

POSTER COMMUNICATION

POSTER SESSION

Title **EFFECT OF BODY POSTURE ON VISUAL ACUITY, REFRACTIVE ERROR AND BINOCULAR VISION**

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Introduction Abnormal body postures during near task had been suggested to cause stress on vision functions that might lead to vision problems¹⁻⁴.

Methodology The near task body postures of thirty optometry students without pre-knowledge about the nature of the study were photographed from front view, side view and top view. The angles of the head tilt, body tilt and head rotation of the near task body posture for each subject were estimated based on the photographs. The habitual working distance and Harmon distance of each subject were also measured. The visual acuity, refractive error, amplitude of accommodation, positive and negative relative accommodation, accommodation facility, accommodation lag, near point of convergence and heterophoria were tested for all subjects.

Results Our results show that there is no significant effect of body posture on visual acuity, refractive error and binocular vision.

Conclusions Moderate head tilts, body tilts, head rotations and non-extreme habitual working distances of young adults do not seem to cause significant changes to their visual systems.

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Title **A PHYSIOLOGICAL PERMEABILITY STUDY OF THIRD MOLAR DENTINE WITH ODONTOBLASTS PRESERVED AND ODONTOBLASTS FREE PREPARATIONS**

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Introduction Dentine a viable biological tissue forms an intimately related complex with the odontoblasts. Much has been question of the barrier properties of dentine within teeth and between teeth. In human adults the odontoblasts are fully differentiated post-mitotic cells, which send its cytoplasmic processes into the dentinal tubules, yet various studies in the physic of fluid flow in dentine takes little recognition of its presence. The permeability of dentine has been implicated in a possible hydrodynamic mechanism by which rapid fluid movement in the tubules is thought to depolarise the nerve endings.

Objective The innovative aim from this pilot investigation is to contribute to the understanding of the influence of odontoblasts on the permeability of human dentine.

Methodology This study describes the permeability in odontoblast preserved and odontoblast free preparations in vitro i.e. comparing fluid flow across dentine in human third molars. The pulp tissues were removed from human third molars leaving the odontoblasts attached to the walls of the chamber. The specimens were then either fixed chemically (odontoblast-preserved specimens) or immersed in NaOH (odontoblast free specimens). Occlusal dentine was exposed by removing the enamel. The exposed dentine was placed in contact with water and the ingress of water into the pulp chamber was observed with a binocular microscope. A microlitre syringe was used to measure the volume of water accumulated at time intervals of several hours for up to 70 hours or more.

Results The results showed that spontaneous flow continued in both preparations until equilibrium was reached. The relative final volumes were greater in the odontoblast free preparations than in the odontoblast preserved.

Conclusion Water movement through odontoblast free dentine was believed to be driven by capillarity and through odontoblast preserved dentine by capillarity and osmotic pressure.

References 1. Farid Bin Che Ghazali. The odontoblasts and its related structures: a review. Malaysian Journal of Medical Sciences. Vol. 6 (1). 12-17. 1998. 2. Ghazali, F. & Bishop, M. A. Water flow through odontoblast preserved and odontoblast free human dentine. Journal of Dental Research. 75(5), 548, 1996.

Title **THE SOCIO-DEMOGRAPHIC PROFILE OF HOUSEHOLDS WITH CHILDREN 06-72 MONTHS IN BALING KEDAH**

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Introduction This paper reports on socio-demographic data collected in Baling, Kedah (padi farming area) as part of the preliminary findings of the study relating family dynamics, lifestyles and nutritional status. The study area was identified based on an earlier Peninsular wide work done in 1992-1995. Four rural low-income groups in Peninsular Malaysia namely padi growing, fishing and rubber small holding villages were chosen as the study population based on functional groups. The study areas are Baling in Kedah, Kuala Kangsar in Perak, Machang in Kelantan and Batu Rakit in Terengganu. This paper reports only on the functional group in Baling, Kedah. Baling is one of the eight districts in Kedah. Eight kampungs in mukim Kupang and Tawar were selected for the study.

Objective The objective of this study is to assess the nutritional status and social background of low-income group in Baling, Kedah

Methodology Children between 06-72 months were weighed using baby scale and seca balance. Their heights were measured using infantometer and microtoise while their mid arm circumference (MUC) were measured using fibre tape. All measurements were taken twice to the second decimal place. The socio-demographic variables such as occupation, education and income were collected by interviewing the mothers or caretakers using a set of questionnaire. The result is presented in the form of percentage, frequency, mean and median.

Result A total of 135 households with malnourished and well nourished children between 06-72 months were selected for the study. The mean household income is RM 864.69 with household size of 6.3. All households (n=135) studied had electricity supply. Only 76.3% had access to piped water. The household asset status as obtained from questionnaire shows that 98.5%, 88.9% and 67.4% owned a radio, television, and refrigerator respectively. It was found that the 29.4% of the occupation of heads of households had changed from padi-farming in the previous study to the current 65.9% as employees of factories, palm oil plantation workers, government staff, drivers and clerks.

