ABSTRACTS

ORAL

PRESENTATIONS
A PILOT STUDY OF RISK FACTORS IN CLEFT LIP/PALATE PATIENTS

Authors
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Introduction
The risks of non-syndromic cleft lip with or without cleft palate and isolated cleft palate (CLP) are influenced by variations at several loci of the gene and these loci interact with environmental factors to determine disease risk.

Objective
The aim of the study is to establish the relationship between environmental risk factors and incidence of cleft lip and palate.

Methodology
This is a case controlled study of non-syndromic CLP patients attending combined clinic in Kota Bharu and patients attending outpatient clinic in HUSM. Information was obtained using questionnaires. The information in the questionnaire includes paternal & maternal smoking habit, amount of tobacco used, genetic consideration. Environmental factors such as area of residence, birth dates, maternal problems, use of complementary medicine and diseases during pregnancy are explored. Details of socio-economic status are also obtained. 201 CLP patients and 212 controls were interviewed. Univariate and multiple logistic regression analysis were used to analyze the data.

Results
It was found that demographically there were variations to risks of non-syndromic CLP. People from Tanah Merah and Tumpat had a 8.74-fold increased risk compared to people from Kota Bharu. There was an association between passive smokers and CLP (OR) = 2.45 (95% CI: 1.52, 3.94). Maternal and paternal history of cleft, palate and isolated cleft palate (CLP) are influenced by variations at several loci of the gene and these loci interact with environmental factors to determine disease risk.

Conclusion
The study suggested that there were some geographical variations in the risk of CLP. Maternal exposure to cigarette smoke (passive smokers) showed increased risk of CLP. The seventh child and above had increased risk of CLP.

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Aims
Er: YAG laser irradiation (\lambda = 2.94\mu m) has been proven to be effective in ablating human enamel and dentine. The aims of this study were firstly to examine the surface morphology of human dentine resulting from Er: YAG laser ablation, compared with that produced by conventional methods of cavity preparation. Secondly, it was to test the Shear Bond Strength (SBS) of composite resin (CR) to those dentine surfaces

Materials and Methods
Buccal enamel of fifty extracted human molar teeth was removed using a high-speed diamond wheel bur under water spray so as to leave a planed surface of exposed dentine. Five of each specimen were subjected to: (i) surface treatment using Er: YAG ablation (250 mJ, 10 Hz, VSP), (ii) Er: YAG ablation plus acid etching (37% Phosphoric acid, 10 seconds), (iii) surface treatment using conventional methods (fine grit diamond bur) and (iv) conventional plus acid etching. Four groups of five teeth were examined under an SEM (Philip XL30). Three groups of ten teeth underwent SBS testing to compare the bond strength of CR to the three categories of treated dentine surfaces, using a universal testing machine following ISO standard TR 11405.

Results
Results indicate that the Er: YAG laser irradiation produces micro-irregularities on dentine surfaces with open tubules and no smear layer present. The micro-irregularities were completely removed following acid etching procedure. The SBS tests reveal that the Er: YAG laser irradiation with or without acid etching did produce slightly higher bond strength values than the conventional group but was not statistically significant (student t-test). The SBS values for Er: YAG laser, Er: YAG laser plus etching and conventional are 7.7 ± 4.4 MPa, 8.7 ± 3.4 MPa and 7.4 ± 5.3 MPa respectively.

Conclusion
The results of this study indicate that Er: YAG laser can be successfully used as an alternative to the conventional method in preparing dentine for CR restoration.

ORAL (A2 - 6)

PROSTHODONTICS AND ITS SCOPE IN MAXILLOFACIAL REHABILITATION

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Man's need for replacement of missing or lost body parts probably existed as long as man himself. Although social cultures have characteristically changed and the accepted modalities for rehabilitation have varied throughout the centuries, there has apparently always been a social awareness that the deformed body is not completely accepted. A considerable number of people, each year, acquire varying facial defects due to malignant disease, trauma or congenital deformity. Although modern plastic surgery techniques, in particular microsurgery, can help to restore some lost tissue, in cases of radical surgery they cannot replace the lost part in a way which creates an acceptable illusion of normal appearance. In addition, the age and general medical condition of the patient may also contraindicate major reconstructive surgery. In these cases a major defect persists following surgery. These patients, therefore, can be offered prosthetic rehabilitation as an alternative to help fill this void. The specialty of Prosthodontics has grown from mere replacement of missing teeth, to include treatment of patients with head and neck malignancy, post tumor therapy surgical reconstruction and congenital and developmental defects.

**KNOWLEDGE, ATTITUDE AND PRACTICE OF PIT AND FISSURE SEALANTS BY DENTAL PRACTITIONERS IN KOTA BHARU, KELANTAN**

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**Background**
It is clearly recognized that pit and fissure sealant is an effective, safe and cost-effective method of preventing pit and fissure caries. Improvement in dental materials have increased retention rates and shown long lasting, caries preventive effect. This study was done to investigate the use of fissure sealant among dental practitioners and probable factors associated with its usage.

**Method**
Forty questionnaires were handed out to dentists in 3 sectors: private practice, Ministry of health and Hospital USM. Questionnaires were designed to evaluate knowledge of type of sealant used, attitude towards placement of sealants and preference of type of sealant used.

**Results**
An eighty percent response rate was obtained, of which 56.3% practice the use of pit and fissure sealants in their clinical practice. All dentists consider age of the patient prior to placing pit and fissure sealants and only 33.3% consider the caries risk of the patient. Delton FS was the most commonly used band of sealant (40%). Descriptive statistics was used for this study.

**Conclusion**
Dental practitioners in the city have a positive attitude towards practice of pit and fissure sealants. However, private practitioners have been slow to adopt sealant use in their practice.

**ORAL (A2 - 7)**

**THE DEFINITIVE DIAGNOSIS OF ORAL HAIRY LEUKOPLAKIA IN HIV-SEROPOSITIVE AND AIDS PATIENTS.**

**Authors**
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**Introduction**
Oral hairy leukoplakia (OHL) is a white or grayish oral lesion. OHL lesion, usually located on the ventral surface and/or lateral border of the tongue. The histopathological features of OHL are not pathognomonic to establish a definitive diagnosis. The definitive diagnosis of OHL requires the demonstration of Epstein Barr virus in the OHL lesion.

**Objective**
To investigate the possibility of using Polymerase Chain reaction(PCR) technology in reaching a definitive diagnosis of OHL in tongue scraping obtained from HIV-seropositive patients and to compare our finding to the conventional in situ hybridisation on OHL biopsies obtained from the same patients. Furthermore, we have investigated the possibility of using a rapid microwave in situ-hybridisation technology in order to accelerate and simplify the definitive diagnosis of OHL.

**Methodology**
Polymerase chain reaction approach was carried out and compared to the conventional in situ hybridisation method. Furthermore, we have modified a microwave in situ hybridisation technique and designed a novel in situ hybridisation chamber to accelerate the technical procedures for reaching a definitive diagnosis of OHL.

**Results**
EBV DNA was not only detected in all OHL lesional scrapings but also in 36.3% of normal control. However, by using a conventional in situ hybridisation approach, EBV DNA was detected only in OHL biopsies and non in the normal healthy controls biopsies. Furthermore, using microwave in situ hybridisation and our newly designed chamber, we have shortened the hybridisation step for EBV detection in OHL biopsies, from over-night incubation to 14 minutes.
**Conclusion**

PCR is highly sensitive and of low specificity and should not replace in situ hybridisation for reaching a definitive diagnosis of OHL. In addition we have established a rapid microwave in situ hybridisation approach for reaching a definitive diagnosis of OHL in HIV-seropositive and AIDS patients.

**ORAL (A2 - 9)**

**THE MAXILLARY ARCH FORM OF SELECTED ETHNIC GROUPS IN MALAYSIA AND ITS RELATIONSHIP TO CEPHALOMETRIC LANDMARKS**

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**Introduction**
A correct knowledge of tooth size, dental arch dimensions and head form of a population are important for several dental treatment procedures. Heritable differences present in these parameters among them are also useful for the practice of Aesthetic Dentistry and effective orthodontic treatment.

**Objectives**
To estimate maxillary arch measurements, the validity of the Pont’s & Korkhaus’ indices, the relationship between maxillary arch form with head form, the cephalic index (CI) and also to compare these measurements among ethnic Malays and Chinese.

**Methodology**
A cross-sectional study was conducted on 87 Malay and 89 Chinese students. Head measurement was taken using anthropometric instrument and dental arch measurements made on the casts. Data analysis was done using STATA 7.0.

**Result**
The Cephalic Indices (CI), for Malay (86.4) and the Chinese (85.9) were not significantly different. But the means of anterior arch width (AAW), posterior-arch-width (PAW) and arch-length were significantly different between two groups. AAW and PAW were significantly different from their corresponding Indices for Malays but not for Chinese. Correlation Coefficient between bizygomatic width and anterior-arch-width in Malay was 0.18 (p > .05) and in Chinese 0.20 (p < 0.01).

**Conclusion**
The Pont’s and Korkhaus’ Indices could not be applied to the study Malays but moderately to the Chinese. C.I. of our study subjects were found to be brachycephalic without any gender difference.

**ORAL (B2 - I)**

**INTERLEUKIN-6 AS A POTENTIAL EMBRYOTOXIC FACTOR IN ENDOMETRIOSIS: LOCAL OR SYSTEMIC EXPRESSION?**

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**Objectives**
1. To determine interleukin (IL)-6 as a possible embryotoxic factor in endometriosis.
2. To determine the effect of IL-6 on in vitro development of early mouse embryos.

**Introduction**
The aetiology of endometriosis associated infertility remains an enigma. In recent years, peritoneal fluid and serum are two biological fluid, which have been studied extensively as possible mediators of infertility in this disease through its toxic effect on early embryo growth. We have shown previously that in women with endometriosis, the peritoneal fluid was embryotoxic1. Various embryotoxic factors have been determined in these fluid, including interleukins.

**Methodology**
1. The levels of IL-6 in the peritoneal fluid and serum from infertile women with and without endometriosis were measured using the ELISA method.
2. Two-cell mouse embryos were cultured in 1ml modified Whitten’s medium in the presence or absence of IL-6 at different concentrations (1.6pg/ml and 100pg/ml). The embryos were cultured and observed for 3 consecutive days.

**Results**
The levels of IL-6 were significantly higher in the peritoneal fluid with endometriosis as compared to without endometriosis (p<0.05, Mann Whitney U-test), and correlated with the severity of endometriosis (p<0.05, Kruskal-Wallis test). However, no significant differences were noted in the levels of serum IL-6. The development of 2-cell mouse embryos to blastocysts was suppressed by IL-6, especially at higher concentration (100pg/ml) (p<0.001, Fisher’s exact test), as compared to the control (absence of IL-6).

**Conclusion**
The increased levels of IL-6 in the peritoneal fluid of endometriosis together with the embryotoxic effects, suggests IL-6 as a possible mediator of embryotoxicity in endometriosis. The levels of peritoneal fluid IL-6 do not replace in situ hybridisation for reaching a definitive diagnosis of OHL. In addition we have established a rapid microwave in situ hybridisation approach for reaching a definitive diagnosis of OHL in HIV-seropositive and AIDS patients.
not correlate with the serum levels suggesting that changes in the interleukin concentration resulting from endometriosis occur locally.

**ORAL (B2 - 2)**

**ASSESSMENT OF LABOUR PAIN BY MIDWIVES IN LABOUR SUITE HOSPITAL UNIVERSITY OF SAINS MALAYSIA, KELANTAN.**

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**Introduction**
Accurate assessment of labour pain will guide the appropriate management and increase the quality of care. Because pain is subjective, labour pain is often under or overestimated by midwives.

**Objective**
The aim of the study is to compare the assessment of labour pain among midwives and mother and to identify factors affecting the assessment by the midwives.

