging findings of each patient were reviewed by 2 experienced radiologists. Their interpretation of the images were done independently without knowing the symptoms and clinical findings of the involved patients. The agreement of findings between the observers were compared.

Result: Cervical spondylotic radiculopathy affects mainly of high productivity age group. There was significant correlation between clinical symptoms and signs with nerve root compression in both imaging techniques. There were moderate agreement of findings between MRI myelogram with conventional MRI and there were moderate agreement of findings between 2 observers in depicting nerve root impingement.

Conclusion: MRI myelogram altered the interpretation of nerve root impingement in 22 cases out of 47 nerve roots (approximately 50% of the cases). This value is very significant that MRI myelogram can be used as a complementary test to the conventional MRI in detecting nerve root impingement in patient with cervical spondylotic radiculopathy. MRI myelogram gave additional information (8 nerve roots) that appeared to impinge on MRI myelogram but did not appear on conventional MRI. Even though this value is minimal to make MRI myelogram as an independent imaging technique, it gives a big value to the patients.

Supervisor:

Ass Prof Dr Mohd Ezane b. Aziz

Co-supervisor:

Dr Elinah bt. Ali

A STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE ON COLORECTAL CANCER SCREENING AMONG AVERAGE RISK MALAY PATIENTS ATTENDING SELISING HEALTH CLINIC

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MMed (Family Medicine)

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Introduction: Colorectal cancer (CRC) is rapidly increasing in Asia. Despite the rising trend in incidence and mortality, colorectal cancer screening rates are still low in most Asian countries. The acceptability of CRC screening is influenced by people's knowledge and attitude. This study was conducted to evaluate the knowledge, attitude and practice of Malay people toward CRC screening.

Objectives: The objectives of the study are to determine the level of knowledge, attitude, practice and their associated factors on CRC screening among average risk Malay patients. It also to determine the relationship between knowledge and attitude score and knowledge and practice score on colorectal cancer screening.

Methods: It was a cross sectional study conducted from October 2009 to December 2009 at Selising Health Clinic. The study used a self-administered questionnaire which involved 262 Malay participants aged 50 years and above. The questionnaire consisted of 3 parts, which dealt with knowledge, attitude and practice on colorectal cancer and screening.

Result: There were only 6.1% respondents had good knowledge and 31.7% of the respondents had good attitudes on colorectal cancer screening. Consequently, colorectal cancer screening uptake was extremely poor with only 2 out of 262 of the respondents had CRC screening. There was moderate to good positive correlation between knowledge and attitude score. In addition, the results show male gender, low education level and non-professional group are the associated factors for low level of knowledge on CRC screening.

Conclusion: These findings indicate that average risk Malay patients had inadequate knowledge, poor attitude on colorectal cancer screening together with extremely poor practice on colorectal cancer prevention. This study also concluded that increasing knowledge on colorectal cancer screening may encourage less negative attitudes about colorectal cancer screening. Other than that, educational level appears to be the major determinant on the level of knowledge and attitudes. While, type of occupation affects the level of knowledge and practice on colorectal cancer screening.

Supervisor:

Dr Harmy Mohd Yusoff

Co-supervisor:

Dr Norwati Daud

A RANDOMISED CONTROLLED TRIAL COMPARING THE EFFECTS OF HONEY VERSUS SUCROSE AS AN ANALGESIA DURING ROUTINE VENEPUNCTURE IN NEWBORNS

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MMed (Paediatrics)

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Objectives: To determine the effectiveness and short term side effects of honey as analgesia in comparison to sucrose during routine venepuncture in newborn.

Methods: A total of 78 term neonates were recruited from the Neonatal Intensive Care Unit and Special Care Nursery of Hospital Universiti Sains Malaysia. These neonates were randomised into 2 equal sized group receiving either 2 ml of oral 24% sucrose or 2 ml of Tualang honey 2 minutes prior to venepuncture. The whole procedure was videotaped. The degree of pain score using PIPP and duration of crying time were determined twice by 2 independent observer. The Mann-Whitney U test was used to compare the pain scores and duration of cry between the study groups while the Wilcoxon signed-rank test was used to compare differences within each group.

Result: The result showed no significant differences in the demographic characteristics of the neonates. The median values of PIPP at 30 seconds and 150 seconds were comparable ($P = 0.871$) between both groups (median PIPP sucrose = 5, 3 median PIPP for honey = 5, 2 respectively). The median PIPP score within each group was significantly higher ($P = 0.00$) at 30 seconds (median = 5) compared to at 150 seconds (median = 2.5). The duration of audible cry after venepuncture was not statistically significant ($P = 0.803$) in neonates receiving honey (median = 5.5 seconds) compared to neonates receiving 24% sucrose (median = 4 seconds). No neonates developed hyperglycemia, diarrhea or glycosuria in this study.

Conclusion: In conclusion, this study strongly suggests that Tualang honey is not more effective than sucrose for procedure related analgesia in neonates. The absence of adverse effects following the administration of small amounts of honey to neonates may facilitate further studies using different doses or different types of honey.

Supervisor:
Dr Nor Rosidah Ibrahim

EFFECT OF SEDATION PROPOFOL WITH TARGET CONTROLLED INFUSION ON COGNITIVE FUNCTIONS ON PATIENTS UNDERGOING OPERATIVE PROCEDURES UNDER LOCAL ANAESTHESIA IN HOSPITAL UNIVERSITI SAINS MALAYSIA

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MMed (Anaesthesiology)

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Introduction: Surgical procedures are increasingly being performed under local anesthesia alone but most patients prefer to be sedated. Sedation combined with local anesthesia is a safe alternative to GA as spontaneous respiration, protective reflexes, and patient co-operation are retained while fear and apprehensions are reduced. The changes in cognitive function frequently complicate the post-operative course of patients undergoing non-cardiac surgery. Some patients are at a greater risk than the others of cognitive impairment and what doses of drugs? If yes, then for how long? Hence, the need for experimental study to answer these questions.

Objectives: The aim of this study was to evaluate the cognitive changes after propofol sedation via TCI as monitored anesthetic care and factors influencing it were explored.

Methods: This was a prospective randomised controlled trial. Study subjects were placed in either arm as per double block randomisation pre-operative after fulfilling inclusion criteria. Standard monitoring was done during intra-operative and post-operative period. 104 consenting ASA physical status I and II patients scheduled to undergo elective surgical procedures with local infiltration were assigned, to receive either sedation propofol infusion or only local infiltration (without propofol sedation) intra-operatively, by the researcher. Upon arrival in pre-operative holding area, patients were to undergo 2 cognitive function tests (MMSE and SOMCT) beside the demographic data as baseline. These tests were carried out by blinded investigator to avoid bias. The patients were then taken into operating rooms and standard monitoring was applied. After intravenous line was secured, local infiltration of operative area was done by surgeon. Interventional group received sedation propofol via marsh model target control infusion targeting plasma concentration level of 0.5 ug/ml, and those in control group received local infiltration only. Propofol infusion was stopped at the end of surgery. Patients were brought to post-anesthetic care unit (PACU) and monitored continuously. Cognitive function tests were repeated at 20 and 60 minutes post-operatively for both the groups by blinded investigator. Standard clinical discharge criteria were used to discharge patients from recovery room.

Results: Demographic data were comparable in both groups. Cognitive status was improved at the end of 60 minutes in both the study groups but slower response was observed in experimental group as compared to control group. Analysis of co-variable demonstrated that males showed more marked cognitive decline as compared to females in the experimental group, whereas males of control group had no observed cognitive drop. Similar changes were observed with other co-variables like race, age, smoking habits and subjects with history of previous general anesthesia. Duration of infused sedation seems to have effect on psychomotor functions as longer operative procedures (> 30 minutes) had loss of recovery pattern. Subjects who had higher education and employed had better performance of cognitive tests but still slower recovery as compared to control group. Also the assessment of both the cognitive tests were done and MMSE was found to be more sensitive in detecting the cognitive changes as compared to SOMCT, while SOMCT was more specific.

Conclusion: Based on our study results, we can conclude that as propofol is sedative which explain the improvement of cognitive scores with time but a slow recovery pattern had been noted in experimental group as compare to control group. Hence, we conclude that there is no significant cognitive function deficit noted after propofol TCI sedation but the trend of slower recovery has been shown when compared to control. Other co-variables may have an influence on post-operative cognitive decline.

Supervisor:

Assoc Prof Dr Wan Aasim Wan Adnan

Co-supervisor:

Dr Rhendra Hardy Mohamad Zaini

DIAGNOSTIC VALUE OF SONOGRAPHY IN IDENTIFYING AXILLARY LYMPH NODE METASTASIS IN BREAST CANCER PATIENT

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MMed (Radiology)

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Introduction: Axillary lymph node status has been the single most important factor predictive of survival in breast cancer. Axillary lymph node dissection is performed as part of surgical treatment of breast cancer, mainly for staging and planning of systemic adjuvant therapy. However, axillary lymph node dissection is associated with substantial cost and morbidity. Many pre-operative non invasive imaging methods to obtain accurate diagnosis and assess extent of disease has been utilized. Axillary ultrasound has been

proven to have demonstrated superior diagnostic accuracy. It is relatively cheap and without ionising radiation involved. Axillary lymph nodes have specific ultrasound characteristics to be differentiated between metastatic and non-metastatic nodes. This study was done to determine the diagnostic value and usefulness of identifying axillary lymph node metastasis in breast cancer patient and improvise the ultrasound technique in providing staging information and determining prognosis in woman with breast cancer metastasis. This study aimed to minimise complications for patients undergoing axillary clearance surgery as the parameters which are pre-operatively observed and evaluated in sonographic lymph nodes criteria will help the managing surgeons to justify the indication and benefits of undergoing axillary clearance surgery.

Objectives: To evaluate the sonographic characteristics of axillary lymph node in breast cancer patient.

Methods: This was a cross-sectional study to evaluate the sonographic characteristics of axillary lymph node in breast cancer patient. The study period was from June 2009 to March 2011. The age of the patients ranged from 45- to 67-years-old. A total of 18 female patients were included. Ultrasound of axilla was performed using a Siemens SONOLINE® Elegra ultrasound machine. High frequency linear probe 13.7 MHz was used. The grey scale morphology of axillary lymph node was evaluated. The presence of nodal vascularity was assessed using colour Doppler sonography. The spectral Doppler indexes (resistive index and pulsatility indexes) were evaluated using ultrasound software.

Result: The relationship between afferent resistive index value to metastatic and non-metastatic axillary lymph node was significant ($P = 0.010$). The presence of round shape (76.7%) heterogenous cortical echogenicity (78.6%), cortical thickness more than 2 mm (77.8%), eccentric cortex morphology (84.6%), hypoechoic mediastinum (80.0%), lost of hilum (76.9%), presence of no calcification (76.9%) and peripheral colour Doppler vascularity pattern showed high positive predictive value percentage. However there were no significant relationship between grey scale morphology and axillary lymph node histopathological findings. The sensitivity and specificity in this ultrasound study were fairly low.

Conclusion: This study has proven that spectral Doppler resistive index value of the afferent lymph node vessel is useful in differentiating metastatic axillary lymph node. However the grey scale criterias in differentiating nodal malignancy is not statistically significant. This study demonstrated reasonably high grey scale morphology positive predictive value with low sensitivity and specificity.

Supervisor:

Dr Nik Munirah Nik Mahd

Co-supervisor:

Dr Salwah binti Hashim

RANDOMISED CONTROL STUDY USING VITAMIN D IN PREVENTING POST TOTAL THYROIDECTOMY TRANSIENT HYPOCALCEMIA

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MMed (Surgery)

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Introduction: Total thyroidectomy is a common surgical procedure for thyroid disease. The common complication of thyroid operation is bleeding, injury to the superior and recurrent laryngeal nerve, thyroid storm, hypothyroidism, transient hypocalcemia and infection. With the recent advanced technology and surgical skill, thyroid operation is very safe and most can be done as a day care procedure. However, the risk for transient hypocalcemia still remain high. Without doubt, this problem causing discomfort to the patient and also prolonged the needs to stay in the hospital.