Conclusion There is an improvement on the economic status of the study population as compared to the earlier study. This could be due to the rapid development of the district of Baling. The details of the socio-demographic aspect will be discussed in main paper.

Title NUTRITIONAL STATUS, ANTHROPOMETRY AND DIETARY INTAKE OF CHILDREN IN BALING, KEDAH

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Introduction An assessment of nutritional status including anthropometry and dietary aspects among children aged 6 to 72 month was carried out in seven villages in Baling, Kedah.

Objectives The objectives of this study are 1. To assess the nutritional status of children in selected rural communities. 2. To conduct and evaluate a nutrition education package for mothers and caretakers.

Methodology A total of 105 households who were selected based on families have children 6 to 72 months. There were 156 children, where 70 boys and 86 girls with the mean age of boys 39.01 ± 17.8 and girls 40.98 ± 17.5. Socioeconomic factors included education levels, households size, family income due nutritional knowledge were collected by using a face to face interview with the mothers or caretakers. A questionnaire was prepared to assess nutrition knowledge levels of the caretakers. The nutritional status of children were evaluated using anthropometric measurements included weight and height measured. The nutrient intakes of 40 children were measured using a typical 24 hours diet recall and food frequency.

Result The anthropometric data showed that out of 156 children, 24.4% (n = 38) of the children had a weight for age below -2.0 SD when compared with the NCHS reference. Where are the prevalence among the children below 37 months were 12.8% and children aged 37 to 72 months were 11.5%. The result of the dietary assessment showed that the intake of calories (x = 877.78) and calcium (x = 314.43) were below the recommended daily allowances (RDA) for Malaysia. However the intake of protein, iron, vitamin A, vitamin C, thiamine, riboflavin and niacin were above the RDA levels. This could be due to the fact that the children are still consuming milk as a main food item. Based on the Pearson correlation test, a significant relationship was shown between the education levels of mother and the nutritional status of the children (weight for age), r = -0.238, p < 0.05.

Conclusion Inadequate calorie intake is one of the important factors of protein energy malnutrition. To ensure a good practice for good intake, parents should be encouraged to involved in nutrition education activities. A nutrition education package for mothers and caretakers was prepared for the intervention study. The detail of the intervention programme will be discussed in the main paper.

Title Lp(a), SERUM LIPIDS AND CK-MB ISOENZYMES IN ACUTE Coronary Syndrome in Patients Hospitalised in HUKM

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Introduction Abnormal lipid metabolism has long been associated with the development of coronary heart disease (CHD). Amongst the risk factors, it is known that lipoprotein (a) in serum of both MI survivors and control are independent from other well-characterized risk factors for premature atherosclerosis such as apo A1 and B, total cholesterol, and HDL- and LDL-cholesterol. TG also influences cardiovascular risk directly through its effect on thrombogenesis.

Objective To determine if there is any observable differences in the levels of triglycerides, cholesterol, HDL-c, LDL-c, Apo A1, Apo B and Lp(a) in this group of hospitalised acute coronary syndrome patients (ACS).

Methodology In this study, CK-MB isoenzymes, Lp (a) and fasting serum lipids were measured in serum samples of 30 patients (mean age 56 ± 12 years) hospitalised at HUKM with a diagnosis of acute coronary syndrome (ASC) and from 30 apparently healthy individuals with no evidence of heart problem. The Cobas Integra was used in the measurement of creatine kinase M-B isoenzyme, (to check on the severity of the disease?). The triglycerides, total cholesterol and HDL were measured by the enzymatic colourimetric method, on the Cobas Integra, while the Apo A1, Apo B and Lp(a) were measured by the immunonephelometric method on the Behring nephelometer. Results were analysed using the Student's Test.

Results and The mean value of triglycerides (2.1 ± 0.2 mmol/L, p<0.05) of the study group was

Discussion significantly higher than that of the normal control while the mean value of Apo A-1 (1.1 ± 0.1 g/L, p<0.05) was significantly lower than the control (1.5 ± 0.1/L). The mean value of CK and CKMB isoenzymes were high amongst the ACS patients chosen. There was no significant difference in the values of total cholesterol, Lp (a), HDL-c and LDL-c between the two groups. Thus Apo A-1, being the main component of HDL and triglyceride influence cardiovascular risk.

Reference Sandkamp M, Funke H, Schulte H, Kohler E, Assmann (1990). Clin. Chem. 36/1: 20-23

Title SOCIO-DEMOGRAPHIC DESCRIPTION OF THE CVD STUDY POPULATION IN RAUB, PAHANG

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Introduction This paper reports on socio-demographic characteristic of the study population in Raub, Pahang. Cardiovascular disease (CVD) is the number one cause of death as reported in hospitals in Malaysia. This prevalence is not true in urban areas but similar trend is also observed in rural communities. Raub is one of the nine districts in state of Pahang. Raub is situated about 105km from Kuala Lumpur. CVD is the number one cause of death (25%) in Raub district hospital.