**Methodology**
The study population consisted of 60 mothers and 30 midwives. All mothers were asked to rate their pain level using graphic visual analogue scale (VAS). At the same time the mothers using the same scale exhibited their attending midwives estimated the degree of pain, as was exhibited by the mothers using the same scale.

**Result**
A good correlation (0.618) was found between assessment of midwives and mothers. But there was no statistically significant different in experience, age, number of children, pain management course and method of assessment among midwives (p>0.05).

**Conclusion**
Midwives in this study were able to assess labour pain accurately as reported by the mothers and factors such as age, experience, number of children, pain management course and method of assessment does not have any influence on the midwives assessment.

**ORAL (B2 - 3)**

**SCREENING FOR ASYMPTOMATIC BACTERIURIA (ABU) IN PREGNANCY AMONG ANTENATAL ATTENDEES IN HUSM**

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**Introduction :**
Asymptomatic bacteriuria in pregnancy is not without risk to mother and fetus. Screening and treatment of this condition had been shown to improve the sequelae of the disease. Screening for ABU is not a routine practice in Malaysia.

**Objectives**
To determine the prevalence and outcomes of asymptomatic bacteriuria in pregnancy in HUSM antenatal clinic population.

**Methodology**
A cross sectional study was conducted from 1st July 2002 to 1st January 2003 in HUSM antenatal clinic. MSU FEME clean catch urine for culture and sensitivity and microscopy was obtained from 447 women attending HUSM antenatal clinic with no symptoms to indicate investigation for urinary tract infection. 72 were excluded as they have mixed growth in MSU C&S and 6 for incomplete outcome data. 369 women had either no growth (group A) or significant growth (group B). The final outcome of the pregnancy was looked into. Also recorded were period of gestation at delivery, birth weight and complications that arose during the course of pregnancy.

**Results**
The prevalence of ABU was 4.3% (16/375). The mean period of gestation at delivery was 38.6 ± 1.6 for Group A and 38.7 ± 1.3 for Group B. The mean birth weight was 3.1 ± 0.4 for Group A and 38.7 ± 1.3 for Group B. The difference was not significant statistically. The maternal outcomes revealed no statistically significant difference in UTI complications, prelabour rupture of membranes, preterm labour/ delivery or perinatal mortality and sepsis.

**Conclusion**
The prevalence of ABU was comparable with that found in other studies. However we were unable to demonstrate the strong association with preterm delivery, low birth weight and symptomatic UTI.
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**Introduction**
Cervical carcinoma is the second most common cancer in Malaysian women.

**Objective**
The study is performed to explore knowledge about cervical carcinoma and Pap smear tests among women attending the gynaecology clinic in HUSM

**Methodology**
A cross sectional study was conducted from October 2003 till December 2003. Random sampling method was used. Patients were told regarding the study and a self answered questionnaire was filled up by the respondent.

**Result**
The study found that the majority of the respondents were aware of cervical carcinoma (90.3%) and had heard about Pap smear (86.1%). Only 33.3% of the respondents had a high score knowledge (21-30) on cancer of the cervix and 25.7% of respondents truly appreciate the importance of Pap smear. 68.9% of respondents did not acknowledge the duration of which pap smear should be carried out on a regular basis. Further analysis revealed that majority of the information of pap smear was obtained from reading materials (48.6%). Only 6.3% of respondents obtained the knowledge of Pap smear from their husband. There is a significant correlation between the knowledge of Pap smear with occupation (p= 0.005), education level (p=0.001), those who had undergone Pap smear (p<0.000) and those who had heard of cancer of the cervix (p= 0.016) and Pap smear (p<0.000).

**Conclusion**
This study showed that the knowledge on cancer cervix and Pap smear is insufficient in the study group.

**ORAL (B2 - 5)**

**PATTERN OF PRESCRIBING DRUGS IN FIRST TRIMESTER OF PREGNANCY IN A TEACHING HOSPITAL OF DHAKA**

**Author**
Z. A. Begum

**Objective**
To find-out the pattern of prescribing drugs in early pregnancy

**Methods**
A descriptive study was carried out on 77 early pregnant women by their interview in a structured questionnaire in the gynae out-patient department (GOPD), Dhaka Medical College Hospital (DMCH), Dhaka, Bangladesh. Data were analyzed by using the INRUD prescribing indicators. The following parameters were studied – the average number of drugs per encounter, the percentage of antibiotics prescribed per encounter and the percentage of teratogenic drugs per encounter.

**Results**
The maximum number of drugs prescribed per encounter was 4. Poly pharmacy was practiced in 3.89 percent of prescriptions. Among all the prescriptions, the maximum 73 prescriptions had vitamin and minimum 1 prescription had analgesic. The rest 53 prescriptions had iron, 20 prescriptions had calcium, 18 prescriptions had folic acid, 8 prescriptions had slemell, 7 prescriptions had antibiotic and 2 prescriptions had teratogenic drugs. Statistical analysis shows that 9% early pregnant women took antibiotics and 2.5% early pregnant women took teratogenic drugs.

**Conclusions**
Antibiotics and Teratogenic drugs are not indicated in 1st trimester of pregnancy though these were used in teaching hospital. So it was highly errational. The most urgent need is the improvement of the rational prescribing in early pregnancy.

**ORAL (B2 - 6)**

**THE VANISHING TWINS PHENOMENON**

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The case of a 30 year old Malay lady Gravida 3 para 2 at 6 weeks + 5 days of gestation is described. She presented with a three day history of minimal per vaginal bleeding but with no abdominal pain or having passed products of gestation. Examination showed an eight week size uterus with the cervix long and closed and no adnexal abnormality.

The diagnosis first appeared to be a threatened miscarriage then a missed abortion and then an ectopic pregnancy. It was not a straightforward case! US showed three gestation sacs, but only one had a viable fetal echo.

At just beyond six weeks of gestation, with the BhCG levels plateauing for one week, ectopic pregnancy had also to be considered as a diagnosis.

Finally this case emerged as a case of “vanishing” twins. The pregnancy continued as a singleton pregnancy.

There are many reports on the phenomenon where one gestation sac disappears from what has been a twin pregnancy. In this case however two gestation sacs have disappeared from a presumed triplet pregnancy – a less usual “vanishing twins” phenomenon.

**ORAL (B2 - 7)**
MANAGEMENT OF COLORECTAL CARCINOMA AT HUSM DEPT OF RADIOThERAPY AND ONCOLOGY

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Introduction
Colorectal carcinoma (CRC) is the commonest cancer of the western world, but the incidence of CRC is low in Asian countries. Surgery is the definitive treatment and the staging of CRC is surgico-pathological staging. The role of adjuvant treatment in the form of radiotherapy and chemotherapy is well documented in the management of CRC.

Objective
To analyze the pattern of presentation, stage of disease, and the protocol of management of CRC at HUSM. The pattern of failure at the locoregional and distant sites were analyzed.

Methodology
This is a retrospective study reviewing the case files of patients of CRC attending the Oncology OPD at HUSM during the year’s 2001-2003. The role of adjuvant radiotherapy and chemotherapy with 5Fu-based regimes will be discussed.

Results
A total of 77 patients were analyzed in the present study, Dukes staging system is used for the staging. Fifty percent of patients presented in the 6th & 7th decade of life. Patient’s age ranged from 19 years to 82 years. Rectum and recto-sigmoid region is the most commonly affected site in the large gut. More then 65% patients of CRC presented in advanced stages. Thirty five percent of patients received radiotherapy and 53% received chemotherapy FUFA regime. Disease free status is noted in 46% of patients and liver is the most common site for metastasis. The follow up ranged from 1 month to 30 months.

Conclusion
CRC is one of the commonest cancers seen in the Oncology OPD, HUSM. Most of the patients present in the advanced stage of the disease. They need Multimodality treatment for their cancer management.

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Introduction
Infertility is one of the health problems that may be faced by the married couple. However not many study is carried out in Malaysia to look on the psychosocial impact of infertility on the infertile couples.

Objective
To determine the use of alternative medicine (traditional and homeopathy) and its psychosocial impact on couples in which the female is infertile.

Methodology
A cross sectional study was conducted for one year duration to all infertile females and their partners who were attending the Obstetric and Gynecology Clinic, Hospital Universiti Sains Malaysia (HUSM). It was conducted on 182 respondents using a self answered questionnaire.

Result
At least two third of the respondents, had used alternative medicine for their infertility problem with half of them practicing a traditional medicine, 14.8% practicing homeopathy and 1.6% practicing both. Eighty three percent respondents had a psychosocial impact because of their infertility. Statistical analysis showed that there was a significant association between the psychosocial impact with the education level and use of alternative medicine. There was no significant association between psychosocial impact with age, ethnic, occupation, type of infertility, duration of marriage and duration of infertility.

Conclusion
Most of infertile female had a psychosocial impact and this was significantly associated with education level and use of alternative medicine. Recognition of these relations may help in the counseling of infertile couples. The management of infertility should not only include physical treatment but also understanding, sympathy and support.

A STUDY ON THE PSYCHOSOCIAL IMPACT AND THE USE OF ALTERNATIVE MEDICINE PRACTISES(HOMEOPATHY AND TRADITIONAL) ON THE INFERTILE FEMALE IN HUSM.

Authors
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Introduction
Breast cancer is the most common malignancy in women of which treatment modalities include various combinations of surgery, radiotherapy, chemotherapy, and hormonal therapy. Selection of therapy and prognosis is influenced by the integrity of the immune systems, especially the profile of subsets of the immune cells. This study examines the effect of combination chemotherapy 5-fluorouracil, epirubicin/doxorubicin and cyclophosphamide (FEC) regimens on the subsets of the immune cells of patients with primary breast tumours, before and after starting systemic chemotherapy. Our aim is to determine the ability of FEC in changing profiles of immune cells of breast cancer patients.

Methods
Blood from 31 primary breast cancer patients undergoing chemotherapy with FEC was taken before chemotherapy and after every cycle (3 weeks) for 6 cycles. Blood taken from 31 normal healthy donors served as normal control. Subsets of lymphocytes T-helper cells (CD3+CD4+), T-cytotoxic cells (CD3+CD8+), B-cells (CD19+CD20+) and NK cells (CD16+CD56+CD3) were analyzed by flow cytometry (FacsCalibur, BD) using monoclonal antibodies (Multitest, BD).

Results
There was no significant difference in the immune cells profile between the control and pretreatment groups. FEC regimens led to increase counts of monocytes (p<0.01) and percentages of T-cytotoxic cells (p<0.01) and NK cells (p<0.01), but decrease counts of PMNs (p<0.01), percentages of T-helper cells (p<0.01) and B-cells (p<0.01). T-helper/T-cytotoxic ratio was declined (p<0.01), T-cells/B-cells ratio and NK-cells/B-cells ratio were also decreased due to drastic reduction in the number of B-cells.

Conclusion
This study indicates that FEC chemotherapy regimens suppress the immune system in general. However, they appear to still conserving cell-mediated immunity response needed for fighting against cancer cells.

Institution
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Introduction
Genetic polymorphisms of the MDR1 gene have been reported where they affect the expression and function of the P-gp efflux pump. DHPLC has been recently described as a feasible method for screening DNA samples for SNPs and mutations. The principle of this machine is that fully an automated system used for the detection of heteroduplexes in PCR products by ion-pair reverse phase HPLC under partially denaturing conditions.

Objective
The objective of this study was to detect SNPs and mutations in exon 21 of MDR1 gene in patients with acute lymphoblastic leukemia (ALL) and chronic myeloid leukemia (CML) from Hospital Universiti Sains Malaysia (HUSM).