Objectives: The aim of our open label randomised control study was to determine the incidence of transient hypocalcemia developing post-total thyroidectomy in Malaysia and the benefit of pre-operative treatment using oral vitamin D in total thyroidectomy.

Methods: This is a randomised control study which recruits a total of 74 patients from Hospital Universiti Sains Malaysia and Hospital Raja Perempuan Zainab II. The study was carried out over 1 year duration since 5th May 2009 until 30th April 2010. The ethical approval was obtained from The Research Ethical Committee (Human), Universiti Sains Malaysia and Ethical Board Clinical Research Center (CRC), Ministry of Health. Sample size was calculated using Power and Sample Size (PS) calculation software (PS software, 1997). 74 patients underwent total thyroidectomy were randomised into 2 groups. For study group; 37 patients treated with oral vitamin D (calcitriol) 1.5 ug/day for 2 days duration before operation followed by 1.0 ug/day plus oral calcium lactate 1800 mg/day for 7 days after operation. While for control group; 37 patients did not receive oral Vitamin D. All the patient were assessed either clinically or biochemically for hypocalcemia. All data were entered and analysed using SPSS software version 12.0. Studied parameters analysed using frequency and percentage, univariate and multivariate logistic regression and repeated measure ancova.

Result: There was not significant difference between the study and control group in terms of demographic distribution of age, sex, diagnosis, surgeon, operating duration, parathyroid gland autotransplant and baseline level of serum calcium, phosphate and intact PTH. The incidence of post-total thyroidectomy transient hypocalcemia in the study group is about 16.7% compared with control group of 75%. Among the cases, 50.0% in study group and 64.3% in control group are symptomatic. The incidence of

permanent hypoparathyroidism is 2.7%. There was significant difference in term of incidence of asymptomatic hypocalcemia and symptomatic hypocalcemia between these 2 groups. There was also significant difference between control and study group with regards to the trend of post-operative serum calcium changes. However, there was no significant difference in the risk of developing permanent hypoparathyroidism. The post-operative stay is significantly longer in control group, 4.59 days compared with study group, 3.92 days.

Conclusion: The administration of oral vitamin D had significantly reduced the incidence of transient hypocalcemia post total thyroidectomy.

Supervisor:

Dr Zaidi Zakaria

Co-supervisors:

Dr Zainal Mahmood

Dr Imisairi Haji Abdul Hadi

EVALUATION OF RESULT OF CIRCUMCISION DONE IN HOSPITAL RAJA PEREMPUAN ZAINAB II AND CIRCUMCISION DONE IN THE COMMUNITY SETTING.

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MMed (Surgery)

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Introduction: Circumcision is an important medical and ritual procedure that already performed for thousand of years. Nowadays, circumcision is practised in hospital, in the community setting under clean but non-sterile environment and also in the traditional way. The hazards of traditional circumcision is clearly documented, however the result of circumcision done in the community was not objectively studied. This raises the question whether such practice is safe or other recommendation should be made to improve the outcome of this important procedure.

Objectives: This study aims to evaluate the difference in the incidence of bleeding and infection complication of circumcision done inside and outside hospital.

Methods: This is a prospective study reviewing 75 circumcisions done in Hospital Raja Perempuan Zainab II and 84 circumcisions done outside hospital in Kota Bharu and Pasir Mas area. The study period is between 1st November 2009 and 31st December 2009. Patients were followed-up 1 hour, 3 days and 7 days after the circumcision. Incidence of bleeding and wound infection was recorded. Data analysis was done using SPSS software version 18.0.

Result: The incidence of wound infection of outside hospital group is higher than inside hospital group (22.6% vs 9.3%, $P = 0.024$) with relative risk of 2.42. The incidence of bleeding is no different between outside hospital and inside hospital group (4.8% vs 6.7%, $P = 0.736$).

Conclusion: This study proves that circumcision performed outside hospital has more risk of developing wound infection compared to circumcision done in the hospital. However the bleeding complication is identical in between these 2 groups.

Supervisor:

Dr Mehboob Alam Pasha

Co-supervisor:

Dr Mohd Tarmizi Mohd Nor

OPEN RESECTION (OR) VERSUS LAPAROSCOPIC ASSISTED RESECTION (LAR) IN PATIENTS WITH COLORECTAL CANCER AT HOSPITAL TAIPING. A RETROSPECTIVE STUDY

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MMed (Surgery)

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Introduction: Carcinoma of the colon and rectum was previously considered a disease of the western population. It was uncommon in southern Asia and equatorial Africa, fairly common in the middle of Europe and very common in north-western Europe, the United States, Canada and New Zealand (WHO, 1981). This trend have changed now due to changing polarisation in world development and economy, as the incidence of the disease is very much related to the degree of development of country (Soybel, Bliss Jr et al. 1987). Malaysia, being rapidly developing nation is probably witnessing an increasing trend in colorectal cancers. In the past decades, there were tremendous changes in the lifestyles of Malaysians including dietary habits, which have become westernised. As a country with multiracial population, the incidence of certain diseases among various races of Malaysians might vary from one to the other. It was noted the incidence and the mortality of colorectal cancers was much higher in the Chinese population compared to that of the Malay population in Singapore (Foong and Lee). This variation among racial groups may be true for this country as well. Thus, in this study the epidemiological aspect of colorectal carcinomas is looked into, in addition to the clinical and therapeutic aspects of this disease. This dissertation is a retrospective study of patients with colorectal cancers who had underwent curative surgical resection by either Open Resection (OR) or Laparoscopic Assisted Resection (LAR) method in Hospital Taiping, Perak from January 2005 till December 2009. The foray to LAR for colorectal malignancy was started in early 2004 by Dr Vimal Vasuedavan and Dr Umasangar in their capacity as consultant general surgeon at this hospital. Both of them had performed at least 20 laparoscopic resections for benign disease as the learning curve recommended by American Society of Colon and Rectal Surgeons (SAGES), by the end of 2004 before embarking on

LAR for colorectal cancers.

Objectives: To study the epidemiology of colorectal carcinoma in the Larut, Matang and Selama district. The primary objective was to evaluate short-term benefits of laparoscopic assisted resection compared to open resection in colorectal malignancy and the feasibility of undertaking this at a district hospital. As the scope of this topic is too wide, the purpose of this study has been limited to compare the outcome of the 2 modalities of treatment as outlined in the specific objectives. To review and compare: (1) Length of hospital stay post surgery (number of days), (2) Length of operative time (time in minutes), (3) Early post-operative complications (4) Surgical free margin.

Methods: This is a retrospective study of all colorectal cancer cases who underwent resection either OR or LAR, from January 2005 till December 2009 at Hospital Taiping which is 607 bedded hospital, with 105 surgical bed. There are 4 general surgeons and 2 of them have special interest in minimal invasive technique and about 30–35 cases of colorectal carcinoma diagnosed yearly. All cases were identified by retrospective review of the colorectal cancer from oncology book, ward admission book and the operation register book in operation theatre from January 2005 to December 2008 at Hospital Taiping. Patients diagnosed with colorectal cancer within this period of study but refused surgical intervention, inoperable due to advance disease or patients with incomplete records are excluded from this study. Patient's medical record, Computerized Operating Theatre Documentation System (COTDS) notes and histopathology report were traced and reviewed. Information needed entered in the performa. Data will be entered and analysed through SPSS version 18, descriptive statistics like frequency, means and their standard deviation will be calculated. For comparison between OR and LAR, Chi-square test will be applied for categorical variables and independent *t*-test applied for numerical variables. *P*-value of less than 0.05 will be considered as significant.

Results: A total number of 193 patients were studied for 5 years period ranging from January 2005 till December 2009. The ratio of patients underwent open resection compared to laparoscopy was 2:1. There was almost equal sex distribution in each group. Majority of patients are Malay followed by Chinese and Indian. The average age at presentation was 62 in OR and 58 in LAR. Almost all patients requiring emergency surgery underwent OR to safeguard oncologic resection which had resulted to favourable patient selection for the LAR group. The duration of surgery in LAR group was longer compared to OR group. The post-operative stay in LAR group was significantly shorter compared to OR group. The post-operative complications was lesser in LAR group but not statistically significant. The surgical free margin from the resected specimen showed no significant association between surgical methods and margin.

Conclusion: LAR confers short term advantage compare to OR and a prospective randomised multicenter trial with at least 5 year follow-up should be conducted, to gauge

the long term outcome of LAR in colorectal malignancy.

Supervisor:

Dr Syed Hassan Syed Abdul Aziz

Co-supervisor:

Dr Vimal Vasudevan

A STUDY OF BODY COMPOSITION AND ITS ASSOCIATION WITH DISEASE SEVERITY IN STABLE CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS IN HUSM

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MMed (Internal Medicine)

Department of Medicine

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Introduction: Chronic obstructive pulmonary disease (COPD) is not just a disease of the lungs alone; it has systemic manifestations due to the underlying pathogenesis of inflammatory reaction. Systemic manifestations in term of reduction in body composition (body mass index [BMI] and fat free mass index [FFMI]) has been shown to be an independent risk factor for disease severity and mortality in COPD.

Objectives: The objective of this study is to determine the association of body composition with disease severity in stable COPD patients (patients who had no exacerbation in the past 3 months).

Methods: We evaluated 38 stable COPD patients attending Respiratory Clinic in HUSM and calculated their BMI and FFMI and determined their 6 minutes walking distance and serum CRP-values.

Results: There was no satisfactory significant difference between body composition and disease severity in COPD patients noted in this study ($P > 0.05$).

Conclusion: Body composition (BMI and FFMI) is not suitable for assessment of disease severity in stable COPD patients.

Supervisor:

Dr Shaharudin Abdullah

Co-supervisors:

Dr Hamid Jan

Dr Rosediani

RAPID PLEURODESIS USING SMALL BORE PIGTAIL CATHETER AND BLEOMYCIN IN MALIGNANT PLEURAL EFFUSIONS: A CASE SERIES

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MMed (Surgery)

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Introduction: Pleural drainage is the treatment of choice for patients presented with symptomatic malignant pleural effusion. The conventional method of treatment is insertion of large bore thoracostomy tube (chest tube) before proceeding to chemical pleurodesis.

Objectives: The aim of this preliminary prospective study was to investigate the success rate of performing pleurodesis using a small bore pigtail catheter (Mar Flow® CH12) in patients with malignant pleural effusion. Pleurodesis was performed within 24 hours after insertion of pigtail catheter with bleomycin as sclerosing agent. Patients were follow-up at 4 weeks post pleurodesis with chest radiography. The intervention was scored as “successful” if no radiographic evidence of fluid reaccumulation was noted at 4 weeks. A “partial success” score indicated accumulation of fluid that did not produce symptoms and did not require repeat pleural drainage of any sort. All other outcomes were scored as “unsuccessful”. 5 patients with malignant pleural effusion from Hospital Universiti Sains Malaysia and Hospital Raja Perempuan Zainab II were included in this study with mean age of 53.6 year old. The primary diseases include breast, lung, ovarian, and colon cancers. The mean time of pleurodesis was 9.5 hours. Of the 5 pleurodesis performed, a complete response (“successful”) was seen in 3 patients (60%), a partial response (“partial success”) was seen in 1 patient (20%) and 1 patient (20%) did not respond to rapid pleurodesis. In conclusion, pleurodesis in patients with malignant pleurodesis can be achieved rapidly using small bore pigtail catheter and bleomycin.

Supervisors:

Assoc Prof Dr Ziyadi Hj Ghazali

Dr Zulkarnain Hasan

A COMPARISON BETWEEN THE GLIDESCOPE AND THE MCCOY LARYNGOSCOPE IN MANIKIN MODEL WITH MANUAL IN-LINE STABILIZATION TECHNIQUE

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MMed (Anaesthesiology)

Department of Anaesthesiology

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Introduction: Intubation of the trachea in patients with cervical spine injury is a challenging situation. Such acute trauma that requires direct laryngoscopy is accomplished with a standard manoeuvre of manual in-line stabilisation technique. Unfortunately this technique creates unnecessary cause of difficult airway. Ideally intubation should be easy, fast, and cause minimal cervical spine movement in cases of head and neck injury.