Objective It is the objective of this study to screen adult in the community between the ages of 30 to 65 years based on CVD risk factors and to intervene borderline cases to prevent early onset of CVD. The local resources and manpower are trained and utilized to initiate the education of the community.

Methodology Three mukims namely Batu Talam, Dong and Ulu Dong in the district of Raub are selected based on earlier study done by a team of researchers. These Health respondents aged between 30-65 years old are screened. Risk factors namely overweight, hypertension both systolic and diastolic, smoking habits, impaired glucose tolerance (IGT), physical inactivity, stress, high dietary fat, salt and sugar were obtained. Only 615 subjects were included in the CVD risk factors intervention study based on the following criteria namely age, 30-65 years, and no pharmacological treatments, no known diagnosis of CVD and with at least one to not more than two risk factors. An education package was prepared for each of the risk factors. A set of knowledge, attitude, practice (KAP) questionnaire on CVD risk factors and food frequency data is also collected. Relationships of BMI and CVD risk factors also reported in this paper.

Result A total of 520 male and female subjects aged between 30-65 years old data were screened. There are 226 (43.5%) male and 294 (56.5%) female respondents. The occupations of the respondent were categorized into the following categories: 1. involved in agricultural activities, 2. government workers, 3. factory employees, 4. traders, construction workers and 5. unemployed. There are 216 (41.54%) subjects involved in agricultural activities, 37 (7.12%) are government workers, 8 (1.54%) are factory employees, 12 (2.31%) are traders, 10 (1.92%) respondents are construction workers and 237 (45.58%) are unemployed. The prevalence of risk factors among 227 subjects in the test area population are as follows: 70 (30.84%) and 44 (19.38%) are hypertensive systolic and diastolic respectively, 113 (49.78%) are pre-obese and obese (BMI>27), 23 (10.13%) have Impaired Glucose Tolerance Test (IGTT), 86 (37.89%) are smokers and 12 (5.29%) are hypertriglyceridemic. The further analysis of relating BMI and above risk factors using Chi-square showed that there is a significant relationship between BMI and all the above risk factors except for cholesterol. The detail of the socio-demographic data will be in the main paper.

Title a-LIPOIC ACID REDUCES LIPID PROFILE INDICES IN ATHEROSCLEROTIC-INDUCED NZW RABBITS

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Introduction a-lipoic acid is a prosthetic group for several redox reactions catalysed by cellular a-keto-acid dehydrogenases, such as the pyruvate-dehydrogenase complex. It may act in vivo through reduction to its dithiol form, dihydrolipoic acid, DHLA. Current findings suggest that a-lipoic acid and its reduced form, DHLA may act as antioxidant and able to quench free radical substances, which relatively be the major causative agent in various lipid peroxidation related diseases. However, the actual mechanism underlying its antioxidant effects against free radical is yet not fully understood. In the present study, the effect of various doses of a-lipoic acid on lipid profile indices of atherosclerotic-induced rabbits were investigated.

Methodology Six groups of adult 2-3 kg NZW rabbits labelled by K, A, B, C, D and E were used as atherosclerotic models (n = 6). 100 g/head of 2 % high cholesterol chow (2% HCC) were given daily for ten weeks. Group A, B, C, D and E were supplemented orally with -lipoic acid (1.4 mg/kg, 2.8 mg/kg, 4.2 mg/kg, 8.0 mg/kg, 10 mg/kg, respectively) whereas group K represents as a control. Drinking water were given ad-libitum. In week ten, the animals were sacrificed and prior sacrifice ear vein blood serum were withdrawn for lipid and lipoprotein profiles (total cholesterol; T-Chol, triglyceride; TG, HDL, LDL, Lp-a, apo-a and apo-B). One way ANOVA was used for significant difference and Tukey test was applied for multiple group comparison.

Results From the observations, serum T-Chol level were reduced significantly (p<0.05) in group B, C and D whereas there is no significant difference in all group for HDL and TG. LDL; the major risk factor for atherosclerosis were significantly decrease (p<0.05) in group B, C, D and E. Lp-a, which is known as independent risk factor for atherosclerosis was not reduced significantly in all group whereas apo-B; as part of LDL moiety was also not provide any significant changes. Interestingly, apo-a, which is HDL sub-component was increased in group C and D (p<0.05).

Conclusion In conclusion, this study reveals that a-lipoic acid may provide an antioxidant effect in lipid peroxidation and can be a useful starting point for future research in lipid peroxidation related diseases such as atherosclerosis.

Title PERSONAL EMPOWERMENT THROUGH SPORT AND PHYSICAL FITNESS ACTIVITY: PERSPECTIVES FROM MALE COLLEGE STUDENTS WITH PHYSICAL AND SENSORY DISABILITIES

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Introduction Opportunities and encouragement to develop qualities and skills that can empower individuals with disabilities are very limited. One possible means to remove this "empower deficit" is through participation in sport and physical fitness activity.

Objective The purpose of this study was to examine the empowering capability of sport and physical fitness activity participation for individuals with physical and sensory disabilities.