Methodology
Whole blood samples were collected from 14 patients diagnosed as ALL and 6 patients diagnosed as CML based on the FAB classification from HUSM. Genomic DNA was extracted using QIAamp blood minikit (QIAGEN). Exon 21 was amplified using primers as described previously and the amplified products were electrophoresed on 1.7% agarose gel. Prior to dHPLC analysis, the amplicons for each exon were prepared by performing the reannealing method using the thermocycler and dHPLC was performed in various temperatures to obtain the optimum temperature. The profiles of dHPLC analysis of these samples were compared with wild type samples as normal controls.

Results
Based on portion elution profiles, 6 (42.86%) ALL and 4 (66.67%) CML samples showed mutation peaks while the rest showed the normal peaks when compared with the wild type.

Conclusion
Thus SNPs and mutations in MDR1 gene has been successfully screened using the dHPLC technique in leukemia patients in HUSM where this information is useful for patients’ stratification of treatment. Further analysis to confirm the mutations using automated sequencing is ongoing.

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Introduction
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Based on portion elution profiles, 6 (42.86%) ALL and 4 (66.67%) CML samples showed mutation peaks while the rest showed the normal peaks when compared with the wild type.

Conclusion
Thus SNPs and mutations in MDR1 gene has been successfully screened using the dHPLC technique in leukemia patients in HUSM where this information is useful for patients’ stratification of treatment. Further analysis to confirm the mutations using automated sequencing is ongoing.

ORAL (C2 - 1)

ANALYSIS OF EXON 21 OF THE MDR1 GENE IN THE ACUTE LYMPHOBLASTIC LEUKEMIA (ALL) AND CHRONIC MYELOID LEUKEMIA (CML) PATIENTS USING DENATURING HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (DHPLC)

Authors
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ORAL (C2 - 2)

SEROLOGICAL STUDY OF TOXOPLASMOSIS USING ENZYME-LINKED IMMUNOSORBENT ASSAY

ABSTRACT, 9TH NCMS, 22 - 23 MAY 2004, UNIVERSITI SAINS MALAYSIA, HEALTH CAMPUS, KUBANG KERIAN, KELANTAN
Toxoplasma gondii infection

The studied individuals had a high prevalence of toxoplasmosis was 20.0%. No significant differences by age or sex were observed.

Results

A total of 206 blood samples were collected from the patients who were suspected to have toxoplasmosis. The rate of positive tests for toxoplasmosis was 2.5% (1 out of 40 cases) in 2001, 6.9% (4 out of 58 cases) in 2002 and 16.0% (8 out of 49 cases) in 2003. It was 49.0% (29 out of 59 cases) in the period of 1 January to 31 March of 2004. The overall positivity for toxoplasmosis was 20.0%. No significant differences by age or sex were observed.

Conclusion

The studied individuals had a high prevalence of Toxoplasma gondii infection.

ANALYSIS OF G_A 211 (G71R) MUTATION OF THE UGT1A1 GENE IN NEONATAL HYPERBILIRUBINEMIA IN MALAYS.

Authors

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Introduction

A missense mutation of G to A at nucleotide 211 in exon 1 of UGT1A1 gene results in amino acid change from glycine to arginine at codon 71 (G71R). This is one of the genetic risk factors in neonatal hyperbilirubinemia among Japanese neonates. This finding led us to evaluate the presence of G71R mutation in hyperbilirubinemia in Malay neonates.

Subjects and methods

A total of 55 Malay neonates (36 males and 19 females) with hyperbilirubinemia and 50 Malay neonates without hyperbilirubinemia (controls) were studied. The study subjects were term babies, normal birth weight and with total serum bilirubin level more than 250 µmol/L within first 7 days of life. Blood was collected from after informed consent taken from the parents and DNA extracted by standard methods. Screening for the G_A 211 mutation was performed using DHPLC. PCR primers for PCR amplification and for DHPLC conditions were as described before. For heteroduplex formation, crude PCR products were denatured at 95°C for 5 min followed by cooling to 25°C for 1h. DHPLC was performed using a fully automated system (Varian Helix System). The chromatograms of subjects were compared with those of heterozygous controls and normal controls.

Results

Out of 55 neonates, 3 neonates (5.5%) were noted to have the G71R mutation. In the normal controls there were 3 positive (6.0%) samples. Thus there was no significant association (p < 0.05) of G71R mutation in neonates with hyperbilirubinemia and without hyperbilirubinemia.

Conclusion

The results suggested that the high incidence of neonatal hyperbilirubinemia among Malays cannot be explained by a high frequency of G71R mutation.

CYTOTOXIC EFFECTS OF THE METHANOLIC EXTRACTS FROM 20 SPECIES OF ARACEAE AGAINST HUMAN HEPATOCARCINOMA CARICOMA CANCER (HEPG2) CELL LINE.

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The 80% (v/v) methanolic extracts from 20 species of Araceae were screened for their antitumor activities against Human Hepatocellular Carcinoma (HepG2) cell line and the cell survival was determined using Methylen Blue Assay. All the plant extracts exhibited dose-dependent inhibition on the growth of HepG2 cell line. The most significant inhibition was produced by Alocasia macrorrhiza extract with EC_{50} (effective concentration that can kill 50% of cancer cells) of 15.11mg/ml. In addition, three other extract that have been identified as potential anti-cancer agents are Amydrium media (EC_{50} = 17.11 mg/ml), Ariseama waryi (EC_{50} = 19.626 mg/ml) and Scindapsus aureus (EC_{50} =
SMN1 AND NAIP GENE DELETION IN MALAYSIAN SMA PATIENTS

**Authors**

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**Introduction**
Spinal Muscular Atrophy (SMA) is one of the most common autosomal recessive inheritance diseases. According to the previous reports, 90-95% of SMA patients show homozygous deletion of exons 7 and 8, while the rest of the patients have other mutations in the SMN1 gene. The NAIP gene, which exists near the SMN1 gene, is reportedly correlated with the severity of SMA. In Malaysia, SMA has been diagnosed based on the clinical features, muscle biopsy findings, EMG and nerve conduction studies, but not based on molecular analysis. Here we did a molecular analysis of Malaysian SMA patients, and compared the results with the data reported previously.

**Objectives**
To determine the incidence of SMN1 gene deletion in Malaysian SMA patients and to clarify the relationship between the NAIP gene deletion and severity of the disease.

**Material and methods**
A total of 13 patients (Type I = 4 patients, Type II = 6 patients, Type III = 3 patients) who fulfilled the diagnostic criteria for SMA were enrolled into this study. Genomic DNA was extracted from 2.5ml of blood. The SMN genes were analyzed by the methods of van der Steege et al, and the NAIP gene were analyzed by the methods of Roy et al.

**Results**
Homozygous deletion of SMN1 was found in 77% of our patients. Seventy-five % of Type I, 83% of Type II and 66% of Type III patients show homozygous deletion of this gene while the NAIP gene deletion was seen in 50% of both Types I and II and 33% in Type III.

**Discussion**
From these findings, the SMN1 gene deletion incidence is much lower in our population than that in other populations. In addition, the NAIP gene was not related to the severity of the disease. However, it is too early to come to a conclusion with a limited number of the patients. Larger scale studies are necessary to determine the exact incidence of SMN1 gene deletion in Malaysian SMA patients and to clarify the role of the NAIP gene.

ORAL (C2 - 6)
IDENTIFICATION OF URIDINE DIPHOSPHATE GLUCURONOSYL TRANSFERASE 1A1 (UGT1A1) GENE MUTATION IN BABIES WITH EARLY ONSET OF NEONATAL JAUNDICE (NNJ)

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**Introduction**
NNJ, a potential cause of kernicterus is common in Malaysia. However, no obvious aetiology is identified in most of the cases. Recently, mutations in the bilirubin UGT1A1 gene attributed to NNJ and hyperbilirubinemia syndromes have been reported in many populations.

**Objective and Methods**
Molecular techniques were applied for investigating of the UGT1A1 mutation in three babies [B1, B2, and B3] who had early onset of jaundice. Identifiable causes of pathological jaundice have been excluded earlier. An inherited phenomenon of this mutation was demonstrated by doing family study and molecular analysis.

**Results**
Nucleotides sequenced identified two different novel mutations in two Malay babies [B1, B2]. One mutation was transversion GÆC at nucleotide 1477 in exon 5 (G493R) in B1. Another mutation was transition AÆG at nucleotide 964 in exon 2 (I322V) in B2. A specific mutation i.e. transition GÆA at nucleotide 211 in exon 1 (G71R) was identified in B3, a Chinese.

**Conclusion**
These results suggest that mutations in UGT1A1 gene may play a role in the pathogenesis of early onset of NNJ.
ORAL (C2 - 7)

PREVALENCE OF INTESTINAL PARASITES AMONG SUSPECTED CASES IN HOSPITAL
UNIVERSITI SAANS MALAYSIA

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Background
A retrospective study was conducted to review the intestinal parasites cases seen in HUSM / laboratory of parasitology.

Methods
During the period from January 2001 to December 2003, all the cases were recorded. The stool samples were microscopically examined for intestinal parasites using the formalin-ether concentration technique.

Results
A total of 4588 stool samples were collected from the patients who were suspected to have a parasitic infection. Overall infection rate was 11% (530 out of 4588 samples), with Ascaris lumbricoides (3.8% or 173 cases) and Trichuris trichiura (3.8% or 173 cases) as the commonest parasites. The positivity of Blastocystis hominis was 1% (50), Entamoeba histolytica 1% (46), Giardia lamblia 0.8% (38), Hook worm 0.7% (33), Strongyloides and Entrobius vermicularis were 0.2% and 0.01% respectively. Overall positivity rate in 2001 was 19% which was higher than in 2002 (11%) and 2003 (11%). Conclusions: The overall positivity rate indicated that the parasitic infection rate was less in 2002 and 2003 than 2001 using the same technique.

ORAL (C2 - 8)

HLA CLASS II ANTIGENS IN MALAYS WITH SYSTEMIC LUPUS ERYTHEMATOSUS IN HUSM

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Background
Systemic lupus erythematosus (SLE) is a disease of abnormal immune regulation, characterized by the production of autoantibodies. Autoantibody production depends on the interaction of helper T lymphocytes with HLA Class II molecules on antigen presenting cells; therefore, the class II genes have a role in susceptibility through alteration of T cell recognition.

Objective
This study was designed to evaluate the frequency of HLA-DR and –DQ alleles in ethnic Malays with SLE in order to determine the role of these genes in disease susceptibility.

Methodology
HLA typing of fifty-five SLE patients from Malay ethnic who fulfilled the American Rheumatism Association (ARA) were analysed, and compared with the control group consisting of 55 healthy unrelated subject with comparable age, sex and ethnic. HLA typing of class II antigen were carried out using MicroSSP Class II generic (DRB/ DQB) from One Lambda Inc.

Results
We found a strong significant association of HLA-DR15 and HLA-DR17 with SLE compared to healthy control group (p corr = 0.002, adjusted OR = 5.513; p corr = 0.04, adjusted OR = 7.87 respectively). There was a weak decrease of HLA-DR4 which was not significant after corrections for multiple comparisons made.

Conclusion
Our data suggests the role of the HLA Class II genes in conferring SLE susceptibility and in clinical expression.

ORAL (C2 - 9)

AN OUTBREAK OF PANTOE A SPP. IN A NEONATAL INTENSIVE CARE UNIT (NICU)
SECONDARY TO CONTAMINATED TOTAL PARENTERAL NUTRITION (TPN).

Authors

Institution
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Background
Neonates are particularly susceptible to infection because their immune system is not fully developed. In addition, they often require invasive diagnostic and therapeutic procedures that are associated with an increased risk of infection. An important source of infection is contaminated parenteral nutrition. Pantoea spp. rarely cause infection in immunocompetent hosts and has never been reported to cause mortality or severe morbidity. The objective of the study is to investigate an outbreak caused by Pantoea spp. in a neonatal intensive care unit.