Objectives: The objective of the study is to compare the GlideScope with the McCoy laryngoscopes in manual in line stabilization (MILS) technique in manikins. There is a hope of indirect laryngoscopy with the GlideScope to achieve

these goals.

Methods: This prospective and cross over study involved a total number of 47 participants who were anesthetic resident. Following a brief didactic instruction on the GlideScope and the McCoy each participant took turn performing laryngoscopy and intubation with each device. They were evaluated for each device on their success rate of intubation, mean intubation time, glottic score improvement and their preferences of laryngoscopy.

Result: We found that the success rate of intubation was 91.5% among the McCoy laryngoscope and 87.2% among the GlideScope users. Statistically these figures were not significant with *P*-value of 0.727. The McCoy laryngoscope intubations were faster than the GlideScope. The mean times of intubation were 24.4 seconds \pm 15.97 and 35.3 seconds \pm 17.56, respectively. The *P*-value was significant (*P* < 0.001). The modified Cormack Lehane Score (CLS) in class I and II were greater with the GlideScope (72.3%) than the McCoy (46.8%). The CLS at moderate class of glottis IIIb to IIIa was improved for 60% and class IIIa to II for 73%. Among the participants, their preference of laryngoscope was almost the same where 53.2% had chosen the McCoy while another 46.8% of them favoured the GlideScope.

Conclusion: In this study using manikins, mean intubation time was significantly faster in the McCoy group. On the other hand, the glottic score and dental trauma complications were found to be improved significantly in the GlideScope users. There was no significant difference in the success rate and easiness of intubation. Both laryngoscopes were being equally preferred among the participants. Overall, the GlideScope performance has comparable efficacy with the McCoy in this difficult airway, except it conferred greater improvement in the glottic score view. Unfortunately this did not facilitate intubation faster and easier than the McCoy. The GlideScope may be a good alternative for managing the difficult airway but clinical trials evaluating its use on patients with an actual difficult airway are needed.

Supervisor:

Assoc Prof Dr Shamsul Kamalrujan Hassan

CARBAPENEM RESISTANT ACINETOBACTER INFECTION: A RETROSPECTIVE COHORT STUDY IN INTENSIVE CARE UNIT HOSPITAL UNIVERSITI SAINS MALAYSIA

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MMed (Anaesthesiology)

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Objectives: This study aims to determine the incidence, risk factors and the outcome of patients with carbapenem-resistant Acinetobacter infection in ICU (HUSM).

Methodology: This was a retrospective cohort study from January 2008 until December 2009. List of the patients were obtained from Infection Surveillances unit and ICU record. The details of the patients were retrospectively reviewed from their medical records in the Record Unit of HUSM. A total of 92 patients were reviewed and only 54 were analysed.

Result: The incidence of carbapenem-resistant Acinetobacter infection in ICU (HUSM) was 7.3%. Age was the only significant risk factor associated with carbapenem-resistant Acinetobacter infections in ICU (HUSM), (adjusted OR = 1.045, 95% CI: 1.010, 1.081, *P* = 0.011). There were no significant association of other risk factors such as gender, APACHE II score, multi organ failure, co-morbidities, previous hospital and ICU stay. Mortality rate of this infection was 50%. Age was significantly different between survived and non-survived group; (43.1 \pm 21.1 and 57.1 \pm 14.3) with *P*-value = 0.006. There were no significant differences between the 2 groups in other factors.

Conclusion Mortality rate of carbapenem-resistant Acinetobacter infections in ICU (HUSM) was 50% and age was a significant risk factor for the mortality.

Supervisor:

Dr Wan Mohd Nazaruddin b Wan Hassan

BACTEREMIA IN MINOR TRAUMATIC WOUNDS—AN EXPLORATIVE STUDY

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MMed (Emergency Medicine)

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Introduction: Patient with minor traumatic wound can be treated in the Alternative Medical Treatment Site (AMTS) or Emergency Department. However, there was no evidence to prove that these patients are safe to be discharge without any risk of bacteremia after getting early treatment. We postulated that the risk of bacteremia in those with minor traumatic wound are low but can cause mortality. Therefore, we carried out research using the blood culture to find out the incident of bacteremia and to determine characteristic of patient and wound that prone to develop bacteremia.

Methods: This was a cross sectional study with alternate patient selection. The study involved 50 consented adult with minor traumatic wound from 1st January 2010 until 31st December 2010 in Emergency Department, Hospital Universiti Sains Malaysia. Blood Culture and Sensitivity (BC&S) were taken on arrival then repeated 30 minutes after wound management. The primary outcome in this study was the bacteremia.

Result: Median age of the participant was 24-year-old. Of these 50 patient, 4 had chronic illness (Hypertension, Diabetes Mellitus, Epilepsy and G6PD

deficiency). Most of the injuries was due to motor vehicle accident (82%). Medium time of arrival was 2 hours. Main complaint was injury to the hand due to abrasion wound followed by laceration wound and incised wound. Foreign body present in the wound less than 10%. 5 patients had increase in the white blood cell count more than 15 000 /mm³P. The mean Random Blood Sugar (RBS) was 5.1 mmol/L \pm 2.1. One patient had RBS more than 10 mmol/L and none had RBS less than 1.1 mmol/L. There was no patient in this study had increase CRP level and positive blood culture.

Conclusion: This study suggested that, there was no bacteremia in minor traumatic wound. The patient can be directly been treated at the site of incident. However, the wound should be frequently inspect and properly cared until fully healed.

Supervisor:

Dr Nik Arif Nik Mohamed

Co-supervisors:

Assoc Prof Dr Rashidi Ahmad

Assoc Prof Dr Habsah Hassan

THE EFFECT OF TUALANG HONEY INGESTION ON REDUCTION OF SYMPTOMS SCORE AND SPECIFIC IgE LEVEL IN ALLERGIC RHINITIS PATIENTS

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Introduction: Allergic rhinitis (AR) is a symptomatic disorder of the nose induced by an IgE mediated inflammation after allergen exposure of the membranes of the nose, characterised by one or more of the following symptoms including nasal itchiness, nasal blockage, running nose and sneezing. Skin prick test is a known conventional method and is widely used to diagnose allergic rhinitis. However, with the emerging of new in vitro technology methods to measure IgE level, it may help further in diagnosis and management of allergic rhinitis. There are a standardised set pharmacological treatments of allergic rhinitis with the strong held believed of alternative medicines include herbs and honey. In this study, we were looking for any effect of our local Tualang honey ingestion on specific IgE level and patients symptom score.

Objectives: The objectives of this study were to determine the magnitude of allergic rhinitis symptoms improvement with honey treatment and to determine magnitude of specific IgE reduction after honey treatment.

Methods: An open label prospective randomised controlled clinical trial was carried out in Otorhinolaryngology clinic HUSM from July 2009 till April 2010. 40 patients with history suggestive of allergic rhinitis were recruited in this study. They were divided into control and case group. The patients particulars and history takings were recorded and

compiled. Selected patients were examined by using nasal speculum for anterior rhinoscopy and findings were recorded. Patients then undergone skin prick test and blood taken for serum specific IgE. The allergen included in this study was cat (*Felis Domesticus*), wheat flour, house dust mite (*Blomia tropicalis*) and peanut. Symptoms scores and serum specific IgE were recorded at initial, day 14 and day 28. The control group was given oral antihistamine while the case group was given oral antihistamine and Tualang honey 20 mg per kg body weight in divided doses.

Result: The highest prevalence of positive skin prick test among studied patients was house dust mite (97.5%) and the lowest prevalence was wheat flour (72.5%). The highest prevalence of positive serum specific IgE among studied patient was also house dust mite (65%) and the lowest prevalence was cat (5%). There were significant differences in overall symptoms score observed in both groups between initial week 0, week 2 and week 4. However, the case group showed a progressive improvement in their symptoms score as compared to control group between the comparison weeks. Nevertheless, there were no significant differences elicited in specific IgE level in either group between initial, week 2 and week 4.

Conclusion: Tualang honey had significant effect in improving the overall symptoms in allergic rhinitis patient as compared to those who are receiving conventional antihistamine alone. However, no effect of Tualang honey in reduction of specific IgE was elicited. By these observations, honey is found to be beneficial and may prove the held believed to improve the patient symptoms. However, perhaps with a standard and appropriate allergen manufactory in this Asia tropical region, we might be able see the effect of honey in reduction of specific IgE in future as it does in animal study.

Supervisor:

Dr Wan Shah Jihan Wan Din

Co-supervisor:

Dr Che Marina Che Hussin

ASSESSMENT OF KNOWLEDGE AMONG INTENSIVE CARE NURSES TOWARDS THE EVIDENCE-BASED GUIDELINES FOR THE PREVENTION OF VENTILATOR ASSOCIATED PNEUMONIA IN HOSPITAL UNIVERSITI SAINS MALAYSIA

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Introduction: Ventilator associated pneumonia (VAP) leads to a considerable excess in morbidity, mortality and contribute to a significant economic burden. An evidence-based guidelines has been established for prevention of VAP.

Objective: This study aimed to determine intensive

care nurses knowledge evidence-based recommendations for VAP prevention.

Methodology: This was a self-reported survey (questionnaires) conducted on 115 GICU, NeuroICU and CCU nurses in HUSM regarding the non-pharmacological guidelines for VAP prevention, conducted in March 2011.

Result: The intensive care nurses mean knowledge score were 54.0% (SD, 17.2%). Nurses who work in GICU have a better score than other ICU setting ($P < 0.001$). Male nurses has a better knowledge compared to the female ($P < 0.001$). There were no correlation on other demographic with their knowledge.

Conclusion: HUSM intensive care nurses knowledge regarding recommendations for VAP prevention was still lacking and need further improvement. GICU nurses and male nurses were more knowledgeable on the VAP prevention evidence-based guidelines.

Supervisor:

Professor Dr Nik Abdullah Nik Mohammed

REVIEW OF OESOPHAGEAL ATRESIA AND TRACHEOESOPHAGEAL FISTULA IN HOSPITAL SULTANAH BAHYIAH, ALOR STAR 2000–2009

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Introduction: Esophageal atresia (EA) and tracheoesophageal fistula (TEF) are one of the congenital anomaly occurring in the newborns with the incidence of 1 in 2, 500 births seen worldwide.

Objectives: The aim of this study is to determine the association of birth weight, time taken for surgical intervention, presence of congenital anomaly and pneumonia with the outcome of surgery.

Methods: This is a cross sectional study with retrospective record review among babies with TEF and EA in Hospital Sultanah Bahiyah (HSB) from January 2000 to December 2009. It was conducted in the Paediatric Surgical Unit, Department of Surgery, Hospital Sultanah Bahiyah, Alor Star.

Result: There were 47 patients with esophageal atresia admitted to HSB from January 2000 to December 2009, out of which 26 (55%) were males and 21 (45%) females. The distribution of patients by race were 34 Malays (72%), 9 Chinese (19%) and 4 Indians (9%). Out of 47 babies with TEF and EA, 36% of them had polyhydromnios in the antenatal evaluation. There were only 3 types of EA/TEF seen; Type A (9%), Type C (87%) and Type E (4%). The birth weight of the babies range from 0.8 kg to 4.0 kg. The smallest surviving baby weighing 1.1 kg. There was a significant association with the outcome of the surgery ($P < 0.05$). Most of the

babies (20) were operated within 24 hours of presentation. There were no significant association between time of surgical intervention and outcome ($P > 0.05$). 23 (49%) of them were born with congenital malformation and there was a significant association with the outcome of the surgery ($P < 0.05$). Based on the chest roentgenogram, 20 (43%) of them had pneumonia with significant association with the outcome ($P < 0.05$). The mortality rate is 23% and the causes of death were severe pneumonia (36%), severe renal failure (18%), severe cardiac malformation (18%) and multiple congenital malformations (28%).

Conclusion: In conclusion, the outcome of EA and TEF is determined mainly by birth weight, congenital malformations, and presence of preoperative pneumonia. Bremen classification is most suitable in determining the prognosis of the babies with TEF and EA in Hospital Sultanah Bahiyah, Alor Star.