Methodology Twenty men students with physical and sensory disabilities age between 20 to 35 year-old attending four universities in Malaysia were interviewed. Questions were pilot tested with individuals with physical and sensory disabilities and then the interview schedule was subsequently revised. In-depth, tape-recorded interviews were conducted with all the subjects. Questions focused on experiences and perceived outcomes related to their involvement in sport and physical fitness activity. Responses were summarized for each of the interview questions and then related to broader research themes.

Results Responses indicated activity participation was associated with three empowerment outcomes that individuals with disabilities often have limited opportunities to achieve: i. perceived competence as a social actor (independence and control, self confidence, and awareness of potential), ii. facilitation of goal attainment (setting and pursuing goals, determination, and competitiveness), and iii. social integration (broadening social skills and experience, bonding, and social inclusiveness). Participants were empowered at the individual level as these outcomes enhanced perceptions of their effectiveness as social actors and provided a greater sense of control in their lives.

Conclusion This study suggests that participation in sport and physical fitness activity represents one means by which individuals with physical and sensory disabilities empower themselves. Overall, such involvement was empowering for this group as it increased perceptions of competence as a social actor, facilitated goal attainment, and enhanced social integration.

References 1. Blinde E. M., and Mc Clung L. (1997). Adapted Physical Activity Quarterly 14: 327-344. 2. Brasile F. M., Kleiber D. A., and Hamisch D. Therapeutic Recreation Journal 25(1): 18-33, 1991. 3. Frank G. Journal of Social Issues 44: 95-115, 1988. 4. Sherrill C. and Williams T. Sport Science Review 5(1): 42-64, 1996.

Title ANOMALY BETWEEN THE ACTIONS OF PEROXISOME PROLIFERATORS ON PPAR α TRANSCRIPTION AND FUNCTION

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Introduction Peroxisome proliferators of various structurally different compounds including the fibrate hypolipidaemic agents cause a plethora of short-term and long-term effects. More importantly, they regulate genes encoding key proteins in cellular functions such as the enzymes of fatty acid β -oxidation (for example, acyl coenzyme A oxidase [ACOX])¹. They act via the nuclear receptor, peroxisome proliferator-activated receptor alpha (PPAR α) for which some of these compounds are now known to be direct ligands^{2,3}. PPAR α heterodimerizes with the retinoic acid receptor (RXR)⁴ and binds to specific peroxisome proliferator response elements located upstream of the target genes¹.

Objective To examine the effect of various hypolipidaemic peroxisome proliferators and dexamethasone on PPAR α transcription and function.

Methodology Rat primary hepatocytes were cultured in the presence of Wy14,643, clofibrate, fenofibrate, ciprofibrate or dexamethasone for 24h. Total RNA was isolated, reverse-transcribed and competitive PCR performed using PCR MIMICs to quantitate the steady-state mRNA levels of PPAR α and ACOX (most widely used marker for PPAR α function) in these cultures (5).

Results Wy14,643 and clofibrate increased the levels of PPAR α mRNA by 2.9- (p < 0.01) and 2.1-fold (p < 0.05) respectively, and ACOX mRNA by 3.8- (p < 0.005) and 3.3-fold (p < 0.01) respectively. However, fenofibrate and ciprofibrate did not cause any significant increase in PPAR α transcription but resulted in a 3.0- (p < 0.05), and 3.8-fold (p < 0.01) increase in ACOX transcription respectively. Despite inducing PPAR α transcription by 8.4-fold (p < 0.005), dexamethasone on the other hand, failed to induce ACOX transcription.

Conclusions All peroxisome proliferators tested increased ACOX expression although some failed to influence PPAR α expression. Different ligands may induce different conformational changes necessary for functional activation of the receptor and differentially influence the interaction between PPAR α and RXR. The extent of modulation of PPAR α expression may not necessarily reflect its functional activation. The apparent anomaly may be explained by the possibility that constitutive levels of PPAR α mRNA may already be sufficient to mediate the activation of ACOX transcription. This and possibly some of the plethora of short term effects following peroxisome proliferator administration may occur independent of increased transcription of PPAR α .

References 1. Tugwood JD *et al.*, (1992). EMBO J. 11: 433-439 2. Forman BM *et al.* (1997). Proc Natl Acad Sci USA 94: 4312-4317 3. Krey G *et al.*, (1997). Mol Endocrinol. 11: 779-791 4. Klierer SA *et al.*, (1992). Nature. 358: 771-774 5. Yaacob N-S *et al.* (1997). Eur J Drug Metab Pharmacokin. 22: 321-324

Title HPSS: A NEW STAINING METHOD FOR SIMULTANEOUS VISUALISATION OF *Helicobacter pylori* AND GASTRIC MORPHOLOGY

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Introduction In gastric biopsies, *Helicobacter pylori* (*H.pylori*) organism was identified on haematoxylin and eosin (H&E) staining. But special stains were necessary for its confirmation. This increased the costs and the reporting time. So, recently *Helicobacter pylori* silver staining (HpSS) had been introduced.