Methodology
A descriptive study of an outbreak of sepsis in NICU, HUSM. Pantoea spp. infection was detected in eight patients during three-days period from 24th to 27th
January 2004 following the administration of TPN. Seven of eight patients died due to the infection. An extensive environmental sampling and culture were done including in-use TPN and other unused TPN in NICU and pharmacy during the outbreak period.

Results
Pantoea spp. was isolated from blood cultures of infected patients, the unused TPN from pharmacy and also from the unused TPN from NICU. All the strains of Pantoea spp. had the same antibiotic susceptibility pattern and biochemical reaction.

Discussion and Conclusion
The source of the outbreak was the TPN and the contamination occurred during the preparation of TPN in pharmacy. A thorough investigation has been carried out and where possible corrective measures have been taken to avoid similar outbreaks in the future.

Conclusions
This study has identified risk factors can be used as a guide for targeting poison control programs.

Meninjau kehadiran mikroorganisma pada alatan galipot dan cecair yang diguna sama untuk prosedur sedutan tiub endotracea dan tiub trakeostomi.

Pengenalan
Strategi yang mampu dalam menghalangi terjadinya kolonisasi bakteria pada secincin trakea dan paru-paru bukan hanya kos-efektif malah adalah kunci ke penurunan kadar mortaliti pesakit dan jumlah hari mereka di wad. Terdapat beberapa laporan dan semakin penelitian tentang usaha untuk mendapatkan data saintifik yang konkrit tentang faktor penyebab dan yang berhubungkait dengan terjadinya ‘hospital infection’ dan peradangan paru-paru khususnya yang berhubungkait dengan prosedur ‘endo-tracheal intubations’. Prosedur sedutan merupakan prosedur yang perlu dalam jagarawatan klien yang berada dalam unit kritikal ICU. Prosedur ini dilakukan untuk memastikan salur udara yang sentiasa paten dan berfungsi. Dipercaaya peralatan yang digunakan untuk melakukan prosedur ini boleh menjadi alat transmisi patogen nasokomial.

Tujuan kajian
Kajian ‘pilot’ ini dilakukan bertujuan untuk meninjau kemungkinan wujud mikroorganisma pada peralatan dan cecair yang digunakan dalam prosedur sedutan bagi klien yang memerlukan memastikan satu protokol jagarawatan yang asepsis dan memenuhi piawaian digunakan di HUSM.

Metodologi
Sampel swab diambil langsung dari galipot dan cecair yang telah digunakan untuk prosedur sedutan bagi subjek yang telah dikenal pasti pada waktu-waktu yang berbeza (jam pertama, ketiga dan kelima). Seterusnya pengenalan mikroorganisma dilakukan ke atas sampel yang diambil dan dibiarkan selama 24-jam sebelum bacaan dibuat. Data yang dikumpul dianalisa menggunakan SPSS versi ke 10 untuk analisa variasi frekuensi berhubungkait dengan demografi, penggunaan antibiotik, dan jenis mikroorganisma yang dapat di kultur.
Keputusan
Hasil daripada sampel swab didapati 30-sampel menunjukkan pertumbuhan ‘gram negative bacilli’ dan ‘mixed growth of GNB’. Manakala terdapat pertumbuhan mikroorganisma yang terdiri dari basils gram negatif, spesis klebsiella dan spesis entero bacter dari pengkulturan sampel yang diambil dari peralatan dan cecear yang telah digunakan dalam prosedur sedutan di wad 2 Delima dan ICU HUSM. Mikroorganisma ini mungkin hadir dalam persekutan atau dari kawasan endotrakea atau trakeostomi subjek.

Rumusan
Penggunaan alatan secara berulangkali boleh menyebabkan kontaminasi terjadi dan ianya merupakan faktor penyokong utama tersebarnya infeksi. Keputusan penyelidikan ini menyokong penekanan, penyerapan dan aplikasi carta penilaian oral dilakukan terhadap 30 orang klien kanser yang dipilih secara “convenience sampling”, yang menerima rawatan hanya hemoterapi atau hanya radioterapi atau kedua-duanya sekali di wad onkologi (3S) HUSM. Penilaian dibuat pada hari pertama, ketiga dan kelima klien berada di wad tersebut. Selepas setiap penilaian, swab kultur dibiarkan di bahagian kiri dan kanan bukal retromolar ke dalam media pengangkut Stuart untuk pemersikan kultur.

Keputusan
Keputusan penyelidikan ini menunjukkan 46.7% klien mengalami bibir kering, ulserasi dan pendarahan. Keadaan mukosa bibir yang kering juga mengalami ulserasi dan mudah terjadi pendarahan spontan yang dikenali secara klinikal sebagai mukositis. Manakala 90.0% klien menunjukkan mengalami mulut kering, 96.7% mengalami membak manusia kering dan 70.0% mengalami keadaan saliva yang kering serta 30.0% mengalami kepekanan saliva. Jumlah peratus frekuensi mikroorganisma gram negatif bertambah kepada 63.3% pada hari kelima manakala mikroorganisma gram positif 16.7%, dan kandida 10.0%.

Rumusan
Hasil penyelidikan menyokong penekanan, penyenaraian dan aplikasi carta penilaian oral khususnya di wad onkologi HUSM bagi jagarawatan yang berkesan. Penilaian status kavit oral sebelum memulakan rawatan dapat memastikan keberkesanan rawatan dan jagarawatan yang saintifik, sistematik dan bersifat holistik kepada klien.

ORAL (A3 - 4)

THE DETERMINATION OF LOCAL MALAY FEMALE BONE MINERAL DENSITY AND ITS'CORRELATION WITH GEOMETRIC PROPERTIES IN THE EVALUATION OF SKELETAL STATUS

Authors

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Introduction
Osteoporosis is a systemic skeletal disease characterized by low bone mass, fragility and a
Introduction and objectives
CT perfusion study is a new method to diagnose infarction in cases of normal plain CT scan. It also identifies the area of ischemia and size of infarction. The aim of this study is to determine the number of cerebral infarction cases in Hospital USM where there is normal plain CT scan and abnormal Perfusion CT.

Material and Methods
Forty two consecutive plain and perfusion CT examinations of brain in patients 12 years and above perform from August 2002 to August 2003 were evaluated qualitatively. Plain CT scan was performed in patients presented with acute stroke symptoms followed by Perfusion CT.

Results
Twelve out of 42 cases were found to have normal plain CT scan. Nine out of these 12 patients were positive for infarction in Perfusion CT scan. Two out of 12 cases turned out to be transient ischemic attack and one case, CT perfusion was normal even though patient showed signs and symptoms of acute stroke. The prevalence of negative plain CT scan and positive perfusion CT for acute stroke in Hospital USM from August 2002 to August 2003 was 21.3%.

Conclusion
CT perfusion is a useful imaging tool for determining infarction in cases where the plain CT scan is normal. The results obtained from CT perfusion scanning are used to determine mode of treatment suitable for acute stroke patients.

The Prognostic Value of Initial and Follow-up Computerized Tomography (CT) of Brain in Adult Patients with Moderate and Severe Head Injury Following Motor Vehicle Accident

Overview
Head injury is still the most common problem throughout the world. In Malaysia, the most common cause of head injury is due to motor vehicle accident. The impact of the head injury is so great because the younger generation is the highest populations involved. The outcome may ranges from good recovery and disability to death. In view of the important of the outcome, the author felt that it is important to assess the clinical as well as the CT scan of brain of those patients in order to
Objective and Methods
The objective of this study is to predict the outcome of the adult patients with moderate and severe head injury in motor vehicle accident by using clinical parameters (age, Glasgow Coma Scale), initial CT scan of brain parameter (intracranial haemorrhage, volume and site of intracranial haemorrhage, midline shift and hydrocephalus) and follow-up CT scan of brain parameter (residual intracranial bleed, post-traumatic hydrocephalus, midline shift and gliosis). The patient is assessed clinically on admission for GCS. Those categorised into moderate and severe head injury with initial and follow-up CT scan of brain 6 weeks later will be selected for the study. The parameters were analyzed statistically using univariate analysis, chi square test and logistic regression. The p value of < 0.05 is taken as significant level.

Results
A total of 31 patients were selected, 67.7% are male and 32.3% are female. The GCS of the patients were statistically significant as outcome predictors. Other significant predictors analyzed from the study are midline shift and volume of subdural haemorrhage in the initial CT scan and post-traumatic hydrocephalus and gliosis in the follow-up CT scan.

Conclusion
The study showed that the above-mentioned parameters are significant predictors of outcome. The author also have suggested a new outcome predictors by using the parameters from follow-up CT scan i.e. presence of gliosis, site of gliosis and post-traumatic hydrocephalus.

ORAL (A3 - 7)

CIGARETTE SMOKING AS A RISK FACTOR FOR STROKE DEATH IN JAPAN: NIPPON DATA 80

Authors
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Introduction
Some previous Japanese cohort studies failed to show an association between smoking and stroke risk. Since such an association has been noted in other populations, this issue should be re-examined in a recent representative Japanese cohort with a higher total cholesterol level.

Objectives
To investigate the association between cigarettes smoking and stroke death in a representative Japanese population.

Methods
A total of 9,638 men and women aged 30 years and older without a history of cardiovascular disease (CVD) at baseline in 1980 were followed for 14 years. Follow-up rate was 91.4%. Causes of death were ascertained from National Vital Statistics. Cox proportional hazard ratios were calculated adjusting for age, systolic blood pressure, and other conventional risk factors.

Results
We observed 203 stroke deaths (107 cerebral infarctions, 45 cerebral hemorrhages, and 51 others), 191 heart disease deaths, and 413 CVD deaths. The average serum total cholesterol level was ~4.91mmol/L. The hazard ratios for men who smoked 1-20 cigarettes/day on all strokes, cerebral infarction, and cerebral hemorrhage were 1.60 (95% confidence interval (CI), 0.91-2.79), 2.97 (CI 1.27-6.98), and 0.42 (CI 0.16-1.09), respectively, and for those who smoked ≥21 cigarettes/day, they were 2.17 (CI 1.09-4.30), 3.26 (CI 1.11-9.56), and 0.68 (CI 0.20-2.33), respectively. For women who smoked ≥21 cigarettes/day, the hazard ratio for all strokes was 3.91 (CI 1.18-12.90). For CVD, all heart disease, and ischemic heart disease, the hazard risks of smoking were significant (1.49 to 4.25) for men but not significant for women.

Conclusions:
Smoking in a cohort with moderate serum total cholesterol level was a potent risk factor for stroke, especially cerebral infarction, for both men and women, and CVD and ischemic heart disease for men.

ORAL (A3 - 8)

DIAGNOSTIC VALUE OF ECG CHANGES, ARRHYTHMIA AND CHEST PAIN DURING DOBUTAMINE STRESS MYOCARDIAL PERFUSION IMAGING

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Background
The presence of myocardial perfusion abnormalities assessed by dobutamine stress myocardial perfusion imaging (MPI) accurately diagnoses patients with coronary artery disease, and are powerful predictors of cardiac events. Thus, results of this imaging modality help in selecting the appropriate management strategies. During dobutamine stress test, ECG changes, arrhythmia and chest pain occur frequently. However, data regarding diagnostic value of these parameters to
predict myocardial perfusion abnormalities are scarce. Thus, the aim of this study was to determine the diagnostic value of ECG changes, arrhythmia and chest pain to predict myocardial perfusion abnormalities on SPECT.

**Method**
We performed dobutamine-atropine stress 99Tc-tetrofosmin/MIBI myocardial perfusion SPECT in 26 patients referred to the department of nuclear medicine for MPI. SPECT imaging was performed 30 min post-injection using one-day stress-rest protocol.

**Results**
Myocardial perfusion abnormalities (reversible or fixed defects) were detected in 11 (42.3%) out of 26 patients. The sensitivity and specificity of ECG changes (ST depression, ST elevation or T wave normalization) to predict myocardial perfusion defects were 45.5% and 86.7% respectively. The sensitivity and specificity of cardiac arrhythmia (significant supraventricular or ventricular arrhythmia) were 45.5% and 86.7%, and of chest pain were 18.2% and 80% respectively.