Supervisor:

Dr Syed Hassan Syed Abdul Aziz

Co-supervisor:

Dato' Mr Mohan Nallusamy

THE PREVALENCE OF FUNCTIONAL DYSPESIA USING ROME III QUESTIONNAIRE AMONG ADULT PATIENTS ATTENDING KLINIK RAWATAN KELUARGA, HOSPITAL UNIVERSITI SAINS MALAYSIA

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Introduction: Functional dyspepsia (FD) is one of the functional gastrointestinal disease in which there is no specific organic and pathological cause can be identified. It's prevalence is sparse as it requires an endoscopic examination and also due to the different criteria used in different studies. Objectives: The aims of this study were to determine the prevalence of FD and its associated factors.

Methods: This cross-sectional study was conducted at Klinik Rawatan Keluarga, Hospital Universiti Sains Malaysia (HUSM). The study period started on 1st December 2009 till 31st March 2010. Self-administered Bahasa Malaysia version of Rome III questionnaire was used. Endoscopic examination was performed in order to exclude the organic cause of dyspepsia among patients who fulfill the criteria for FD. The diagnosis of FD was made based on the normal endoscopic finding.

Result: A total of 192 patients were recruited and 32 who did not complete the questionnaires and refused endoscopy were excluded. Out of 160 patients, the prevalence of FD was 10% ($n = 16$). About 68% of the FD patients ($n = 11$) had Epigastric Pain syndrome (EPS) and 32% of

them ($n = 5$) were those who had mix symptoms of post-prandial distress syndrome and EPS. There were significant association between overweight (BMI 28 vs 25 kg/m², $P < 0.05$), being married ($P < 0.05$) and also having psychosocial symptoms ($P < 0.05$) with FD in univariate analysis. Multivariate analysis showed psychosocial symptoms (OR: 3.76, 95% CI, 1.01–13.99) and currently married (OR: 8.08, 95% CI, 1.03–63.51) were predictive of FD.

Conclusion: This study supported that psychosocial symptoms were related with FD. As most of the patients who had FD were married, this could have attributed the significant association between marital status and FD.

Supervisor:
Dr Juwita Shaaban
Co-supervisors:
Dr Nazri Mustaffa
Dr Norwati Daud

THE VALIDATION OF THE MALAY TRANSLATED SLEEP APNEA QUALITY OF LIFE INDEX (SAQLI) IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA

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Introduction: The Sleep Apnea Quality of Life Index (SAQLI) is a disease specific instrument developed to record the key elements of obstructive sleep apnea syndrome disorder that are important to patients and act as an outcome as well as an evaluative measure in clinical trials.

Objectives: The objectives of this study were to translate SAQLI into the Malay language and to determine the feasibility, validity and reliability of the Malay version of SAQLI.

Methods: This was a cross sectional study conducted at Sleep and General ORL-HNS Clinic, Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan. 82 respondents were involved. The Malay translated SAQLI and a previously Malay translated and validated Short Form 36 (SF-36) were administered by interviewer. The translation used forward, backward and respondent testing and has been reviewed for face and content validity. The Malay translated SAQLI were administered again at 2 to 4 weeks interval. Analysis included the determination of the scaling assumptions, feasibility, reliability and validity.

Result: All subjects completed the questionnaire successfully. The Malay version of SAQLI has no floor or ceiling effects. The 4 domains of the Malay SAQLI have means ranging from 3.59 to 4.82 and standard deviation, SD ranging from 0.846 to 0.945. The Cronbach's alpha were very high, more than 0.95 for all domains; domain

daily functioning: 0.966, domain social interaction: 0.981 and domain emotional functioning: 0.971 suggested items redundancy. The standard of test-retest reliability was also fulfilled with intraclass correlation coefficients were excellent ranging from 0.796 to 0.984. The Pearson's item-scale correlation between item and its hypothesised scale was 0.4 or above, thus item-scale convergent and discriminant validity were satisfied. Factor analysis showed items in the 3 domains all loaded on the hypothesised scales. Known group validity showed no significant correlations between SAQLI and AHI ($P > 0.05$). Criterion validity was confirmed by significant correlations with SF-36 subscale scores.

Conclusion: The translation of the Malay version of SAQLI was acceptable. The feasibility is present and the scaling assumptions met. The internal consistency and intraclass correlation coefficients were excellent. The content validity has been established with evidence of acceptable construct and criterion validity. The Malay version of SAQLI should be used in the management and studies involving OSAS patients and a shorter version of SAQLI is recommended.

A STUDY ON FEASIBILITY OF LAPAROSCOPIC INGUINAL HERNIA REPAIR IN A DISTRICT HOSPITAL (HOSPITAL SULTAN ABDUL HALIM, SUNGAI PETANI)

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Introduction: Even though hernia repair is a very common general surgical procedure, repairing bilateral and recurrent inguinal hernia always give problems to the surgeon. The operation performed have higher tendency towards cost increment and morbidity. With the relatively higher capital cost but good outcomes, we decided to study the feasibility of performing laparoscopic inguinal hernia repair in a district hospital setting.

Objectives: The study objective is to compare the cost effectiveness of laparoscopic versus open inguinal hernia surgery. Besides that, we would like to determine the duration of post-operative hospital stay and operative time usage of laparoscopic surgery. In addition, we would like to identify the complications of both operative techniques.

Methods: Retrospective analysis of laparoscopic and open technique in bilateral and recurrent inguinal hernia.

Result: The total numbers of patients were 155. Laparoscopic surgery consisted of 84 patients. 53 cases were bilateral, 19 cases were right recurrent and 12 cases were left recurrent. TEP was performed in 53 cases and 31 cases of TAPP. In open technique, 48 cases were bilateral, 15 cases were right recurrent and 8 were left recurrent. Only 3 female noted and Malay were predominant (73 %). The mean

duration of post-operative hospital stay was 34 hours in open and 25 hours in laparoscopic surgery ($P = 0.002$). The mean hospitalisation cost of open (RM 194.50) is cheaper than laparoscopy (RM 417.35). The difference was significant as $P < 0.000$. The mean operative time is longer in open repair ($P = 0.034$). The conversion of laparoscopy to open was 6.45 %. Conversion of TEP to TAPP was 4 % only. No major complications noted.

Conclusion: It is feasible to perform laparoscopic surgery for recurrent and bilateral inguinal hernia in district or non referral centre. However, well-designed study is indicated.

Supervisor:
Dr Syed Hassan

THE PREVALENCE OF RELAPSE AND ITS ASSOCIATED FACTORS AMONG SMOKERS ATTENDING KLINIK RAWATAN KELUARGA, HOSPITAL UNIVERSITI SAINS MALAYSIA

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Objectives: To determine the prevalence of relapse and its associated factors among smokers at Klinik Rawatan Keluarga, HUSM.

Methods: This is a cross-sectional study. 294 respondents agreed to participate in the study from June until August 2010. The socio-demographic and associated risk factors were recorded in the data questionnaires.

Result: A total of 283 respondents managed to complete the questionnaires. There was 96.3% response rate. The proportion of smokers who relapsed was 59.4% ($n = 168$). The significant associated factors to relapse were age less than 40-years-old, marital status, Fagerstrom score, duration of smoking and stressful life event.

Conclusion: The prevalence of relapsed is high which is comparative to many other studies. For smokers who are attending quit smoking clinics, special attention should be given to those with the associated factors to make the process to quit smoking clinic more successful.

Supervisor:
Dr Harny Mohd Yusoff
Co-supervisor:
Dr Adibah Hanim Ismail

A TWO YEAR RETROSPECTIVE REVIEW OF LAPAROSCOPIC VERSUS OPEN APPENDICECTOMY IN PERFORATED APPENDIX IN HOSPITAL IPOH (JUNE 2006–MAY 2008)

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Introduction: One of the most common general surgical procedures that is performed in the surgical department is appendicectomy. The open approach has become the standard surgical intervention for appendicitis, remaining virtually unchanged for 100 years owing to its proven efficacy and safety (McBurney et al., 1894).

The optimal approach for appendicectomy is still under debate although laparoscopic appendicectomy has been performed since 1980 (Litynski, 1999). The longer operating time, similar duration of hospital stay and increased incidence of intra-abdominal collection or post-operative ileus with laparoscopic appendicectomy outweighed any improvement in wound complication, recovery time or cosmesis. Current studies however present evidence of reduction in operating time, faster recovery and lower wound complication rates, with the reversal in the risk of developing ileus in favour of laparoscopy (Golub et al., 1998).

Objectives: The aim of this study is to compare laparoscopic and open appendicectomy in the management of perforated appendicitis to review and compare length of hospital stay (number of days of admission), length of operative time (time in minutes), duration of ileus (number of days the patients is not able to tolerate orally), days for temperature to settle (in number of days), post-operative complications (readmission, surgical site infection) and analgesia (total amount of IV analgesia in milligrams used while in the ward).

Methods: All cases of perforated appendicitis that were admitted to the surgical ward in Hospital Permaisuri Bainun Ipoh from 1st June 2006 till 31st May 2008 were included in the study unless they did not fulfill the inclusion criteria. The duration of the data collection was for 24 months. The names of all the patients perforated appendicitis were collected from the COTDS (Computerised Operating Theatre Documentation System) and the operating theatre log books and their case notes were traced from the records office. The relevant details were reviewed and documented according to the proforma (Appendix 1).

Result: 205 patients with perforated appendicitis were reviewed. 56 patients had laparoscopic appendicectomy and 149 patients had open appendicectomy. The median age in the laparoscopic group was 28 and the open group was 30. The difference in the median age groups was not statistically significant. The P -value is 0.310. The mean (SD) operating time for laparoscopic appendicectomy was 69 ± 29 minutes.

The mean operating time for the open group was 63 ± 28 minutes. This study showed that there was no significant difference in the mean length of operating time between the 2 methods. The P -value is 0.669. The mean (SD) length of hospital stay for the patients in the laparoscopic group was 3.5 ± 1.6 days. In the open group the mean length of hospital stay was 3.1 ± 1.9 days. This was statistically not significant ($P = 0.382$). There was also no statistical significance in the duration the patients took to tolerate orally and for the temperature to settle in both the groups. There were a total of 6 patients with the surgical site infection and 7 who had readmission. Although all 6 patients with surgical site infection were from the open group and none in the laparoscopic group this was not statistically significant ($P = 1.000$). 5 patients in the laparoscopic group and 2 in the open group were readmitted within a week of their respective surgeries for ileus. This difference was also not statistically significant with a P -value of 1.000. The mean (SD) amount of analgesia used in laparoscopic appendicectomy was 387.5 ± 259.4 mg. The mean (SD) for the use of analgesia in the open group was 274.5 ± 204.3 mg for the open group. This was statistically significant where $P = 0.006$.

Conclusion: The laparoscopic appendicectomy is a safe and suitable procedure for surgical training and will ensure that large numbers of surgical trainees can proceed to more advanced laparoscopic techniques during their training programme. Perforated appendicitis is now routinely managed laparoscopically in some hospitals and developments in surgical training will allow this approach to become standard practice in the near future.

FUNCTIONAL OUTCOME OF MICROSURGICAL CLIPPING COMPARED TO ENDOVASCULAR COILING

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Introduction: Nontraumatic subarachnoid hemorrhage is the second most frequent cause of hemorrhagic stroke and accounts for 3%–5% of all strokes. In more than 85% of cases, it is caused by a ruptured intracranial aneurysm with incidence of at 6–8 cases per 100 000 population. The treatment options available for ruptured aneurysms includes microsurgical and endovascular means. In recent years endovascular coiling has been used increasingly as an alternative to microsurgical clipping for treating subarachnoid hemorrhage secondary to aneurysm rupture.

Objectives: The purpose of this study was to compare functional outcomes in terms of modified ranking scale, morbidity and mortality at 6 months after treatment of post-subarachnoid hemorrhage secondary to cerebral aneurysm rupture in subjects who were either microsurgically clipped

or endovascularly coiled. In addition, the present study aims to identify the predictors in the clinical course of primary subarachnoid hemorrhage.