Objectives The objectives of this study were to compare the sensitivity of HpSS with that of Warthin-Starry (WS), Diff-Quick (DQ), H&E and immunohistochemical (IHC) stain and to evaluate its utility in a routine pathology laboratory.

Methodology Ninety-six gastric biopsies (48 were positive and 48 were negative in H&E stain) were chosen from the pathology registry, Hospital Universiti Sains Malaysia (HUSM). Fresh sections were cut and stained with HpSS, WS, H&E, DQ and IHC.

Results *H.pylori* was detected in 49 out of 96 biopsies stained by IHC. HpSS method detected *H.pylori* in 46 samples. 48 samples were positive in DQ and H&E stain. WS showed positive in 28 samples. On comparing with IHC stain, the sensitivity of HpSS was 94%, DQ 98%, H&E 98% and WS 57%. Mc Nemar chi square test showed no significant difference in detecting *H.pylori* when HpSS was compared with other stains except WS.

Conclusion In conclusion, HpSS could be used as the first choice in detecting *H.pylori* in gastric biopsies, because of its high sensitivity and less reporting time and cost due to simultaneous visualisation of *H.pylori* organisms and gastric morphology.

Reference Dogliani, C., Turrin, M., Macri, E., Chiarelli, C., Germana, B. and Barbareschi, M. (1997) HpSS: a new silver staining for *Helicobacter pylori*. J. Clin. Pathol. 50, 461-464

Title L-ARGININE INCREASES THE PERMEABILITY OF RAT MESENTERIC VENULES TO FLUID AND MACROMOLECULES VIA DIRECT EFFECTS ON MAST CELLS

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Introduction L-arginine is one of the factors required for endothelial nitric oxide synthase (eNOS) to produce nitric oxide (NO), a mediator for many physiological events in the cardiovascular system. Although NO is known to mediate the increased permeability to fluid and macromolecules induced by agonists (Yuan *et al.*, 1993, He *et al.*, 1997a), it is yet to be elucidated whether the increased in permeability seen during L-arginine application is solely due the elevation of endothelial NO or due to the involvement of neighbouring mast cells.

Objective Hence the objective of this study is to determine the mechanism of increased permeability to fluid and macromolecules in rat mesenteric venules when L-arginine is applied.

Methodology Venules were perfused with solutions containing macromolecules and a suspension of rat red cells. The mesentery was superfused with solutions containing 30 mM L-arginine during control measurement and various concentration of L-arginine (200mM, 300mM, 400mM, 1mM, 3mM or 5mM) during experiments. To determine the role of mast cells, paired experiments were done and 50 mg/ml compound 48/80 (mast cell degranulator) followed by solutions containing 5mM L-arginine or a combination of L-arginine, 1mM N^G-nitro-L-arginine (L-NNA, NO inhibitor) and compound 48/80 were used. Permeability to fluid and macromolecules were calculated from the movements of red cells in occluded vessels.

Results L-arginine on its own increased permeability to both fluid and macromolecules. In the paired experiments, however, permeability increased only during the application of compound 48/80 but not during the subsequent L-arginine or L-arginine/L-NNA/48/80 application.

Conclusion Degranulation of perivascular mast cells are responsible for the increased in permeability seen during L-arginine application.

Title INDEPENDENT PROBLEM-BASED LEARNING – UNIVERSITI SAINS MALAYSIA EXPERIENCE

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Abstract Many medical schools, particularly those implementing problem-based learning (PBL), have faced staff shortages with the gradually increasing student intake over the recent years. The feasibility of implementing independent PBL (IPBL) sessions conducted wholly by students, as a possible method of overcoming staff shortages was studied. IPBL was implemented in the four-week cardiovascular system block in the second year of the curriculum. Students were adequately briefed on IPBL at the start of the module. Conventional tutor moderated PBL was continued. There were also three sessions of IPBL each week based on an additional "problem". Students were presented with a "trigger" at each IPBL session. A guide on the expected direction of discussion was provided towards the end of the session. One tutor was available to oversee all student groups during each IPBL session. At the end of the module students answered a questionnaire on IPBL. Two thirds of the students indicated that they would like to have IPBL in other modules as well. Over 70% of students felt they functioned better as a group and had greater responsibility to the group at IPBL. The majority, while admitting they had gained significant knowledge through IPBL, indicated that an opportunity to discuss unresolved issues with a tutor at the end of the problem was necessary. These findings demonstrate that IPBL can be used in a medical curriculum to achieve the objectives of problem-based learning.

Title ABSENCE OF APO B R3500Q MUTATION AMONG HYPERLIPIDAEMIA CASES IN KELANTAN

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Introduction Familial ligand-defective apolipoprotein B-100 (FDB) is an autosomal dominant genetic disorder which may give rise to hypercholesterolaemia and premature coronary heart disease. FDB is caused by mutations in and around codon 3500 of the apolipoprotein B (apo B) gene. Apo B R3500Q mutation is the first to be discovered and the most frequently reported apo B mutation in different populations.