**Conclusion**
ECG changes, cardiac arrhythmia and chest pain during dobutamine stress test showed high specificity. However, the low sensitivity of these parameters warrants performing dobutamine stress test in conjunction with a more sensitive imaging modality such as MPI.

**ORAL (A3 - 9)**

**VOLUME OF HIPPOCAMPAL COMPLEX IN MAJOR DEPRESSION PATIENTS BEFORE AND AFTER TREATMENT WITH SELECTIVE SEROTONIN REUPTAKE INHIBITOR (SSRI) DRUGS**

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**Purpose**
To assess change in volume of the hippocampal complex in major depression patients following treatment with SSRI drugs. This is correlated with progress of the patients’ illness. To date no other institution has done this study on humans. Similar studies on rats showed hippocampal volume increase of about 70%.

**Method**
Newly diagnosed untreated major depression patients fulfilling the study criteria are selected. First MRI of the brain done for the hippocampal complex structure. Patients start consuming the SSRI drugs after the MRI. After six months, the MRI study is repeated following similar protocols. The hippocampal complex volume calculated from the MRI study. The volume change is correlated with patients’ clinical progress as assessed by the treating psychiatrist.

**Results**
Seven patients came for the initial MRI while only four came for the second MRI. About 13 – 25% increase in volume of hippocampal complex was found following treatment. It correlated with the patients’ progress of illness.

**Conclusion**
The result shows that there is increase in hippocampal complex volume following treatment which correlates with the patients’ clinical improvement. In future, this finding can aid in assessing clinical response in major depression patients treated with SSRI drugs.
Results
The hyperlipidemic subjects showed substantially lower insulin sensitivity and higher insulin resistance in comparison to normolipidemic subjects. The median of HOMA%S of hyperlipidemic and normolipidemic subjects were 50(83) and 232(227) (p<.0001) for male and 71(86) and 241(221) (p<.0001) for female respectively. Insulin secretory status of hyperlipidemic subjects indicate that the B cells of these subjects have to secrete more insulin to overcome lowered insulin sensitivity, the median of HOMA%B were 179(144) and 98(32) for male and 179(102) and 87(34) for female.

Conclusion
1. Insulin sensitivity of otherwise healthy non-obese hyperlipidemic subjects is lower than normolipidemic subjects.
2. The B cells of hyperlipidemic subjects have to work more to compensate lowered insulin sensitivity.
3. Hyperlipidemia can be considered as a risk factor for development of insulin resistance syndrome in future and should be treated.

ORAL (A3 - 11)
THREE-DIMENSIONAL ULTRASOUND

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Background
This project report was done to investigate feasibility and potential application of three-dimensional (3-D) ultrasonography in Hospital University Sains Malaysia (HUSM), Kubang Kerian, Kelantan. First attempt was tested on tissue-equivalent ultrasound phantom to review several 3-D ultrasound enhancements which was not offered by two-dimensional (2-D) ultrasonography. They are 3-D orthogonal slices, arbitrary slicing as well as high resolution reconstruction, volume rendering images and image manipulation interactively.

Method
3-D images were generated by a Siemens Sonoline Elegra Ultrasound Imaging System located at the Radiology Department, HUSM. Transducers used are the linear array transducer (VF13-5) which operates at frequency of 9.0 MHz and sector array transducer (3.5C40H) at frequency of 3.5 MHz. Images were acquired with free-hand technique by linear and rocked methods.

Results
Using this imaging system, 2-D and 3-D phantom structures from various perspectives and orientations were reviewed simultaneously in a four-quadrant display. New 2-D section from anyplane slices may be obtained from the single 3-D volume for visualization.

Conclusion
The results suggest that 3-D ultrasonography developed by the respective ultrasound imaging system has the potential to complement 2-D ultrasonography.

ORAL (A3 - 12)
EVALUATION OF TOSHIBA GAMMA CAMERA GCA-901A/HG PERFORMANCE BY USING UNCONVENTIONAL MATERIAL FILTERS WITH TC-99M IN PLANAR IMAGING

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Introduction
Data for diagnostically reliable images can only be obtained with gamma camera when the performance parameters, such as, uniformity, sensitivity and spatial resolution are tested and are within the limits of acceptability. These parameters are affected by the scattered radiation emanating from the object/organ to be scanned.

Objectives
To investigate the effects of unconventional material filters (Cu 0.125 mm, Al 0.2 and 0.3 mm thick sheet) on the performance parameters via attenuating some fraction of scattered radiation prior to detection.

Methods
Flood field phantom, petri dish and line source by using Tc-99m radionuclide is scanned for uniformity, sensitivity and spatial resolution measurements, respectively. Either LEGP or LEHR collimators are applied. Data are collected within a symmetrical standard energy window (126 – 154 keV centered at 140 keV) without and with unconventional material filters by mounting on the outer surface of collimator.

Results
Results obtained without material filters are compared with those obtained with unconventional material filters. Integral uniformity is improved when material filter is applied with the LEHR collimator. The sensitivity is decreased, as expected, with both collimators when material filters are mounted. Improvement in FWHM values for 0 – 4 cm source-collimator distance with unconventional filters is noted with both the collimators.
Conclusion
Unconventional material filters may be applied for scanning objects/organs and may provide improved quality images.

ORAL (A3 - 13)

MICRONUTRIENTS CORRELATED TO CANCER

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Diet and cancer appear to be closely related. Several epidemiological, experimental and metabolic studies suggest important role for nutrients in the diet, which modulate the process of carcinogenesis and immune functions. Recent studies emphasize the etiological role of vitamins and minerals in epidemiology of cancer at a number of sites. Micronutrient deficiencies (vitamins and minerals) are commonly encountered and significantly influence carcinogenic processes. Considerable interest in the role of vitamins A, C, E and B in the genesis and prevention of cancer. Most of the vitamins seem to be acting either through the inhibition or formation of carcinogen, or by protecting against free radicals. Among minerals and trace metals iron, zinc and selenium deficiency seem to increase the risk of cancer.

Commonly consumed foods, particularly vegetables and fruits, are sources of numerous micronutrients. Several of these, including ß-carotene (a vitamin A precursor), vitamin E, vitamin C, selenium (which all have antioxidant potential), calcium, vitamin D (in fish, eggs and fortified dairy products) and folate, have been the focus of extensive experimental and epidemiological research to determine their influence on cancer risk. Based on in vitro data, and while recognising their prooxidant potential under certain conditions, some have postulated that anti-oxidant micronutrients may protect against oxidative damage to biomolecules, such as lipids, lipoproteins and DNA, thus influencing the risk for cancer development. Selenium is a component of numerous selenoproteins (e.g. glutathione peroxidase, thioredoxin reductase) that function as enzymes in redox reactions that may affect cancer risk. Anti-oxidant micronutrients may also influence carcinogenesis through other mechanisms. For example, vitamin E inhibits cell proliferation and carotenoids, including ß-carotene, may affect cell transformation and differentiation, enhance cell-to-cell communication, and enhance immune responses. Experimental evidence generally suggests that calcium and vitamin D may reduce risk for colorectal cancer by decreasing cellular proliferation.

Conclusion
Even though the role of few micronutrients either in the

ORAL (B3 - 1)

TRANS-SEPTAL TRANS-SPHENOIDAL COMBINED APPROACH FOR HYPOPHYSECTOMY

Authors
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Introduction
The pituitary gland is inaccessible to the surgeon directly however there are indications for normal as well as neoplastic pituitary gland excision. The pituitary gland is also required to be removed for certain medical reasons. History of pituitary gland excision shows that a number of approaches were in practice in the past. This involved, trans-cervical and trans-sphenoidal procedures. We experienced the trans-septal, trans-sphenoidal procedure as combined approach with neurosurgeon in hospital USM.

Objective
To highlight the practicality and efficacy of trans-septal trans-sphenoidal approach in pituitary gland lesion and how to perform it in a feasible manner.

Method
Indications of pituitary gland excision, history of various approaches and the video demonstration of trans-septal trans-sphenoidal as combined ORL-neurosurgical approach and its outcome is analysed.

Conclusion
Treatment of pituitary gland should involve an endocrinologist, oncologist and a surgeon trained in trans-sphenoidal approach. CT-scan can localise microtumors preoperatively. This is an effective method of surgical treatment too and care being taken is liable to minimum complications.

ORAL (B3 - 2)

CENTRAL CORNEAL THICKNESS AND MORPHOLOGY IN MYOPIC MALAY UNDERGRADUATES OF HEALTH CAMPUS, UNIVERSITI SAINS MALAYSIA

Authors
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Objective
To evaluate the central corneal thickness and morphology in myopic Malay undergraduates of Health Campus, USM.

Methods
A cross sectional study was conducted in 65 myopic and 65 emmetropic subjects, with age ranges from 20 to 25 years old. Spherical equivalent and cornea curvature was determined with Humphrey autorefractor/keratometer 599 (Humphrey System, USA). Central corneal thickness and morphology (endothelial density, coefficient variation and hexagonality) was determined with Topcon SP2000P specular microscope (Topcon Corp, Japan).

Results
Myopes have thinner central cornea (p=0.003), lower endothelial density (p =0.017) and steeper cornea curvature (p=0.017) compared to emmetropes. There was no difference seen in endothelial hexagonality and coefficient variation. We observed a significant inverse correlation between degree of myopia (measured in spherical equivalent) and central corneal thickness (r = -0.282, p =0.023).

Conclusions
Myopes have significantly thinner central cornea, lower endothelial density and steeper cornea curvature. Higher degree of myopia is associated with thinner central cornea. All these factors need to be considered in managing myopia, especially in refractive surgery.

ORAL (B3 - 3)

LASER TONSILLOTOMY: AN ALTERNATIVE TO CONVENTIONAL TONSILLECTOMY IN CHILDREN

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Introduction:
Tonsillectomy in children is done on a regular basis in ENT. The indications are chronic recurrent sore throat and URTI, odynophagia, sleep apnea and access to deeper structures.

Objective
The natural history of tonsillar hypertrophy is regression when a child is 6 years old or older. In children with obstructive symptoms we study the use of laser as an alternative procedure to reduce the bulk of the tonsils mass. Naturally, the remnants of the tonsils will regress as the child grows older.

Method
Children with obstructive symptoms of tonsillar hypertrophy underwent laser tonsillotomy. The tonsils were dissected using laser from anterior pillar to posterior pillar. The tonsils bed were left untouched. Intraoperative and postoperative conditions were noted.

Result
Intraoperatively, blood loss was negligible. Postoperatively, all of the patients were able to swallow with minimal discomfort and discharged the following day after observation.

Conclusion
Laser tonsillotomy is an alternative procedure in children having obstructive tonsillar hypertrophy.

ORAL (B3 - 4)

DETECTION OF HERPES SIMPLEX INFECTION IN VIRAL CONJUNCTIVITIS USING POLYMERASE CHAIN REACTION – A PILOT STUDY

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Objective
To detect the viral conjunctivitis in HUSM caused by herpes simplex virus (HSV) using polymerase chain reaction (PCR) method.

Method
A cross-sectional hospital-based study was conducted. A total number of 70 patients with viral conjunctivitis were seen at the ophthalmology clinic, HUSM during one year period. Presenting clinical features were identified and conjunctival scrapping using sterile swab was taken from superior and inferior fornices of affected eye for PCR analysis. The PCR was performed using a commercially available primer. The presence of the amplified target sequence was determined by agarose gel. A positive result reflected the prevalence of viral conjunctivitis caused by HSV. Descriptive analysis was performed using SPSS system.

Result
The prevalence of HSV infection among viral conjunctivitis patients seen in HUSM, using PCR method was 17% (95% CI=8.1,26.0). Majority of these patients presented with moderate follicular conjunctivitis with frequent early corneal involvement. A large portion of patients presented with unilateral involvement.