Methods: A retrospective case review on the treatment methods of aneurysm rupture in Hospital Kuala Lumpur over the period of 5 years (2005–2009). A total of 268 patients who fulfilled the inclusion criteria were included in this study. These patients were broadly categorised into 2 groups based on their treatment mode for ruptured aneurysm. The case notes, CT brain films reports and angiography reports were analyzed with respect to their clinical, radiological, surgical clipping or endovascular coiling treatments and outcome data. Statistical analysis was determined using Chi-Square tests to study these associations.

Results: There was a female predominance with male-to-female ratio 1:1.4. The mean age was 50.9-years-old in this series. 50 patients were less than 40 years (18.7%) and 218 patients were more than 40-years-old (81.3%). 37 patients (74%) in age group less than 40-years-old had significant good outcome as compared to 125 (57.3%) patients above 40-years-old ($P = 0.03$). 181 patients (67.5%) presented with good WFNS (WFNS1-2) and 87 patients (32.5%) presented with poor WFNS (WFNS 3-5) prior to intervention. 162 patients (60.4%) had good functional outcome (mRS grade 0-2) as compared to 106 patients (39.6%) who had poor mRS outcome (MRS 3–6) while 50 patients died (18.7%) during our follow-up to 6 months. When we analysed the WFNS group with functional outcome (mRS), there was significant association ($P < 0.01$). In good WFNS, 143 (79%) had good outcome and in poor WFNS, 68 patients (78.2%) had poor mRS outcome. There were 204 (76.1%) patients in clipping group and 64 (23.9%) patients in coiling group. Patients who underwent coiling, initially showed a better mRS outcome with 47 patients (73.4%) than, 115 patients (56.4%) in clipping. Further comparison showed that 89 (43.6%) patients in clipping group had poor functional (MRS) outcome as compared to 17 patients (26.6%) coiling, which was significant ($P = 0.015$). However when we controlled the WFNS grade of presentation in the treatment groups, we obtained a different result. In good WFNS group, it was noted that 98 patients (76%) out of 129 patients in clipping group had a good MRS outcome while, 45 patients (86.5%) out of 52 patients in coiling group had good mRS outcome ($P = 0.114$). In poor WFNS presentation, it was noted that in clipping group, 58 patients (77.3%) out of 75 had poor mRS outcome. Similarly with poor WFNS presentation, 10 (83.3%) out of 12 patient in coiling group had poor outcome ($P = 1.00$). Hence, when we control the WFNS group, there was no significant association between treatment group (clipping and coiling) and mRS outcome at 6 months. Further we noted that age less than 40 and Fisher grade of 1–2 have better outcome while patients with EVD, CSF infection and pneumonia have poorer outcome. Using multiple logistic regression analysis we have determined that good mRS outcome is associated with good WFNS and absence of EVD.

Conclusion: Clinical severity of the SAH (WFNS grade) was the most significant predictor of functional outcome (mRS) at 6 months. Therefore the decision regarding treatment option needs to be individualised based on the presentation of the patient.

Supervisor:

Dr Ramesh Narenthiranathan

Co-supervisor:

Associate Professor Dr Hillol Kanti Pol

COMPARATIVE STUDY OF DYDROGESTERONE DOSAGE OF THE DUPHASTON 40 MG DAILY AND DUPHASTON 20 MG DAILY IN THE OUTCOME OF PREGNANCY WITH THREATENED MISCARRIAGE IN HUSM

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Objectives: To evaluate the effectiveness and the adverse effect of Duphaston 40 mg daily and Duphaston 20 mg daily in threatened miscarriage.

Methods: This is a prospective randomized controlled trial conducted at Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian, Kelantan from 1st of March 2009 until 30th March 2010. A total of 130 patients were studied, 65 patients in group A for those who is taking Duphaston 20 mg daily and the other 65 patients in group B on Duphaston 40 mg daily. Besides the effectiveness, the side effect of the 2 different dosage of Duphaston is also evaluated. The successful of the pregnancy is measured by continuity of the pregnancy beyond 20 weeks of gestation. Result was analysed with Chi-square and Fisher's Exact tests to determine the statistical significant. The tests considered significant if P -value < 0.05 .

Results: There were higher successful pregnancy in Group B (Duphaston 40 mg daily) compared to Group A (Duphaston 20 mg daily) (86.7% versus 81.7%). But this is not statistically significant as the P -value in multivariate analysis is 0.50 ($P > 0.05$). There were no significant differences in adverse effect of the 2 different dosage of Duphaston.

Conclusion: Duphaston 40 mg daily was not associated with higher chances of successful pregnancy in threatened miscarriage ($P = 0.50$ in multivariate analysis). There were also no significant differences of adverse effect of the drugs in between the 2 groups.

COMPARISON BETWEEN TRIAMCINOLONE INJECTION AND HYDROCORTISONE INJECTION IN TREATMENT OF TRIGGER FINGER: A PROSPECTIVE SINGLE-BLINDED RANDOMIZED CONTROLLED STUDY

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Introduction: Trigger finger is a term for stenosing tenosynovitis affecting the excursion of the long flexor of the hand at the area of zone II of the digit. Steroid injection is one of the treatment option. Triamcinolone is the steroid mainly used for trigger finger treatment. Hydrocortisone is used only in pediatric trigger finger. Therefore result and outcome of hydrocortisone in treatment of adult trigger finger still not establish.

Objectives: This study was designed to test the null hypothesis that there is no difference in resolution of trigger finger in term of pain, tenderness and triggering/locking in 3 months after injection with triamcinolone, a depot form of potent steroid or hydrocortisone, a highly soluble form but less potent steroid.

Methods: Seventy patients were enrolled in a prospective randomised controlled study comparing triamcinolone and hydrocortisone injection for idiopathic trigger finger. They were randomised into 2 groups; triamcinolone group and hydrocortisone group. All patients required to answer Disabilities of the Arm, Shoulder and Hand (DASH) questionnaire, give Visual Analog Scale (VAS) score and evaluated for triggering/locking and tenderness at A1 pulley before injection, immediately after injection and 3 months after injection. 59 patients completed the 3 months follow-up (28 triamcinolone arm, 31 dexamethasone arm). Outcome measures included the DASH questionnaire, presence/ absence of triggering/locking finger, presence/ absence of A1 pulley tenderness and pains severity base on visual analog scale. A Chi-square test and student t -test were used to compare both groups.

Result: Immediately after injection, absence of triggering was documented in 24 of 34 patients (70.6%) in the triamcinolone group and in 28 of 36 patients (77.8%) in the hydrocortisone group. The rates of resolution of triggering 3 months after injection were 22 of 28 (78.6%) in the triamcinolone group and 26 of 31 (83.9%) in the hydrocortisone group. In term of tenderness of A1 pulley, immediately after injection, absence of tenderness was documented in 26 of 34 patients (76.5%) in the triamcinolone group and in 28 of 36 patients (77.8%) in the hydrocortisone group. The rates of resolution of tenderness 3 months after injection were 18 of 28 (64.3%) in the triamcinolone group and 22 of 31 (71%) in the hydrocortisone group. There were

no significant differences between DASH scores and VAS score for pain immediately after injection and the 3-month follow-up. After the close of the study, there was no complication in both treatment groups.

Conclusion: There is no significant difference in terms of resolution of tenderness over A1 pulley, resolution triggering/locking, pain and physical disabilities score improvement between the 2 types of steroid injection.

Supervisor:

Dr Abdul Nawfar Sadagatullah

IN VITRO AND IN VIVO COMPARISON OF DIFFERENT GRADES OF CHITOSAN WITH COMMON SURGICAL HEMOSTATS

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Introduction: The most common cause of significant intra-operative bleeding is inadequate surgical hemostasis. Nearly all reviews of intra-operative and early post-operative bleeding point that 75% to 90% of all bleeding is technical in nature. Whatever the cause, uncontrolled bleeding can lead to a combination of factors which may further exacerbate the problem of a vicious bloody circle. Dilutional thrombocytopenia, platelet dysfunction and consumption of clotting factors present a difficult problem to address as continual blood loss continues to compound the problem while blood component replacement therapy attempts to correct the deficiency.

Objectives: Our study aims to compare hemostatic efficacy of different grades of chitosan compared to the common hemostatic surgical hemostats. We hypothesize that chitosan based hemostats are superior to the common surgical hemostats in inducing platelet aggregation, affecting Prothrombin Time (PT) and Partial Thromboplastin Time (PTT) and red cell aggregation.

Methods: There were 2 parts to the study. In the in vitro study blood sample was obtained from the blood bank. Blood sample was collected utilizing the CP2D/AS-3 systems with additive solution (AS-3, Nutricel®) to maintain red blood cell viability. Collected whole blood was separated into 4 separate components (whole blood, heparinised whole blood, platelet rich and platelet poor plasma). In the platelet aggregation test, stirred citrated PRP was contacted with 3.5 mg of each hemostatic agent premoistened with 100 micro liter of phosphate-buffered saline (PBS) in a test tube (as would be used in traditional platelet aggregometry). Aliquots of supernatant (100 micro liter) were removed every 5 minute for a total of 15 minutes and the platelet count was measured in triplicate utilizing an electronic cell

counter (XT2000i Sysmax Analyzer, Sysmex America Inc., Mundelein, IL); platelet counts from each experimental aliquot were normalized using counts from unreacted PRP. For each hemostatic agent 3 independent sets of experiments were performed. A similar set of platelet aggregation experiments was performed using the hemostatic sponge agents (3 different grades of Chitosan, Lyostypt® and Surgicel®) premoistened with PBS. In the PT/PTT test, each hemostatic agent was reacted with platelet rich and platelet poor plasma. The serum was centrifuged to remove possible deposition. 6 parallel experiments were conducted to measure PT and APTT of the serum using a hemostasis analyzer (Stago STA Compact Haemostatic Analyzer, Diamond Diagnostics, MA, USA). In the red cell aggregation test, each haemostatic agent was reacted with whole blood, heparinized blood and platelet poor blood. The blood with hemostatic agents were left to stand and the erythrocyte sedimentation rate was measured with the Sedy 400 sedimentation analyzer. In the animal experiment, 36 Sprague-Dawley rats were utilised. Under general anaesthesia, via a midline laparotomy the right and left kidneys were isolated. Heminephrectomies were carried out and hemostats were applied to the cut surface and time taken to hemostasis was tabulated.

Result: In the platelet aggregation test, no definite trend in platelet aggregation was observed. NoCMC 36 3% showed the lowest platelet count of all hemostatic agents at 5 minutes. Lyostypt® and Surgicel® were superior compared to chitosan hemostats at 10 minutes of contact. In the coagulation test (PT/PTT) mean prothrombin time for Chitosan (NoCMC 8%) was the shortest in platelet rich plasma. Mean partial thromboplastin time was the shortest for Chitosan (NoCMC 3%) in platelet rich plasma. In platelet poor plasma, the shortest prothrombin time was seen in both the Chitosan hemostats (NoCMC 3% and NoCMC 8%). Partial thromboplastin time was shortest for Chitosan (NoCMC 3%) hemostat. In the red cell aggregation test, Chitosan hemostat (NoCMC 3%) demonstrated the highest erythrocyte sedimentation ratio in platelet poor blood as well as heparinised blood specimens. Chitosan hemostat (NoCMC 8%) demonstrated the highest erythrocyte sedimentation ratio in heparinised whole blood.

Conclusion: In the animal experiment, there was no statistical difference between the hemostats in arresting bleeding from heminephrectomy specimens. The Chitosan hemostat (NoCMC 36 3%) however demonstrated the shortest time to hemostasis compared to the other hemostats. From the study we concluded that Chitosan hemostats cause platelet to aggregate the earliest compared to other hemostats. They shorten prothrombin and partial thromboplastin time. They have been also found to aggregate red blood cells the most compared to other hemostatic agents.

Supervisor:

Professor Dr Ahmad Sukari Halim

KNOWLEDGE, ATTITUDE AND PRACTICE ON CARDIOVASCULAR DISEASE AMONG WOMEN ATTENDING PRIMARY HEALTH CARE FACILITIES IN KELANTAN

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Introduction: Although coronary heart disease causes more than 455 000 deaths in women each year, much of the research on coronary heart disease in the last 20 years has either excluded women or include very few women since cardiovascular was perceived as a disease which primarily affected men. This resulted in less women being exposed to the information regarding heart disease.