Objective Objective of this study was to determine an association of apo B R3500Q mutation with elevated cholesterol in Kelantanese population in which both hypercholesterolaemia and coronary heart disease are common.

Methodology Sixty-two hyperlipidaemic Malays (total cholesterol concentration >6.2 mmol/L without secondary causes) attending the lipid clinic at Hospital Universiti Sains Malaysia, Kelantan were selected for this study. Their DNA samples were analyzed for the presence of apo B R3500Q mutation by polymerase chain reaction using mutagenic primers and subsequent restriction enzyme digestion.

Results No individual with apo B R3500Q mutation was detected among hyperlipidaemia cases in this study.

Conclusion Apo B R3500Q mutation appears to be not a common cause of hypercholesterolaemia among Kelantanese Malays.

Title COMPARISON BETWEEN THE EFFECT OF SOYBEAN AND GOAT'S MILK ON TUMOR-MARKER ENZYME ACTIVITIES DURING HEPATOCARCINOGENESIS IN RATS

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Introduction Milk is a physiological fluid which has high nutritional value as it is naturally rich in energy, proteins, vitamins and minerals. The whey protein component in human milk has been reported to pose antitumor activity¹. Soy beans possess several naturally occurring phenolic and flavonoids that have strong antioxidant characteristics and is believed to inhibit carcinogenesis.

Objective The objective of this study was to investigate the effects of administration of soybean and goat's milk on hepatocarcinogenesis in rats by determining the activities of plasma gamma-glutamyl transpeptidase (GGT) and alkaline phosphatase (ALP) levels.

Methodology Thirty-six rats from the species Sprague-Dawley were divided into 6 groups: control, DEN/AAF, soybean, DEN/AAF with soybean treatment, goat milk and DEN/AAF with goat milk treatment. Induction of cancer by diethylnitrosamine (DEN) and acetylaminofluorene (AAF) followed Solt and Farber method². Soybean and goat milk administrations were given 5 ml/day for every rat. The rats were sacrificed after 8 weeks and they are blood was collected.

Results Treatment with DEN/AAF caused an increase in ALP and GGT levels and a decrease in weight significantly (p<0.05). ALP and GGT activities decreased significantly after administration of soybean and goat's milk (p<0.05). Administration of goat's milk and soybean alone did not cause any changes in the enzyme activities. Comparison between the effect of soybean and goat milk gives not much difference. There were no significant differences of ALP and GGT activities (p>0.05) among the two treatment. However, a decrease in weight was also observed in the rats given soybean as well as goat milk.

Conclusion The results obtained suggested that soybean and goat's milk worked effective as an anti cancer agent in hepatocarcinogenesis although further studies are required.

References 1. Stella, V and Postaire, E (1995). C.R. Sciences. Soc. Bio. 189 (6) : 1191- 1197. 2. Solt and Farber (1976). Nature 263 : 701-703.

Title OXIDATIVE STRESS OF LEUKOCYTES AND ADHESION MOLECULES IN PATIENTS WITH ESSENTIAL HYPERTENSION

Authors R.M. Noah, R. Ramasamy, A.L. Mohd*, Z. Yusuf** and M.R. Jais***

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Introduction End-organ damage in hypertensive patients is one of the complications due to abnormal perfusion in the organ. This damaging effect on the heart is said to be originating from the injured blood vessels endothelium (1). Leukocytes, in particular the neutrophils, have been implicated as one of the main mediators to such injury(2)

Objectives The aim of the study is to assess the oxidative stress due to leukocytes of patients with essential hypertension. Serum effect on the migratory capacity of normal neutrophils was also observed.

Methodology Whole blood was drawn from 23 essential hypertensive patients of Hypertension Clinic, Hospital UKM. Leukocytes were separated and oxidative stress was measured on these cells. Serum samples were used to analyze the effect on the locomotion of normal neutrophils and to correlate with the concentration of soluble adhesion molecules. All tests performed were compared with the corresponding samples from normal individuals.

Results In the oxidative stress assay there was a mean increase of 64% when using PMA as the agonist, while a mean increase of 58% was noted when OZ was the stimulating agent of the neutrophil respiratory burst activities. Similar increase in the release of reactive oxygen species was observed in the lymphocytic respiratory burst assay. Serum from hypertensive patients reduced the ability of neutrophils to locomote by 40%, complying with the concentration of soluble adhesion molecules in these serum samples.

Conclusions The present data show that neutrophils in hypertensive patients are in the hyperactive or primed state, hence leading to the existence of oxidative stress. Such condition will result in endothelial damage and eventually atherosclerosis ensues (3).

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Title INVESTIGATION OF THROMBOCYTOPENIA IN ADULTS : COMPARISON BETWEEN CLINICAL SUSPICION OF IDIOPATHIC THROMBOCYTOPENIC PURPURA AND THE FINDINGS OF BONE MARROW ASPIRATION

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Objective To review and compare between clinical suspicion of idiopathic thrombocytopenic purpura (ITP) and the findings of bone marrow aspiration (BMA) in adult patients (more than twelve years of age).