Conclusion
This study showed the prevalence of viral conjunctivitis caused by HSV infection, in HUSM was higher than other studies.
ABSTRACT, 9TH NCMS, 22 - 23 MAY 2004, UNIVERSITI SAINS MALAYSIA, HEALTH CAMPUS, KUBANG KERIAN, KELANTAN

ORAL (B3 - 5)

INTRAVENTRICULAR CAVERNOUS HAEMANGIOMA

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A rare case of a cavernous haemangioma in the third ventricle is reported. This patient, a seven-year old boy presented with fever, vomiting and not active for a week. Examination revealed neck stiffness, left lateral rectus muscle palsy and blurred right optic disc. Urgent CT-scan revealed minimally enhancing mass in the third ventricle. Magnetic resonance imaging was done two days later, and showed a heterogenous, multilobulated, minimally enhancing tumour in the third ventricle. The tumour was almost totally excised. Histology of the tumour revealed a cavernous haemangioma. Intraventricular location for a cavernous haemangioma is rare with less than 50 cases reported in literature. The clinical and radiological features are discussed and relevant literature is briefly reviewed.

ORAL (B3 - 6)

COMPARISON OF CONJUNCTIVAL IMPRESSION CYTOLOGY BETWEEN GLAUCOMA PATIENTS TREATED WITH TOPICAL TIMOLOL MALEATE 0.5% AND TOPICAL LATANOPROST 0.005%.

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Objective
To compare the conjunctival surface morphology that develops with the use of topical timolol maleate 0.5% and topical latanoprost 0.005%.

Method
Newly diagnosed glaucoma patients are randomly divided into 2 groups by closed envelope method:

Group 1 : treated with topical timolol maleate 0.5%
Group 2 : treated with topical latanoprost 0.005%

First conjunctival impression cytology was taken before the treatment was started. Second conjunctival impression cytology was taken after 3 months of treatment. The conjunctival impression cytology of the both groups was compared.

Results
1. In both the timolol group and latanoprost group, there was no change of the conjunctiva epithelial cell morphology after three months of anti-glaucoma drugs treatment.
2. Within three months of therapy, both these drugs cause significant reduction of conjunctival goblet cells and mucous granules.
3. There was no significant difference in the density of goblet cells and mucous granules in both groups of patients after 3 months of treatment.

Conclusion
Both topical timolol maleate 0.5% and topical latanoprost 0.005% cause significant reduction of conjunctival goblet cells and mucous granules however there was no significant difference of conjunctiva surface morphology between the two groups after treatment.

ORAL (B3 - 7)

EXPERIENCE OF INVERTED PAPILLOMAS IN KELANTAN

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Objective
The study looked into the demographic presentation, morbidity due to local invasion, surgical management, outcome and recurrence of inverted papillomas in Kelantan.

Introduction
Inverted papillomas are slow growing, most commonly benign neoplasms of the sinunasal tract. However their three characteristic features, a tendency to recur, a destructive capability for the surrounding structures and an association with malignancy make them distinct from other benign neoplasm of this region.

Methodology
19 operated patients for inverted papilloma were followed through hospital records. Besides demographic data the morbidity of the disease at the time of presentation was noted. The types and extent of surgical procedures were critically evaluated for their morbidity and control of signs and symptoms.

Results
A total of 14 cases were managed through classical medial maxillectomies through lateral rhinotomy approach, in another 4 cases endoscopic medial maxillectomies while in one case intranasal excision was
done. Late presentation, refusal for surgery and infrequent follow up of the patients, has been established hallmark of Kelantan. This has ultimately influenced the selection of operative procedure performed.

**Conclusion**

En block removal of medial wall of maxilla along with partial removal of ethmoids through a lateral rhinotomy approach is a comfortable and satisfactory procedure in the management of inverted papilloma.

**ORAL (B3 - 8)**

CENTRAL CORNEAL THICKNESS AND INTRAOCULAR PRESSURE AMONG MALAY UNDERGRADUATES OF HEALTH CAMPUS, UNIVERSITI SAINS MALAYSIA.

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**Objective**

To study the correlation between central corneal thickness and intraocular pressure among Malay undergraduates of Health Campus, USM.

**Methodology**

A cross sectional study was conducted in 130 subjects. Central corneal thickness was measured with non-contact Topcon SP2000P specular microscope (Topcon Corp, Japan). Intraocular pressure was measured by Goldman applanation tonometer. Each parameter was repeated for three times by the primary investigator to get an average reading. All measurements were performed between 3 and 5 pm.

**Results**

There is a strong positive correlation between intraocular pressure and central corneal thickness ($r=0.467$, $p<0.01$). Linear regression analysis showed a b1 value of 0.0408 ($p<0.01$).

**Conclusion**

Central corneal thickness may influence measurement of intraocular pressure made by an applanation tonometer. In this study, we observed that there is an estimated 4 mmHg increase in intraocular pressure for every 100 micron increase in central cornel thickness. The thickness of the central cornea should be considered when intraocular pressure is measured using an applanation tonometer.

**ORAL (B3 - 9)**

A STUDY OF THE HIGH RISK FACTORS FOR DEAFNESS AND PROBLEMS OF REHABILITATION AMONG THE DEAF CHILDREN IN KELANTAN

**Authors**

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**Introduction**

Deafness present at birth or arising early in life, is one of the most serious long-life handicaps from which a human being can suffer. Prevention, early identification and early rehabilitation can prevent the ‘social and communication’ isolation. Severe deafness is present in every 1 person of 750 population. About 50% of cases of deafness are of unknown aetiology.

**Objectives**

1. To identify the aetiologic/high risk factors among hearing impaired (sensorineural deafness) children
2. To determine the possible preventable aetiologic causes and its preventive aspects
3. To define the problems resulting to non-compliance and failure of rehabilitation

**Methodology**

Training of health clinic personnel in Kelantan (110 nurses) and centrally in KL (30 nurses) was done to identify children early (using distraction test of hearing). Hospital and clinic staffs were made aware of high risk factors and referrals and appointments were facilitated in order to accommodate for the new cases. Hearing Screening was also done in the Special Care Nursery, and later extended to other newborns in the maternity ward. A community based screening for ear and hearing disorders was also done in the district of Tumpat among 2,004 people. The number of new cases has significantly increased during the study period for e.g. from 271 in year 2000 to 512 cases in 2001. From Jan 2000 - Dis 2001, there were 783 new referral to the clinic and out of that, 75 were diagnosed to have sensorineural hearing loss

**Results**

In 36.7% of patients (27/75) they were diagnosed earlier and 63.7% were diagnosed late (more than 3 years old). The average age of diagnosis is 4.6 years. The most consulted high risk factor is family history (21.3%), prenatal infection (TORCHES) (6.6%), another 6.6% had exposure to ototoxic drug and 6.6% with ventilation more than 10 days. In 40% no known aetiological in risk factors are found.

**Discussion**

Many of the possible etiological risk factors are preventable e.g. exposure to ototoxic drug, prenatal infection, hiperbilirubinaemia and meningitis, and steps should be taken approximately. The average age of diagnosis is 4.6 years, which is very late where the
antifungal effects of ‘gamat’ extracts (Stichopus chloronatus) in Aspergillus-keratitis in rabbits

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Introduction
Sea cucumber or better known as ‘gamat’ by the local Malaysian people possesses high nutritional value and is widely used as a traditional medicine. Fungal corneal ulcers although considered rare in occurrence, usually results in devastating complications and blindness. The treatment of fungal ulcers is still not satisfactory due to limited availability of antifungal drugs owing to their restricted market value. Due to this, the treatment is very costly and often very toxic to the eyes and also systemically.

Objectives
To determine the inhibitory effect of ‘gamat’ and the minimum inhibitory concentration (MIC) of ‘gamat’ extracts against Aspergillus fumigatus and to assess the antifungal effects of ‘gamat’ in Aspergillus-induced keratitis in rabbits.

Methods
Methanolic extract of Stichopus chloronatus was used to prepare eye ointment based on its inhibitory effects and MIC value. Aspergillus keratitis was induced in both eyes of 7 New Zealand White rabbits’ cornea and treated randomly with ‘gamat’ extracts and placebo. Daily clinical examination of ocular infection was recorded.

Results
The largest inhibition zone (average =18.2 mm) was observed when ‘gamat’ extract was dissolved in chloroform compared to other solvents. The MIC value of 1.562 mg/ml was recorded in serial dilution of the extracts using disc diffusion method on Aspergillus fumigatus. Six rabbits were enrolled in the clinical control trial. Inoculation of fungus was successful in all six rabbits. Daily clinical examination showed variable degree of infectivity and response. Colony count at the end of five days of treatment with ‘gamat’ and placebo showed no significant difference in means between the two groups (p > 0.05). Limitations of this study and suggestions were discussed.

Conclusion
Methanolic extract of ‘gamat’ gave a good inhibition towards fungal growth in the in vitro study. This warrants a future exploration of the antifungal effects of ‘gamat’ in clinical control trial with more refined instruments and methods.

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Comparision of Air-dried Amniotic Membrane Graft with Bare Sclera Technique for Primary Pterygium Excision

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Objective
To compare recurrence rate between air-dried amniotic membrane graft and bare sclera technique for primary pterygium excision.

Method
Primary pterygium patients were randomized into 2 groups by closed enveloped method:
Group A: pterygium excision with air-dried amniotic membrane graft
Group B: pterygium excision with bare sclera technique.

Result
1) In amniotic membrane group, the pterygium recurrence rate was 19.2%. The recurrence rate in bare sclera was significantly higher, 60.7% (p=0.02). However fibrous tissue (grade 3 appearance) was seen more in amniotic membrane group at 7 months of follow-up (31.1%) compare to bare sclera group (13.3%)
2) The significant difference for recurrence between these 2 groups can be seen as early as 5 months of follow-up. 3) There was no significant difference between recurrence and age or sex

Conclusions
The relatively low recurrence rate for post pterygium excision allows one to use air-dried amniotic membrane graft as an alternative for pterygium surgery. However longer follow-up might revealed higher recurrence rate in this technique as well.
LONG TERM VISUAL OUTCOME IN DIABETIC RETINOPATHY AFTER LASER PHOTOCOAGULATION THERAPY

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Introduction
Diabetic retinopathy is one of the commonest causes of visual loss in adults of working age in Malaysia. Sight threatening conditions such as maculopathy and proliferative diabetic retinopathy are more amenable to laser treatment if diagnosed at an early stage. Although, unawarness and the lack of skilled personnel remain the major problems in early detection and treatment.

Objective
To analyse the long-term visual outcome in patients with diabetic retinopathy after laser photoagulation.

Methodology
The records of diabetic retinopathy patients were analysed for demographic data, type and duration of diabetes, diabetic control, associated risk factors, indication for laser therapy, pre- and post-laser best-corrected visual acuity and causes for visual impairment.

Results
After analysing the hospital records of 48 patients who underwent laser photocoagulation therapy for maculopathy and proliferative diabetic retinopathy, a slight female preponderance (52%) was observed with majority of Malays (91.7%) and type-2 diabetes (88%). Nearly half of them presented with retinopathy at the time of presentation with 2 or more risk factors and belonged to the age group between 45-60 years. Fair to good control of diabetes (<10.0% HBA1c or RBS <11.0 m mol/l) was seen in only 11 patients (23%).

The major risk factors were found to be duration of diabetes for more than 10 years (66.7%), hypertension (62.5%), nephropathy (29%), peripheral neuropathy (25%), and hyperlipidemia (25%). Macular oedema (62.5%) was the most important cause of visual impairment followed by vitreous haemorrhage (27%) and tractional retinal detachment (8%).