Objectives: To study the knowledge, attitude and practice on cardiovascular disease among women attending health care facilities in Kelantan.

Methods: This is a cross-sectional study involving 448 patients, age between 25 to 65 years old attending health care facilities in Kelantan from Jun till December 2010. The sampling method using multistage random sampling which was only 7 clinics were selected using simple random sampling and 64 patients from each clinic were selected using systematic random sampling 1:2. Self-administrated structured questionnaire was given for data collection.

Result: All 448 patients complete the entire questionnaire that make the response rate of 100%. The data were analysis using descriptive statistic for knowledge, attitude, and practice level. The mean (SD) knowledge score was 70.6 ± 13.76 . Only 55.6% had good knowledge score. For the attitude score, median (IQR) was 88.2 ± 14.71 . Good attitude score consists of 55.1% of respondents. The mean (SD) for practice score was 63.7 ± 13.59 . About half of respondents (51.1%) had good practice score. General linear regression showed a significant ($P < 0.001$) association between attitude and knowledge, practice and knowledge and practice and attitude after controlling for age, ethnic, marital status, occupation, education level, household income, medical illness and family history of medical illness .

Conclusion: The knowledge, attitude and practice level are equal between good and poor score among Kelantanese women. So a better structured educational programmed on cardiovascular disease should be enforced that specially target women since they are the pillars for the family.

Supervisor:
Dr Rosediani Muhamad
Co-supervisor:
Dr Harmy Mohd Yusoff

THE INFLUENCE OF ORAL AND TOPICAL CHANNA STRIATUS ON TENSILE STRENGTH, EPITHELIAZATION, FIBROBLAST COUNT AND HYDROXYPROLINE ASSAY IN LAPAROTOMY WOUND HEALING OF MALNOURISHED RATS

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Introduction: *Channa striatus* has been used in traditional medicine for centuries to accelerate wound healing. Recently several scientific studies have shown the healing properties of *Channa striatus*. However study yet to be done on its healing effect on laparotomy wound healing which has greater morbidity and mortality in the event of laparotomy wound failure. There is also no study on its healing effect in malnourished patient whom may benefit the most.

Objectives: The aim of the study is to evaluate the effect of *Channa striatus* on tensile strength, epitheliasation, fibroblast count and hydroxyprolene level in the healing of laparotomy wound in malnourished rat.

Methods: 40 malnourished wistar rat underwent laparotomy and the wound closed primarily. The rats were divided into 2 groups by block randomization. Group 1 is the control group. Group 2 received oral and topical *Channa striatus* daily. The rats were euthanised and full thickness strips of the wound were subjected to tensile strength measurement, histopathological examination for epitheliasation and fibroblast counts. Hydroxyprolene assays was not done due to technical problem.

Result: The results demonstrates that the group treated with oral and topical *Channa striatus* were significantly higher in tensile strength, epithelial and fibroblast cell counts (P -value < 0.001).

Conclusion: This study suggests that oral and topical *Channa striatus* enhances laparotomy wound healing in malnourished rat by increasing the tensile strength, epithelialisation and fibroblast count.

Supervisor:
Dr Syed Hassan Syed Abd Aziz

RETROSPECTIVE SEVEN YEARS ANALYSIS OF DEXAMETHASONE THERAPY IN PRETERM PREGNANCY ADMITTED TO HOSPITAL UNIVERSITY SAINS MALAYSIA FROM THE YEAR 2003 TO 2009

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Introduction: Prematurity is the main cause of neonatal morbidity and mortality. Antenatal corticosteroid therapy has been shown to markedly reduced complications of prematurity. A complete course of antenatal corticosteroid treatment is recommended to prevent pulmonary complications of preterm infants. Repeating courses of antenatal corticosteroid in mothers who are at risk of preterm delivery is still debatable.

Objectives: The primary objective of the study is to examine the association between different doses of antenatal intramuscular (IM) dexamethasone therapy and fetal respiratory outcomes.

Methods: Retrospective study on case records of patients who delivered preterm and received antenatal IM dexamethasone therapy in HUSM from the year 2003 to 2009. Those who received IM dexamethasone 12.5 mg upon admission or diagnosis, followed by another dose of IM dexamethasone 12.5 mg, 12 hours later (total of 25 mg per day), is defined to receive a complete course of IM dexamethasone. Those who did not complete 2 doses of IM dexamethasone 12.5 mg, 12 hours apart is defined to receive incomplete course of IM dexamethasone. Those who were given another dose of IM dexamethasone after 1 week or more of the first course, is defined to receive repeat course of IM dexamethasone. Their babies' case records were reviewed to assess the fetal respiratory outcomes.

Result: We reviewed 927 case records of mothers who delivered preterm in HUSM from the year 2003 to 2009, and 980 case records of their newborns. There were 407 of mothers received incomplete, 484 received complete and 36 received repeat course of IM dexamethasone. Then, 435 infants exposed to incomplete, 503 infants exposed to complete and 42 infants exposed to repeated courses of antenatal IM dexamethasone for analysis. There were 61 infants delivered at 24 to 28 completed weeks, 515 infants delivered at more than 28 to 34 completed weeks and 404 infants delivered at more than 34 to less than 37 completed weeks. In the group of infants who were delivered at more than 28 to 34 completed weeks gestation, a complete course of antenatal IM dexamethasone is significantly associated with better respiratory outcomes compared to those infants who were exposed to an incomplete course of antenatal IM dexamethasone. However, in the group of infants who were delivered at 24 to 28 completed weeks gestation as well as those delivered at more than 34 to less than 37 completed weeks period of gestation, there was no significant association between complete or incomplete course of antenatal IM dexamethasone and the respiratory outcomes.

Conclusions: A complete course of antenatal IM dexamethasone therapy significantly reduces the respiratory complications in the preterm infants delivered at more than 28 to 34 completed weeks period of gestation compared to those who were exposed to incomplete course of antenatal IM dexamethasone.

Supervisor:
Assoc Prof Dr Shah Reza Johan Nor
Co-supervisor:
Dr Mohd Ismail Ibrahim

PREVALENCE OF SEXUAL DYSFUNCTION AND ASSOCIATED FACTORS AMONG ESSENTIAL HYPERTENSIVE WOMEN ATTENDING HYPERTENSIVE AND OUT-PATIENT CLINICS, HUSM

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Introduction: Hypertension is one of the chronic diseases that has become a global public health care concern. In Malaysia, prevalence increases over the year and female predominate from age 40-years-old with the Malay women predominate in terms of race. Hypertension does not only affect the brain, heart and kidneys, but it also will affect sexual function of the person. Even though the prevalence of female sexual dysfunction was high, not much attention has been paid on it and most of the theories and belief about female sexuality are still inconclusive (2).

Objectives: The aim of this study is to determine the prevalence of sexual dysfunction and associated risk factors in hypertensive women. Research design and methods data was collected from 348 hypertensive women in the Hypertensive and Out Patient Clinic of Hospital Universiti Sains Malaysia (HUSM) using Malay Version of Female Sexual Function Index. Socio-demographics, marital profiles, obstetric and gynecological problems, presence of hypertension, presence of other medical illness, and husband chronic illness were recorded.

Results: The prevalence of sexual dysfunction among hypertensive women was 21.3% (95% CI, 17.00, 25.60). Desire disorder was reported as the highest percentage (42.8%), followed by lubrication disorder (24.1%), arousal disorder (22.7%), satisfaction and sexual pain disorder (19.0%) and orgasm disorder (14.1%). Less frequent sexual intercourse, lack of satisfaction with husband's sexual performance, unhappy marriage, having urinary incontinence and ACE I administration were significant associated factors for sexual dysfunction in hypertensive women.

Conclusion: The result showed that almost 1 in 5 hypertensive women suffered from sexual dysfunction. This indicates that sexual dysfunction is a major public health concern and health care providers should be more serious in evaluating this issue.

Supervisor:
Dr Rosediani Muhammad
Co-supervisor:
Professor Dr Hatta Sidi

A STUDY TO DETERMINE THE ASSOCIATION BETWEEN PATTERN OF CALCIFICATION IN CT SCAN AND STAGING OF RETINOBLASTOMA IN HOSPITAL UNIVERSITY SCIENCE MALAYSIA (HUSM)

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Introduction: Retinoblastoma is one of the most common intraocular malignancy in children under 15-years-old. About 80% of cases occurs in patients under 3-years-old. The incidence varies from countries to countries. In United States of America, it occurs in 1 of every 15 000 live birth. Most incidence of retinoblastoma is unilateral, bilateral involvement is seen in approximately 30% of cases and it is detected earlier. Physical and radiological examination helps in diagnosing retinoblastoma. CT scan of the orbit is one of the important tools in diagnosing retinoblastoma. Intraocular calcification can be detected in about 80% of the CT scan of orbit. Many researches have been performed since 1980s to determine association between intraocular calcification in retinoblastoma with prognosis and size of the tumour.

Objectives: To determine frequency of intraocular calcification in retinoblastoma and association between the pattern of calcification with histopathological examination, clinical data and staging.

Methods: This was a retrospective descriptive study. All patients had undergone pre-treatment CT scan of the orbit and enucleation. Characteristic of calcification on CT scan images which were presence of calcification, size, site and Hounsfield Unit of calcification were recorded. CT scan images were reviewed via GE Centricity PACS- IW (Integrated web) version 3.71. Histological findings which were presence of calcification, size, site of tumour and optic nerve involvement were recorded. History of presenting illness, family history, demographic data and clinical classification were sought from medical record and recorded. Association between characteristic of calcification and histological findings, clinical data and staging were determined.

Result: There was 95% intraocular CT calcification seen in retinoblastoma in this study. There was significant association between presence of calcification on CT and presence of calcification on HPE ($P = 0.042$). There was also significant association between presence of HPE calcification and CT calcification site ($P = 0.016$). Significant association noted between CT calcification size, and strabismus ($P = 0.035$). However, there was no significant association between the patterns of calcification on CT with staging of retinoblastoma.

Conclusion: Although presence of calcification on CT scan was used as a criteria to diagnosed retinoblastoma,

there is no significant association between patterns of the calcification with staging in retinoblastoma.

Supervisor:
Assoc Prof Noreen Nurfarahen Lee Abdullah

THE EFFECTS OF HORMONE REPLACEMENT THERAPY ON MAMMOGRAPHIC DENSITY AMONG POST-MENOPAUSAL WOMEN IN HOSPITAL RAJA PEREMPUAN ZAINAB II, KOTA BHARU, KELANTAN

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MMed (Radiology)

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Introduction: Hormone replacement therapy (HRT) is commonly prescribed to post-menopausal women to improve their post-menopausal symptoms. Post-menopausal hormone use is associated with increase in mammographic density and increased incidence of breast pain. Mammographic density is an independent risk factor for breast cancer.

Objectives: The purpose was to evaluate the effects of HRT on mammographic density in post-menopausal women in Kota Bharu, Kelantan, Malaysia.

Methods: An observational study was conducted for a period of 18 months. A total of 33 post-menopausal women who received combined HRT (containing estrogen and progesterone) were included as study subjects. Mammograms were performed at baseline and after 12 months of receiving HRT. Mammographic density was evaluated according to BIRADS classification of breast density. During follow-up, patients were also enquired about breast pain and they were asked to classify according to a specified scale.

Result: The categorical assessments showed that there was a significant shift in categorical classification as assessed by BIRADS categories among the post-menopausal women receiving HRT. Amongst these women, 30.3% had increased mammographic density after treatment with HRT. There was also significant association between breast pain and increase in mammographic density. Amongst the study population, 33.3% complained of breast pain after HRT. We also concluded that the study factors (grade, age, parity, BMI, duration of menopause and age at menopause) did not significantly influence change in mammographic density.

Conclusion: HRT significantly affects the mammographic density and increased mammographic density was associated with breast pain in women receiving hormonal therapy.