Design Retrospective analysis of patients who had undergone bone marrow aspiration for investigation of thrombocytopenia between January 96 and December 99 in Hospital Universiti Sains Malaysia.

Methodology Twenty-four bone marrow aspiration reports were studied. Data were collected from laboratory request forms and also from the appointment book for marrow procedure. The indication for bone marrow aspiration is either for investigation of thrombocytopenia or clinically suspected idiopathic thrombocytopenic purpura.

Results Seventeen of the 22 patients had BMA findings consistent with peripheral platelet consumption i.e. normal or increased numbers of megakaryocytes and no significant abnormalities of other hemopoietic lineages. Two marrow aspirations could not be analysed due to inadequate specimen probably from a difficult marrow. One aspiration was done on a patient with pseudothrombocytopenia secondary to platelet clumping, which revealed essentially normal marrow. One case showed abnormal morphology of the megakaryocytes while the other showed low normal megakaryocytes suggestive of primarily platelet production. This study does not look at the subsequent course of the patients following BMA. However, none of them so far returned for repeat BMA for other hematological disorders. Our data showed that about 80% of marrow reported fit the clonical diagnosis of ITP. Less than 10% showed abnormality of the megakaryocytes.

Conclusion We conclude that BMA is a useful investigation in ITP (although other hematological parameters and physical examination are all normal). Examination of the marrow will provide extra information on the patient's thrombopoietic status and hence further management such as family screening and other related investigations pertaining to the platelet.

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Title OUTCOME OF HUSM HIV CONFIRMATION PROGRAMMED AMONG BLOOD DONORS

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Introduction Blood Bank of HUSM started to screen donated blood for anti-HIV on May 1986. The first recorded positive screening test was on February 1988. However the first confirmed HIV infected blood was on December 1989.

Objective To review the outcome of blood donors who donated blood were tested reactive with anti-HIV screening test.

Methodology Design: This is a retrospective analysis of donors who were tested reactive with ELISA anti-HIV screening test from the period of 1986-1999 in Blood Bank of HUSM, Kubang Kerian. HIV screening record of all donors who were tested reactive for the screening test were studied. These including from donor's registration form, donor's card, HIV screening books, official test result and notification form.

Result Altogether 108 donors were tested reactive with the ELISA anti-HIV. Out of this, 30 (27.78%) of them were confirmed to be positive for HIV infection. However, 38 (35.19%) of the donors defaulted subsequent follow-up and therefore unable to determine their status. Only 15 (13.89%) confirmed to be negative. Another 25 (23.15%) donors, the confirmatory test (Western Blot Assay) were indeterminate and need further follow-up.

Conclusion Existing procedure of confirming HIV infection in blood donors only managed to resolved HIV infection status in 45 donors (41.67%). Effort and changes in some protocol need to be made in order to prevent current significant lost in follow-up and many indeterminate cases.

Title PREVALENCE OF OBESITY AND HYPERTENSION AMONG PHYSICALLY ACTIVE SUBJECTS

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Introduction The advantage of physical activity on health status has been widely recognised. However, health studies in physically active groups in this country are still lacking.

Objectives The objective of this study is to determine the prevalence of obesity and hypertension of physically active subjects and also to compare them with sedentary subjects.

Methodology The study sample consist of 25 athletes representing various types of sports (athlete groups), 26 active subjects who exercises a minimum of 30 min/day at least 3 times/week (exercise groups) and 17 inactive subjects (sedentary groups). All subjects were males, aged 24 to 40 years. The height and weight of subjects were measured using the Seca weighing balance with height attachment. Systolic and diastolic blood pressure were measured using the Accoson sphygmo-manometer (UK).

Results The results showed that based on the BMI reference (BMI = 25 kg/m²), 24.0% of athletes groups, 46.2 % of exercise groups and 76.5% of sedentary groups were classified as overweight or obese. The mean systolic and diastolic blood pressure for athletes were 116.7 ± 9.0 mmHg and 76.2 ± 7.5 mmHg, for exercise groups were 123.8 ± 14.7 mmHg and 81.2 ± 11.9 mmHg, and for sedentary groups were 139.4 ± 16.7 mmHg and 11.3 mmHg, respectively. None of the athletes had hypertension (systolic blood pressure > 140 mm Hg ; diastolic blood pressure > 90 mm Hg), while the exercise (19.2%) and sedentary groups (41.2%) showed a significant prevalence of hypertension.

Conclusion The results of this study showed that physically active groups, especially athletes have a better health status than the lesser active groups.