Long-term visual acuity (post-laser) with minimum of one-year follow-up improved in 7 patients (14.5%), remained stable in 19 patients (39.5%) and worsened in 19 patients (39.5%). Various factors attributing to worsening of vision were found to be uncontrolled diabetes, presence of multiple risk factors, severe exudative maculopathy, vitreous haemorrhage and tractional retinal detachment.

In spite of laser therapy, legal blindness (<3/60) was seen in 7 patients bilaterally (14.5%) and 14 patients unilaterally (29%) whereas visual impairment (6/60 – 6/18) in 6 patients bilaterally (12.5%) and 27 patients unilaterally (56%).

Conclusion
Sight threatening conditions of diabetic retinopathy if treated early by laser therapy, can delay or halt the progression of retinopathy with stabilisation of vision. Although, control of diabetes remains the most important factor in preventing visual impairment along with other complications.

A STUDY OF REHABILITATION OUTCOME AMONG CHILDREN WITH HEARING LOSS IN THE HUSM ORL-AUDIOLOGY CLINIC

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Introduction
Hearing loss is the most common defect in the neonatal period occurring about 1-6 per 1,000 population. Early detection and rehabilitation is of utmost importance as the development of speech and language is biologically time-locked. After the age of 2 years the chance of getting a normal speech and language even using the best hearing devices is slim.

Objective
1. To document the effect of hearing loss to communication ability among children
2. To determine factors affecting early rehabilitation
3. The role of parents and the level of knowledge towards rehabilitation.

Methodology
Children with hearing impairment attending the Audiology and Speech clinic of ORL were divided into early (less than 2 years old) and late (more than 2 years old) rehabilitation. Twenty children were selected, 10 from each group. Home visits were performed and parents were interviewed, questionnaires used and video documentation for speech were taken. The health personnel involved were also interviewed i.e the audiologists, speech pathologists and ENTs.

Results
Children with early detection and rehabilitation do far better in terms of speech and language as compared to the those detected late. However, severity of hearing loss, motivation, implementation of auditory and speech stimulation at home are important success factors.
Discussion
We hope with the implementation of universal hearing screening in HUSM children will be detected and habilitated early. These children, though hearing impaired, benefit from their hearing aids or cochlear implant to be able to speak and hopefully enter into the mainstream education.

MALAYSIA TOWARDS ELECTRONIC MEDICAL RECORD

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Electronic Medical Record (EMR) is the core component in Telehealth and Total Hospital Information System (THIS). This paper will provide further insight to EMR by providing some overview of EMR, discuss the benefits of EMR, provide some guidelines to implement EMR and finally discuss some area for future research. EMR is defined as a computer-based information system that integrates patients-specific information from diverse sources and tracks that information over time to facilitate clinical management and information retrieval, analysis and reporting. The implementation of EMR should benefits various stakeholders including government and health care providers, administrators, clinicians, policy makers and researchers. Overall, the implementation of EMR can improve the quality of care, reduce cost in managing care environment and improve provider efficiency. The transition from paper-based procedures to EMR requires proper planning. Urgent actions are to provide legal and social framework for acceptance, introduction and implementation plan of EMR. A good transition to an EMR depends on commitment, research and implementation. Since EMR in Malaysia is quite new and not very well established, many areas need further research. Users and organizational acceptance is one of the social factors that need serious consideration in order to ensure successful EMR implementation. Therefore, before MOH extends EMR implementation to other hospitals in Malaysia, study must be conducted to get feedbacks from the stakeholders that are currently involve with EMR. Outcome from this study can be used as a guideline to enhance EMR features, may influence the EMR usage, increase usefulness and easy of use of EMR. With regard to EMR design and development, important issue that needs immediate action is the standardized identifier. Several areas that need the standardization are message format standard, medical terminologies, business case for patient medical record information standard, relationship to the national health information infrastructure, data quality, accountability and integrity, diverse laws and regulations, and privacy, confidentiality and security. Therefore, another area that needs immediate action is the research and development of at least, national standard for EMR. Without standard, differences in EMR systems, underlying architecture and the way that the systems are configured and used in individual institutions limit the quantity and quality of data that can be conveyed. It is timely that MOH makes these standards as part of the National Health Information Infrastructure to help healthcare providers to adopt more comprehensive, accessible clinical systems for more effective data sharing and public health protection.

Keywords: Telehealth, Total Hospital Information System, Electronic Medical Record

PROBLEM-BASED LEARNING AS PERCEIVED BY DENTAL STUDENTS OF SCHOOL OF DENTAL SCIENCES, UNIVERSITY SAINS MALAYSIA.

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Background
Since the implementation of problem-based learning in McMaster University in 1969 it spreaded throughout different parts of the world with variations of its implementation (Albanese & Mitchell, 1993). In spite of its growth and advantages, there is continuing debate about its effectiveness over the conventional teaching and learning methods. In the School of Dental Sciences (SDS), Universiti Sains Malaysia (USM), the Doctor of Dental Sciences (DDS) program follows a 5-year integrated curriculum. Basically the curriculum is problem-based and community oriented. This study is to explore the perception of DDS students about PBL session.

Method
This cross sectional descriptive study is carried out on all the 110 students of the SDS who completed their second year of the course which included participation in PBL sessions. Pre-tested questionnaires were distributed to the students for their responses.

Results
Ninety five students responded to the questionnaire giving a response rate of 86%. Dental students found PBL session interesting and wanted to maintain PBL from the beginning of year 2 up to the end of year 3. All students participated in discussion during PBL sessions but the level of participation varied. Some of them worked hard to prepare themselves for discussion while others were relatively passive. It helped them with in-depth understanding of certain topics and linking their basic science knowledge to clinical classes. They felt that
guidance from subject specialists and well-prepared facilitators of the sessions were beneficial. The students believed that repetition of triggers from year to year discouraged their active search for learning issues. They also reported that there was not enough learning materials made available for their self-study.

Conclusions
Reviewing and renewing the PBL triggers, providing guidelines for searching for resource materials and briefing the students and facilitators about the philosophy and principles of PBL may make the PBL sessions more beneficial.

ORAL (C3 - 3)
THE EFFECTIVENESS OF THE ROLE OF PBL TUTORS: USM STUDENTS’ PERCEPTIONS

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Background
In problem-based learning strategy, the roles of PBL tutors are crucial that involves the facilitation of an active learning process and fostering the skills of critical thinking and habits of continued learning rather than to convey knowledge, but requires special skills and training. It is anticipated that the ideal PBL tutor will be a group facilitator rather than a subject matter expert. Students’ evaluation of tutors is also found to be effective for faculty development. This study was carried out at USM KK to investigate students’ perceptions regarding the effectiveness of the role of PBL tutors.

Methods
Based on all aspects of tutors role and area of expertise, a questionnaire was developed. The items were scored on a 5-point Likert-type scale and ratings were distributed as strongly agree (1) to strongly disagree (5). The students from all the PBL groups in phase-II of 2003-2004 sessions were included in this study.

Results
The students’ perception on tutors’ role significantly changed towards positiveness in some areas across the year of their training. Among different races, Malay students rated best that significantly differed with others. There was also significant difference in ratings between genders. It was seen that non-clinical tutors were rated better, but it didn’t differ significantly between tutor types.

Conclusion
Students’ feedback is an important exercise for improvement of tutor skills, so tutor evaluation can be adopted as a part of PBL tutorial process. This study is in fact an illumination of perceptions in pertinent issues regarding the tutors’ roles and indicates the importance of taking specific strategies for both tutors and students with different backgrounds.

ORAL (C3 - 4)
SERVICE IN THE RURAL HEALTH CENTRE: DOCTORS’ VIEW - BANGLADESH PERSPECTIVES

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Objective
To explore the opinion of the doctors about the reasons and factors for not being interested to serve the rural health complex.

Introduction
The health care system of Bangladesh is developed around primary, secondary and tertiary level. At the primary level the health care services are provided by Upazilla health complex (UHC) and union sub-centers (USC). There is considerable evidence that, basic health care does insufficiently reach the majority of the population of the country. Different studies showed that the service of UHC is underutilized. There is always criticism from different corners of the country and in newspapers that the doctors are not interested to serve the rural health centres. The study was intended to find out the actual facts and reasons that are responsible for poor motivation and a lack of interest among the doctors to serve the community.

Methodology
A cross sectional qualitative study was carried out among medical doctors. A pre-tested self-administered questionnaire was distributed to 400 randomly selected doctors working in secondary and tertiary level hospitals in Bangladesh.

Results
Out of the 400 questionnaires 357 were returned; the response rate was 87.5%. Among the respondents 81% had working experience at UHC/USC level from 1 to 8 years. Though the majority of them had work experience at UHC/USC level but they did not like to stay and serve the rural health centers. The main identified factors were a) lack or irregular supply of proper medicine at the centres, b) lack of proper accommodation, c) lack of proper school facilities for the children, d) minimum recreation facilities and e) minimum scope for professional development. Non co-operation from senior colleagues (48%), interference by local administration (81%) and political leaders (84%) in UHC/USC activities...
were also identified by the respondents as major prohibiting factors. 75% of the respondents also felt that our undergraduate medical curriculum could not motivate students to serve the rural health centres. The respondents mentioned that a) specific time duration for rural health service, b) special facilities for higher studies, c) special facilities for promotion and d) provision of incentives in different form might improve the situation.

**Conclusion**

Recommendations for improvement of the present status were offered according to the result of the study. Selection of study place had been identified as a major limitation. Some of the identified issue needs to be considered for further in-depth study.

**ORAL (C3 - 5)**

**VALIDATION OF QUESTIONNAIRE FOR KNOWLEDGE, ATTITUDES, AND PRACTICE RELATED TO RESPIRATORY HEALTH HAZARDS AND RISKS AT WORKPLACES**

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**Introduction**

Workplaces especially dusty places have considerable respiratory health hazards. To minimize the risk, practice of workers has played an important role. Therefore, it is important to assess workers regarding their Knowledge (K), Attitudes (A), and Practice (P) related to respiratory hazards in dusty workplaces.

**Purpose**

To develop and validate the questionnaire for K, A, and P related to respiratory health hazards.

**Methods**

A workshop was conducted (participants: three occupational health specialists and five trainees) to develop the first version of questionnaire. Based on the item-analysis on a pilot study (42 sawmill workers), the second version was developed. After conducting a larger study (277 sawmill and rice mill workers), the final version was developed according to the item-analysis.

**Results**

The first version of the questionnaire consisted 79, 82 and 29 items for K, A, and P respectively. Only 62, 49 and 28 items for K, A, and P respectively remained in the second version. Only 25, 15 and 12 items for K, A, and P respectively remained in the final version. The final version achieved the internal consistency reliability of 0.78, 0.70, and 0.81 for the domains of K; 0.71 and 0.82 for the domains of A; and 0.70 for the P. Factor analysis also revealed that selected items were appropriate in their corresponding domains.

**Conclusion**

The final version was considered short and accurate in terms of content validity, construct validity and internal consistency reliability.

**ORAL (C3 - 6)**

**NEUROBEHAVIOURAL EFFECTS OF PESTICIDE EXPOSURE IN TOBACCO FARMERS**

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**Introduction**

It is well documented that pesticide poisoning produces neurobehavioural manifestation. However, only a few studies have been done among tobacco farmers locally, although they have been exposed to pesticides at workplace.

**Objective**

This cross-sectional study compared the neurobehavioural outcome between 3 study groups (tobacco farmers using pyrethroid, tobacco farmers using other pesticides, and office workers as controls).

**Methods**

Three study samples were recruited from Bachok district, Kelantan. They were asked for possible neurological symptoms by using a questionnaire. They underwent 7 tests of WHO Neurobehavioural Core Test Battery (NCTB). The test scores were compared among study groups.

**Results**

One of the profiles of mood (POM) state, fatigue score was significantly higher in non-pyrethroid users compared to controls and pyrethroid users. Digit symbol test revealed that both pesticide groups had significantly less correct numbers of symbols than controls. Santa Ana manual dexterity test on preferred hand shown that the non-pyrethroid users performed the test significantly less correctly compared to the other 2 study groups. Others NCTB test scores were not significantly different among 3 study groups.