Supervisor:
Assoc Prof Dr Noreen Nurfarahen Lee
Co-supervisor:
Dr Md Ariff Abas

A STUDY TO INVESTIGATE THE EFFECT OF HORMONE REPLACEMENT THERAPY (HRT) ON PLATELET ACTIVATION MARKERS (CD62P & PAC-1) DETERMINED BY FLOW CYTOMETRY IN HEALTHY POSTMENOPAUSAL WOMEN

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MMed (O&G)

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Introduction: In healthy post-menopausal women increased platelet activation has been associated with the adverse cardiovascular events including unstable angina, myocardial infarction, stroke and other thrombotic states. There is much debate about the relationship between platelet function and serum estradiol levels in such post-menopausal women. It is postulated that estrogen may result in decreased platelet activation.

Objectives: The aim of the study was to determine the effect of HRT on the platelet activation markers (CD62P & PAC-1) in healthy post-menopausal women and to determine the correlation between platelet activation markers and serum estradiol, BMI and age of post- menopausal women.

Methods: A prospective case control study on 48 post-menopausal women was conducted at Hospital Universiti Sains Malaysia (HUSM). Group A consisted of 48 women not on hormone replacement therapy (HRT) (Control Group) and group B comprised of same 48 women who were given HRT (conjugated equine estrogen 0.625 mg orally once daily) for 2 weeks (study group). Platelet activation was evaluated at baseline and after 2 weeks of treatment by flow cytometric analysis using CD62P and PAC1 as activation markers. Comparisons within groups (before and after HRT) were analyzed using the paired *t*-tests.

Results: The expressions of CD62P and PAC1 showed a decreased platelet activation status in postmenopausal women who were given HRT. Platelet activation markers (CD62P & PAC-1) among healthy post-menopausal women in the group A were 7.00% ± 5.91 (CD62P) and 41.75% ± 26.85 (PAC-1) respectively (increased platelet activation in this group) which were reduced to 3.05% ± 2.47 (CD62P) and 20.86% ± 19.02 (PAC-1) respectively in the group B after 2 weeks of HRT administration (*P*-value < 0.001).

Conclusion: HRT decreases the platelet activation markers (CD62P & PAC-1) in healthy post menopausal women. Platelet activation markers (CD62P & PAC-1) are found to be increased in healthy post-menopausal women as compared to the post-menopausal women who were treated with HRT. There is a significant negative fair correlation between estradiol and platelet activation markers (CD62P & PAC-1). However, there was no significant relation among BMI, age and platelet activation markers. It is concluded that short term use of HRT has a favorable effect

on reduction of platelet activity in post-menopausal women and thus it is postulated to be cardio protective. Further study on the long-term effect of HRT on platelets is needed.

Supervisor:

Professor Dr Nik Mohamed Zaki Nik Mahmood

Co-Supervisor:

Assoc Prof Shah Reza Johan Noor

Dr Tariq Mahmood Roshan

ANTHROPOMETRIC MEASUREMENT OF THE LIP-NOSE COMPLEX AMONG YOUNG ADULTS IN KUALA LUMPUR, MALAYSIA

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Introduction: The lip-nose complex is an important aesthetic subunit of the mid and lower face. To date, there is no published data on lip-nose complex anthropometry for the Malaysian population.

Objectives: This cross-sectional descriptive study aims to establish the norms of the lip-nose complex among Malaysian Malays, Chinese, and Indians and to compare the transgender and transethnic variation between them.

Methods: 7 parameters of the lip-nose complex namely mouth width, cupid's bow width, columellar width, nasal width, lip height, columellar height and dome height were measured using standard anthropometric measurement tools. 316 students were randomly selected from 3 schools in Kuala Lumpur, with equal gender and ethnic distribution.

Result: All 7 parameters the lip-nose complex in Malay, Chinese, and Indian males were consistently larger than their respective female counterparts (*P* < 0.05). The difference in lip-nose complex measurements for mouth width, nasal width, lip height and dome height were statistically different between Malays, Chinese, and Indians. Mouth width and nasal width were widest among Malays. Lip height was highest amongst Indians. Dome height was highest amongst the Chinese. The cupid's bow distance, columellar width and height showed minimal difference within the 3 races (*P* > 0.05). Malays and Chinese differed in all parameters except cupid's bow width. Malays and Indians only differed in mouth width and nasal width. Chinese and Indians differed in lip height and dome height.

Conclusion: Malays and Chinese show differences in their lip-nose complex profile despite having originated from the East Asian continent. Malays and Indians differed in width measures, while the Chinese and Indians differed in height measures. The variation of anthropological measurements among the 3 ethnic groups reinforces the need to have individualised norms. These findings form a baseline for future studies that are age based which would then serve

as an invaluable guide to the reconstructive surgeon especially when dealing with unilateral and bilateral cleft lip repairs.

Supervisor:

Prof Dr Ahmad Sukari Halim

Co-supervisor:

Dr Normala Hj Basiron

KNOWLEDGE REGARDING MANAGEMENT OF DIABETIC NEPHROPATHY AMONG MEDICAL OFFICERS (MO) AT HUSM AND ITS ASSOCIATION WITH MO PROFILES

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Introduction: Many studies had assessed the knowledge and practices among the physicians in the management of chronic kidney disease (CKD) but no specific study to assess the knowledge of medical officers (MOs) regarding the management of diabetic nephropathy. Many patient with diabetic nephropathy are seen by MOs level, who are less experienced than nephrologists to offer optimal care. It is not known whether knowledge regarding management of diabetic nephropathy among MOs are adequate in care of diabetic nephropathy patient and whether characteristics of medical officer are associated with having adequate knowledge.

Methods: Self-administered questionnaire to medical officers at 2 medical based department HUSM ($n = 102$) with distribution of 51 Internal Medicine and 51 Family Medicine in April 2011. The questionnaire consist of 4 knowledge domains regarding management of diabetic nephropathy and had established validation.

Result: Total 102 out of 108 (94%) eligible medical officers returned a completed survey. Overall, 49% of MOs have adequate level of knowledge. All MOs have managed diabetic nephropathy cases but even so, only 78% of them have attended seminars/talks or workshops regarding diabetic nephropathy. Overall, no relationship between level of knowledge and MO specialties (Internal Medicine Vs Family Medicine department). There were also no significant relationship between level of knowledge and status of MOs (service MO or master MO). There were significant relationship between level of knowledge and the year of master ($P = 0.016$) and year 4 masters MO had more than 7 fold greater odds of showing a adequate level of knowledge compared with MO who are not yet joining master (95% CI, 1.44, 36.20, $P = 0.016$).

Conclusion: We found that medical officers have significant gaps in their knowledge regarding management of diabetic nephropathy that might require further

improvement for better future patient care. Master training may offer the best opportunity to improve the awareness and knowledge of diabetic nephropathy guidelines through more focused educational efforts.

A PROSPECTIVE STUDY OF RELATIONSHIP OF VASCULAR PEDICLE WIDTH AND CARDIOTHORACIC RATIO IN ADULT PULMONARY OEDEMA PATIENTS DURING TREATMENT IN ICU

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Introduction: Determination of intravascular volume status in critically ill patient is very important. Traditionally, invasive hemodynamic pressure measurements have been used to assess the volume status in this group of patients. However, the information available from vascular pedicle width (VPW) in portable supine chest radiographs are least costly and least invasive of determining volume status in critically ill patient. The true utility of VPW reflecting intravascular volume status seen in few studies from portable supine chest radiographs especially in monitoring patients who have volume overload and are receiving treatment.

Objectives: To determine the relationship of VPW, cardiothoracic ratio (CTR) and net fluid balance by using serial portable supine chest radiograph in adult pulmonary oedema patients during treatment in Intensive Care Unit (ICU) in Hospital Universiti Sains Malaysia (HUSM).

Methods: A prospective study was done from Jun 2008 until Jun 2009 involving 51 patients who had been diagnosed to have pulmonary oedema in ICU and Neuroscience ICU, HUSM. Serial supine portable chest radiographs were taken from day 1 of the onset of pulmonary oedema in ICU until day 3 consecutively. First chest radiograph was taken before starting treatment. Subsequent chest radiographs were taken about 24 hours apart. 3 consecutive 24 hours net fluid balance data were taken from ICU monitoring chart according to the day of CXRs. Computed chest radiograph is used for evaluation of the VPW and CTR. The VPW and CTR were measured by researcher in separated occasion without clinical data related to patient available.

Result: 51 patient involved in this study with the mean age of 54.43. Total of 39 patients (76.5%) received intravenous (IV) Frusemide and 12 patients (23.5%) received IV Frusemide in combination with dialysis as treatment of pulmonary oedema. There was a weak but not significant correlation between VPW and CTR in each day from day 1 ($r_1 = 0.10$, $P = 0.34$), day 2 ($r_2 = -0.01$, $p = 0.92$) and day 3 ($r_3 = 0.02$, $P = 0.91$). Similar findings of a weak but not significant correlation was also seen between VPW and net fluid balance on day 1 ($r_1 = 0.10$, $P = 0.47$), on day 2 ($r_2 = -0.05$, $P = 0.73$)

and on day 3 ($r_3 = -0.05$, $P = 0.74$). However, by using paired t -test significant mean changes of VPW between day 1 to day 2 and between day 2 to day 3 ($P < 0.001$). Significant mean changes of net fluid balance were also seen between day 1 to day 2 and between day 2 to day 3 ($P < 0.001$). No significant mean changes of CTR seen between day 1 to day 2 and between day 2 to day 3 ($P = 0.58$). In addition, there were daily reduction of the mean of VPW and net fluid balance in 3 days duration with IV Frusemide and combination treatment. However, no significant difference between both treatments with the mean of VPW ($P = 0.099$) and net fluid balance ($P = 0.162$) in 3 days period.

Conclusion: This study showed that there was strong significant mean changes of VPW and net fluid balance between day 1 to day 2 as well as day 2 to day 3. However, no significant mean changes of CTR between day 1 to day 2 and day 2 to day 3.

Supervisors :

Dr Nik Munirah Nik Mahdi

Dr Mohd Shafie Abdullah

Co-supervisors:

Dr Mohd Ariff Abas

Dr Mahamarowi Omar

STONE FREE RATE OF EXTRACORPOREAL SHOCKWAVE LITHOTRIPSY (ESWL) FOR TREATMENT OF RENAL STONES

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MMed (Surgery)

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Introduction: Renal stones or renal calculi is a common disease encountered in the population worldwide. The cause of renal stones in majority of the cases are idiopathic. Management of renal stones has changed over the years. Before 1980s, open surgery was the treatment of choice. However, minimally invasive intervention has replaced open surgery in the treatment of most renal stones. This included extracorporeal shockwave lithotripsy (ESWL).

ESWL used shock waves to break the stone into small pieces or fragments which can be passed through the urinary tract. Therefore, it is more preferred method for treatment of renal stones and several ureteral stones. It has favourable clinical outcome, low complications rate and few absolute contraindications.

Objectives: The objective of this study is to obtain an epidemiological data of patients with renal stones who underwent ESWL in Hospital Universiti Sains Malaysia (HUSM). We also would like to review the outcome of this treatment in terms of stone clearance including the factors that may influences its success rate in our center.

Methods: A retrospective cohort study had been done involving patients with renal stones who underwent ESWL for their treatment in Urology Unit, Department of Surgery, HUSM. This study was done in 18 months duration, from 1st May 2007 until 30th October 2008. All patients were treated with ESWL machine SONOLITH® Vision. The radio-opaque stone was localised with X-rays. Patient's medical record and KUB X-rays before and after the treatment were reviewed. Data was analysed using SPSS version 12 with P -value of less than 0.05 was considered significant.

Result: During the study period from May 2007 till October 2008, 104 patients were involved. In this study, 56 (53.8%) patients were male and 48 (46.2%) were female with male: female ratio 1.1:1. The mean age was 50.8-years-old (range 16–83 years old). Majority of the patients were from Malay ethnics (97.1%) followed by Chinese (1.9%) and other ethnic groups (1.0%). The mean stone size was 13.07 mm with 42 (40.4%) stones measuring 10 mm or less and 62 (59.6%) more than 10 mm but not more than 20 mm. Most of renal stones were located at the middle calyx (32.7%), followed by lower calyx (28.9%), upper calyx (23.1%) and renal pelvis (17.3%). 78 point eight percent (78.8%) had single stone while another 21.2% had multiple stones. Our overall stone clearance rate was 53.8%. However in our study, stone size, location of the stones and numbers of stone did not affect overall stone clearance.

Conclusion: In conclusion, ESWL was a good treatment for renal stones measuring less than 20 mm. However, we need to select patients that is going to benefits from this treatment and have a regular or proper follow-up in order to have a better outcome.

Supervisor:

Dr Mohd Nor Gohar Rahman

Co-supervisors:

Dr Mohamed Ashraf Mohamed Daud

Dr Mossadeq A

A STUDY ON THE EFFECTS OF ANDROGRAPHIS PANICULATA (HEMPEDU BUMI) ON SERUM PROTEIN C, PROTEIN S ACTIVITY AND FASTING BLOOD GLUCOSE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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Introduction: Patients with type 2 diabetes mellitus (DM2) show enhanced activation of the blood coagulation system and decrease level of natural anticoagulant such as protein C and protein S. This is believed to contribute to the high incidence of premature atherosclerosis attributable to

myocardial infarction, cardiovascular disease, and peripheral vascular disease in diabetic patients. *Andrographis paniculata* (Hempedu bumi) has been well known to have blood sugar lowering properties in diabetes patients and has been used by local Malaysians as an alternative to current oral hypoglycaemic agents. With the benefit of its blood sugar lowering properties it is hoped that *Andrographis paniculata* may also increase level serum protein C and protein S in diabetic patients, thus reducing the risk of atherosclerotic disease.

Objectives: This study was conducted to determine the changes in fasting blood sugar levels and to assess the changes in serum protein C and protein S activity following oral administration of *Andrographis paniculata* among DM2 patients in Hospital Universiti Sains Malaysia (HUSM) Diabetic Medical Clinic.

Methods: This is an open-labelled, randomised treatment versus control study which was conducted among DM2 patient on follow up at HUSM Diabetic Medical Clinic from August 2010 till November 2010. A total of 34 subjects were recruited in this study. Of this, 17 were randomly given the study medication; 2 tablets each containing 250 mg of *Andrographis paniculata* for 2 weeks duration while the other 17 patients were allowed to continue with their previous medication without any alteration. Blood samples containing fasting blood glucose (FBG), serum protein C and protein S were taken at baseline and after 2 weeks intervention for both groups.

Result: A total number of 34 patients were involved in this study. The mean age was 55.2 ± 9.8 years. The baseline HbA1c was $9.2\% \pm 2.4\%$ in both groups. The mean fasting blood sugar during pre-intervention in the control group was $8.6 \text{ mmol/L} \pm 3.7$ while in treatment group is $9.1 \text{ mmol/L} \pm 5.0$ and post-treatment, the mean fasting blood sugar was $8.3 \text{ mmol/L} \pm 2.9$ and $9.3 \text{ mmol/L} \pm 4.0$, respectively. The mean of protein C in the pre-intervention for control group was $117.2\% \pm 17.3$ and in the treatment group was $125.1\% \pm 21.3$. Post-intervention mean protein C in the control group was $121.1\% \pm 25.4$ and in the treatment group is $125.9\% \pm 18.9$. The mean protein S in the pre-intervention for control group was $202.4\% \pm 128.0$ and for treatment group is $135.4\% \pm 30.1$ while in the post-intervention mean for control group was $208.3\% \pm 129.5$ and in the treatment group $134.1\% \pm 25.3$. The mean difference of fasting blood sugar, protein C and protein S between pre- and post-intervention for both groups were statistically not significant.

Conclusion: Our study demonstrated that generally the blood sugar control among DM2 patients is still poor with mean HbA1c of $9.2\% \pm 2.4$. There were no significant changes in mean serum fasting blood glucose, protein C and protein S for pre- and post-treatment of oral administration of 500 mg of *Andrographis paniculata* for 2 weeks duration in the treatment group when compared to control group. These findings were probably related to inadequate dose of *Andrographis paniculata* since there was no study of

bioequivalence in this study and also inadequate study duration to produce desirable effects in this study.

A CLINICOPATHOLOGIC STUDY ON TRIPLE-NEGATIVE BREAST CANCER PATIENTS: HUSM EXPERIENCE

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Introduction: Breast cancer is the most common cancer among Malaysian women. There are many prognostic factors contributing to the disease and the outcome of the patients. Triple negative breast cancers are defined by a lack of expression of oestrogen, progesterone, and c erbB-2 receptors. They tend to have a higher grade with a poorer outcome compared to non-triple negative breast cancers.

Objectives: The study was carried out aiming to observe the association of triple negative; (oestrogen receptor [ER], progesterone receptor [PR] and c erbB-2) breast cancer patients to the pathological (histological subtype, tumour grade, tumour size, and lymph node involvement) and non-pathological parameters (patient's age and ethnicity).

Methods: Retrospective review of histopathology reports in Hospital Universiti Sains Malaysia from 1st January 2002 to 31st December 2004. 23 cases of triple negative breast cancer among 115 cases of breast cancer diagnosed in 3 years (2002 to 2004) were reviewed. They represented 20.0% of total breast cancer patients.

Result: There were significant association between triple negative breast cancer with tumour size, lymph node involvement, and lymphovascular invasion. However, age, race, histological subtype and histological grade did not show significant association.

Conclusion: From these findings, we conclude that tumour size is the strongest factor associated with the triple negative breast cancer. Besides that, lymph node involvement is also associated with triple negative breast cancer. However, lymph vascular invasion is not associated with triple negative vascular breast cancer.

Supervisor
Dr Venkatesh R Naik

COMPARISON OF ANXIETY AND DEPRESSION BETWEEN PATIENT WITH AND WITHOUT FIXED AIRFLOW LIMITATION IN SEVERE ASTHMATICS IN HOSPITAL UNIVERSITI SAINS MALAYSIA (HUSM) AND HOSPITAL RAJA PEREMPUAN ZAINAB II (HRPZ II)

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Introduction: Asthma is a common chronic disease worldwide. Despite important advances in diagnosis and treatment, asthma has become a public health problem for all countries. Poorly controlled asthma exerts a high cost for both patients and society. Fixed airflow limitation can develop in patients with severe asthma. Anxiety and depression were significantly more common among asthmatic patients and psychiatric co-morbidity is associated with poor asthma outcome.

Objectives: To compare the prevalence of anxiety and depression between patients with and without fixed airflow limitation among severe asthmatic patients and to determine the association between anxiety and depression with airflow limitation in severe asthmatic patients.

Methods: This was a comparative cross-sectional study among 158 severe asthmatic patients attending the chest clinic follow-up in Klinik Pakar Perubatan HUSM and HRPZ II from 15 August 2009 till 15 April 2010. Each patient was interviewed and their medical notes were reviewed to assess their medications as well as their asthma severity. Spirometry test was performed to determine the presence of fixed airflow limitation. They were then given 2 sets of self-administered questionnaires; (1) the socio-demographic questionnaire and (2) the Malay HADS questionnaire.

Result: There were 81 patients in the fixed airflow limitation group with mean age (SD) of 54.1 ± 9.8 and 77 patients in the group without fixed airflow limitation with mean age of 50.1 ± 12.3 . The prevalence of anxiety and depression in the fixed airflow limitation group was both 29.6% whereas in the group without fixed airflow limitation were 24.7% and 18.2% respectively. Simple and multiple logistic regressions found no significant relationship between anxiety or depression and presence of fixed airflow limitation.

Conclusion: The prevalence of anxiety and depression in severe asthmatic patients with fixed airflow limitations is similar to those without fixed airflow limitation. There is no increased risk of developing anxiety or depression associated with having fixed airflow limitation in severe asthmatics.

*Supervisor:
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A PILOT STUDY OF INTRASTROMAL INJECTION OF AMPHOTERICIN B 0.0005% IN FUNGAL KERATITIS

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Introduction: Fungal keratitis is an important infectious keratitis in developing countries such as Malaysia. It is difficult to diagnose and treat. The current available antifungal agents have poor ocular penetration. New method of drug delivery which was the intrastromal injection of amphotericin B was evaluated to see its effectiveness in the treatment of fungal keratitis.

Objectives: The objective of this study is to determine the effectiveness of intrastromal amphotericin B 0.0005% injection in human fungal keratitis.

Methods: This was a pilot study involving 20 subjects. 10 subjects received intrastromal injection of amphotericin B and 10 subjects were in the control group in which they received the standard topical antifungal therapy.

Result: About 30% of patients with very poor visual acuity had improved vision to good visual acuity in the intervention group. Complete re-epithelialisation was seen in 30% of patients in the intervention group compared to 20% in the control group. Resolution of stromal abscess and reduction in the level of stromal infiltrate were seen earlier in the intervention group. 40% of subjects in the intervention group showed complete healing of the stromal compared to 10% in control group.

Conclusion: Intrastromal injection of amphotericin B 0.0005% (5 µg/ml) was found to be effective in treating fungal keratitis in human.

*Supervisor:
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PREVALENCE OF EOSINOPHILIC NASAL POLYPS AND ANALYSIS OF THEIR PRESENTATION IN HUSM KUBANG KERIAN, KELANTAN

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Introduction: Nasal polyp pathogenesis and etiology is still unknown, but now it is regarded as one form of the chronic inflammatory reaction of the sinonasal mucosa which eosinophiles are mainly involved in the mechanism of its formation. It is quite common disease affecting 1%–2% of the adult population and has the potential for high recurrence. Clinically most of the patients are complaining of nasal blockage and reduce sense of smell. The easy accessibility to the nasal polyp facilitates histological examination of it and broadly divided them into 2 histological subtypes the eosinophilic and non-eosinophilic types.

Objectives: The aim of the study was to determine the percentage of each histological subtype of the nasal polyp and to study the association of the clinical presentation of each type.

Methods: 62 patients with nasal polyp underwent functional endoscopic sinus surgery (FESS) in HUSM over the period of 4 years extending from 2004 to 2008 were included in the study and their histopathological reports were reviewed and their clinical presentation was studied in relation to the symptoms and the findings were written in specifically prepared form for this purpose.

Result: 87% of the sample had eosinophilic type of nasal polyp and 13% had non-eosinophilic. There was no statistically significant difference in the clinical presentation in relation to nasal blockage or loss of smell between the 2 histological subtypes. High recurrence rates were noted among our subjects compared to published figures for the same surgical intervention (FESS).

Conclusion: The study showed that the incidence of histological subtypes of nasal polyp is almost the same as that found in other parts of the world (Europe and North America) which will reduce the possibility of racial or geographical influence on the pathogenesis of the nasal polyp. Clinical symptoms and presentation alone are not enough to differentiate the type of the nasal polyp without the histological studies.

Supervisor:

Dr Ramiza Ramza bin Ramli

Co-supervisor:

Dr Irfan Mohammed

PREMATURE CORONARY ARTERY DISEASE AMONG ANGIOGRAPHICALLY PROVEN ATHEROSCLEROTIC CAD IN HUSM

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Objectives: To determine the proportion of premature coronary artery disease (CAD) among angiographically positive CAD patients in Hospital Universiti Sains Malaysia (HUSM) and to identify its risk factors.

Methods: This is a cross-sectional study. 350 medical records of patients undergoing coronary angiogram due to CAD from October 2002 till 2004 were reviewed. The socio-demographic, associated risk factors and angiographic findings were recorded in a data questionnaire.

Result: A total of 165 cases were included, which 55% ($n = 91$) were premature CAD and 45% ($n = 74$) were older CAD. The mean age of premature CAD was 49.7 years of male and 51.4 years for female and male gender was predominant by 80%. The significant factors associated with premature CAD were family history of heart disease 38.5% ($P < 0.05$) and low HDL level 1.2 ± 0.30 ($P < 0.05$). Compared with older patients, younger patient had pre-ponderance of double-vessel disease.

Conclusion: There was a high prevalence of premature CAD patients among angiographically proven atherosclerotic CAD. Family history of heart disease and low HDL level are associated with premature CAD. Thus early cardiovascular screening in family member of patient with heart disease and aggressive treatment to increase HDL level are the first step for prevention of CAD in young age.

Supervisor:

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