**Conclusion**

Neurobehaviour effect is observed among local pesticide users. Non-pyrethroid pesticide users have more effect compared to pyrethroid users. The appropriate intervention should be done to prevent further chronic poisoning among local pesticide users.
PATIENTS’ SATISFACTION TOWARD MEDICAL WARD SERVICES IN HUSM AND HKB

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Introduction
It is crucial to assess patient’s satisfaction in order to improve the quality of services and to maintain patient load so that students and researchers will have sufficient number and variety of patients to sustain medical expertise.

Objectives
To assess factors associated with patient satisfaction toward medical ward services in two hospitals.

Method
Cross-sectional design with prospective recruitment of subjects of systematic random sample of inpatients admitted to HUSM and HKB. Interviewer-assisted validated questionnaires were administered to 188 inpatients from each hospital.

Results
Satisfaction was assessed on seven domains. Four items under nurse-services domain were higher for HKB. Out of 13 items under doctor-services domain, 11 scored higher for HKB. Four items under other staff-services domain were more favoured for HKB. Six out of nine items under clean-and-comfort domain were higher for HUSM with significant p-values on furniture, ventilation and space items. Under miscellaneous domain, item on car-parking was highly scored for HUSM. Regarding financial issues, all 3 items were more in favour for HKB. Multivariate analysis for each domain using demographic and other variables related to current admission, adjusted satisfaction scores for HKB were significantly higher than those for HUSM for all domains except clean-and-comfort.

Conclusion
The patients admitted to HKB scored more favourably than those admitted to HUSM. Being hospital-based survey, it is not appropriate to compare two hospitals head to head. It is recommended that each hospital administration should assess areas for improvement to gain higher satisfaction and better utilization of their services.

STUDENT’S PERCEPTION OF PROBLEM-BASED LEARNING: CARDIOVASCULAR BLOCK EVALUATION STUDY

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Objectives
To investigate the student’s perception of PBL sessions and of tutoring skills

Introduction
Medical education is moving to a more problem-oriented basis than was the case formally. The School of Medical Sciences, Universiti Sains Malaysia is the pioneer in implementing PBL curriculum in the region since its inception in 1980. Main objectives of PBL is to help students to develop their abilities to analyze and to solve problem and thereby to develop self-learning skills and to be able to learn on their own for the rest of their lives. It is one of the best methods of interactive learning where a tutor facilitates a small self-directed group start with a brainstorming session. It is crucially important to monitor how well do the teaching personnel and how do the students embrace the idea that groups collectively and each of them individually is responsible for learning process. This paper is aimed at to investigate the effectiveness of PBL sessions in order to develop education.

Methodology
It was a cross sectional descriptive study carried out among the phase two undergraduate medical / dental students of academic session 2003-2004 of the School of Medical Sciences, Universiti Sains Malaysia during their four weeks of cardiovascular block rotation from 20/09/03-16/10/03. Sample size was 116. Data was collected through an anonymous evaluation form submitted to the respondents at the closing day of the cardiovascular block. The results was then compiled and analyzed.

Result
Majority of the respondents was of the opinion that they were actively involved in discussion sessions and the groups shared knowledge. Regarding tutor skills a majority of the students thought that tutors kept the groups in focus, demonstrated well the ground rules, assisted them to distinguish main from minor issues, facilitated functioning of the groups, showed interest in the subject matter. The students were satisfied overall with tutors roles in the four PBL weeks of cardiovascular block. However, there were a few negative comments such as tutors should play a role to lead brainstorming and lead students, tutor should not just be sitting, PBL
is boring as the tutor is boring, tutor is not friendly and didn’t stimulate and guide properly, tutor is not attentive, not experienced and not well facilitating, don’t use “X” tutor as guide.

Conclusion
The key to successful learning in PBL lies in the interactiveness of its sessions, which again depends upon how the tutor handles the group. Tutor skills of clear communication and awareness of learning needs of the students are of great importance. To benefit form PBL students needs careful induction by tutor. The tutor needs to introduce progressive changes in the process of PBL in order to avoid boredom on the part of the students. In processing a small group, the tutor has to consider the task and maintenance of the group. The task must be clearly defined and all members in the small group must understand each member’s role. The maintenance of the group involves establishing a “climate” for discussion that is open, non-threatened, trustful and supportive.

ORAL (C3 - 9)

ARE SURGICAL SUB-SPECIALTIES STILL PERCEIVED AS A MAN’S PROFESSION? SHARING A MALAYSIAN EXPERIENCE

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Background
In recent years, the number of female students and the female to male ratio has been increasing steadily in medical schools. An under representation of women occurs in some clinical specialties, e.g. surgery. The combination of domestic responsibilities and professional career demands is mainly responsible for such maldistribution. This study aimed to investigate the career choices of the female medical graduates of USM.

Methods
A cross-sectional study on career choices among 95 female medical graduates of USM in 2003, was conducted using “Graduate Evaluation Questionnaire”.

Results
The findings of the study showed that a majority of the female graduates selected surgery and its subspecialties than any other specialties. This is a new trend first observed in Malaysia, and perhaps in the rest of the Asian countries.

Conclusion
Effective strategies should continue to be developed to eliminate obstacles and create conducive working environment for the female surgeons, so that they would be able to combine productive careers with rewarding family lives.

ORAL (C3 - 10)

MEDICAL EDUCATION IN BANGLADESH: ISSUES AND APPROACHES

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Background
In recent years, educational institutions around the world have been increasingly confronted with the challenge of making their curricula relevant to the needs of the time. Medical education in Bangladesh has also experienced many changes and challenges. The government has taken initiatives to bring reform in medical education through various government-led educational projects and programmes. As a result, an “educational environment for change” has been established in the arena of medical education.

Methods
For this study, relevant publications and documents were consulted and analyzed.

Results
The changes and challenges which medical education in Bangladesh has experienced include growing realization among stakeholders to review the educational programmes, availability of a large “critical mass” of trained teachers in medical education, resources, procedures and guidelines developed by former educational projects, and commitment to improve the medical education in the current government health care programmes.

Conclusion
Quality health care of a country depends on the availability of the well-trained and competent health personnel. Medical education plays an important role to produce such health personnel using need-based “input-process-output” curriculum strategies. Stakeholders should take the note of the various shortcomings of the medical education and draw need-based strategies to improve quality of medical education.

ORAL (C3 - II)

STUDENTS’ PERCEPTIONS OF ‘TECHNOLOGY-BASED’ LECTURE HANDOUTS
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Background
Lecture handouts are widely used instructional tools. Handouts supplement rather than substitute students’ regular reading. It is now a common practice to supply PowerPoint handouts and publish lecture handouts on the web for students’ access.

Methods
A questionnaire survey was conducted among the first year medical students (n=142) of School of Medical Sciences (SMS), Universiti Sains Malaysia (USM) in order to determine their perceptions and expectations with regards to lecture handouts provided to them.

Results
A majority of the students reported that they read the lecture handouts as a reference and found them useful as a guide for future learning. However, more than half (68%) of the students have shown their dissatisfaction with overall presentation format of the handouts which is mainly technology-related i.e. PowerPoint and photocopying.

Discussion
This study indicated that students’ expectations and experiences were positive towards the use of handouts. They used handouts as a means of supplementing rather than substituting their learning. Much care is needed when educators supply computer-based handouts, as this study shows some limitations when students use them. Medical schools should consider publishing web-based handouts with online and other facilities to make it interesting and effective.

ORAL (C3 - 12)

NEUROBEHAVIOURAL PERFORMANCES IN CAR SPRAY PAINTERS AND MECHANICS EXPOSED TO ENVIRONMENTAL LEAD IN KOTA BHARU, KELANTAN

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Introduction
Lead exposure poses a major public health hazard and is recognized as the most prevalent and preventable health issue in many industrialized countries. Lead-based paint poisoning, a well recognized entity among young children in poor, urban neighbourhoods, is not confined exclusively to such areas. Worldwide, about 830,000 people died every year through illness linked to exhaust fumes and industrial smog that engulfed many cities of the Third World. Most accurate estimates of health risks due to lead can be obtained from reliable history of blood lead measurements. Level of lead in air will consequently lead to contamination of soil, water and food and subsequently increase exposure to future generation. Previous study have shown that chronic exposure to inorganic lead among spray painters, mechanics and battery workers caused neurobehavioural effect in the workers.

Objective
To investigate the neurobehavioural performances of car spray painters and mechanics exposed to environmental lead in the workplace.

Methodology
This is a cross-sectional comparative study of 44 car spray painters exposed to lead chromate in car paint and 44 car mechanics working in car spray painting and service premises in Kota Bharu, Kelantan. Assessment of exposure and outcome were based on symptoms of possible neurotoxic obtained via WHO standard questionnaire form; signs of neurotoxic obtained via WHO standard examination form; blood lead levels checked as exposure consistent for biological monitoring; neurobehavioural performance tested using WHO NCTB; and environmental lead level.

Results
Symptoms of lethargy, sleepiness, sudden wakefulness, forgetfulness, stress, confusion, irritability, headache, vertigo, palpitation, excessive sweating and numbness noted more when there was high level of blood lead and recognized among car spray painters and car mechanics. Mean blood lead level among car spray painters was 10.19 µg/dl and significantly higher as compared to car mechanics was 7.39 µg/dl (p=0.01). Mean environmental lead level inside the car spray and painting chambers was 8.07 µg/m_ and slightly lower than environmental lead level around services and repairing areas which was 8.58 µg/m_.

Neurobehavioural symptoms, neurobehavioural performances and environmental lead levels were not significantly different between car spray painters and mechanics. Also noted mean blood lead levels of car spray painters and car mechanics were higher as compared to other group of occupation in Malaysia. Although environmental lead levels around car servicing and maintaining areas were slightly higher than inside car spraying chamber, it actually not showing the true exposure and what actually needed was the personal air sampling.

Conclusion
Car spray painters had significantly higher in blood lead level as compared to car mechanics. However, neurobehavioural symptoms, neurobehavioural
performances and environmental lead levels were not significant between car spray painters and mechanics.

**ORAL (C3 - 13)**

**ADOLESCENTS’ SELF-REPORT ON THE QUALITY OF FRIENDSHIPS AND THE RELATIONSHIP WITH SELF-ESTEEM.**

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**Objective**
A cross-cultural study was conducted in United Kingdom (UK) and Malaysia to look at the patterns of friendship and self-esteem among adolescents aged 13-16 with respect to age, gender, race and length of friendship.

**Methodology**
All Year 10 (St Dunstan’s College students in UK) and Form 2 (King George V Secondary School in Malaysia) were included. A total of 198 pupils from both schools were recruited but only 168 were chosen for final statistical analyses using SPSS and EQS computer programme. The 46-item Friendship Qualities Scale and 11-item Rosenberg Self-esteem scale were translated into the Malay language and were subjected to validity and reliability studies using confirmatory and exploratory factor analyses. Cross-cultural comparison was made using non-parametric tests based on compatibility scales between the two cultures.

**Result**
Friendship varied between St Dunstan’s and King George V but not self-esteem. Girls had higher friendship qualities but lower self-esteem in St Dunstan’s but on the other hand, boys had higher friendship qualities but lower self-esteem in King George V. Race differed with self-esteem in St Dunstan’s but it differed with friendship in King George V. Length of friendship did not differ with friendship and self-esteem in both places.

**Conclusion**
Contemporary discovery in cross-cultural psychology indicates that there are different paths of development in the West as compared to the East. In UK, the path is one of individual maturation that result in higher self-esteem scores as compared to friendship qualities. In Malaysia, the path is one of symbiotic group maturation, as shown in higher friendship qualities scores as compared to self-esteem.