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Title A REPORT ON TWO PATIENTS WITH BOMBAY BLOOD Phenotype In Hospital Universiti Sains Malaysia, KELANTAN

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Introduction The Bombay phenotype was first discovered in Bombay and seems to occur more often in India than elsewhere. H-Deficient red cell types are termed Bombay or para bombay phenotype. This report describes the immunohematologic findings of two cases of Bombay phenotype detected over a period of 15 years in the Malay population of Kelantan by Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan Case 1. A 1-year old Malay boy of group O Rhesus positive with low haemoglobin for elective operation requiring blood for transfusion. The compatibility test was incompatible at immediate spin, thermo phase and antihumanglobulin phase. The auto control was negative. The reversed ABO grouping was positive (4+) with O cell by tube technique. Case 2. A 36-year old Malay man of group O Rhesus positive with infected right mucocoele osteomyelitis with intracranial extension requested two units of packed cell to standby during operation. The compatibility test was also incompatible at immediate spin, thermo phase and antihumanglobulin phase. The auto control was negative. The reversed ABO grouping was positive (4+) with O cell by tube technique.

Conclusion These two patients have a very rare blood group called group O Bombay. For the purpose of transfusion their blood will only be compatible with the Bombay phenotype blood donor.

Title RESPIRATORY BURST OF LEUKOCYTES AND INTERLEUKIN LEVELS IN ASTHMATICS

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Introduction The main hypothesis of asthma is hyperactivity of airway muscles due to inflammation (1). The role of mast cells and eosinophils are well documented in the pathogenesis of asthma, but the fundamental roles of other inflammatory cells such as neutrophils and lymphocytes cannot be excluded (2,3). There are evidences of the release of reactive oxygen species deriving from neutrophils, while the role of lymphocytes in asthmatics is linked with the release of interleukins during the inflammatory process.

Objectives The aim of the study is to assess the respiratory burst activities in both the neutrophils and lymphocytes. Serum sample from patients were used to quantitate the levels of interleukin-4 and -5.

Methodology Whole blood was drawn from 26 asthmatic patients from Hospital UKM. Leukocytes were separated and respiratory burst activities were measured on these cells. The levels of interleukins were assayed using ELISA technique. All tests performed were compared with the corresponding samples of normal individuals.

Results In the respiratory burst assay of neutrophils, there was a significant increase of the activity in patients receiving budesonide therapy, while samples from patients on beclomethasone therapy showed depression of the activities. Respiratory burst function of lymphocytes and levels of the interleukins were of no difference than that of the normal controls.

Conclusions The results obtained display the state of neutrophils in asthmatic patients to be either in the active or inactive stage depending on the type of treatment the patients received. Those hyperactivated neutrophils can therefore aggravate the disease condition (4). Levels of interleukins could be influenced by the mode of treatment prescribed to asthmatic patients (5).

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Title ASSESSMENT OF A SIMPLIFIED ELECTROPHORESIS METHOD FOR THE QUANTIFICATION OF ALKALINE PHOSPHATASE ISOENZYMES

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Introduction Techniques used for the quantification of alkaline phosphatase (ALP, EC.3.1.3.1.) isoenzymes include heat inactivation, chemical inhibition, lectin precipitation, chromatography and electrophoresis. Electrophoresis techniques are the most popular as they have the potential to separate and quantitate all the isoenzymes present. However they are generally slow, tedious and give poor resolution between the liver and bone isoenzymes. This poor resolution has been improved by the incorporation of neuraminidase sample pretreatment with electrophoresis¹. We recently developed a simplified method for the neuraminidase sample pretreatment agarose gel electrophoresis (AGE) technique so as to make it easier, faster and more suitable for the diagnostic laboratory². This method has now been assessed further to determine its comparability with other ALP isoenzymes quantification techniques.

Objectives To compare and contrast the simplified neuraminidase sample pretreatment agarose gel electrophoresis method with the heat inactivation, lectin precipitation and lectin affinity electrophoresis methods.

Methodology Serum samples were obtained from healthy subjects and patients having hepato-biliary and bone related diseases. Quantification by heat inactivation was performed by the sequential analysis method³. Lectin precipitation and lectin affinity electrophoresis were performed using the Bone-ALP (Boehringer Mannheim) and Biomidi (KMG PAL3) commercial kits respectively. Neuraminidase sample pretreatment AGE was performed as previously developed.

Results Comparison with the lectin affinity electrophoresis method gave correlation coefficient values (r) of 0.95, 0.98 and 0.94 for the liver, bone and biliary isoenzymes respectively. Comparison with the heat inactivation method gave r values of 0.92 and 0.90 for the liver and bone isoenzymes. Against the lectin precipitation method, r values of 0.77 and 0.81 were obtained for the liver and bone isoenzymes. Regression analysis showed that the simplified method compares well with both the lectin affinity electrophoresis and heat inactivation methods. However against the lectin precipitation method, higher values were obtained for the bone isoenzyme.

Conclusion The simplified neuraminidase sample pretreatment AGE method showed good correlation with the lectin affinity electrophoresis and heat inactivation methods, however correlation with the lectin precipitation method was only moderate.

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Title THE MORPHOLOGY, CYTOCHEMICAL FEATURES AND THE outcome of acute erythroleukemia in Hospital Universiti Sains Malaysia

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Introduction Erythroleukemia is a rare form of myelogenous leukemia and its classification has evolved over the years. Its diagnosis can be made with less than 30% blast cells in the marrow. The blast component generally is myeloid and rarely from erythroid precursors.

Objective To review the morphology, cytochemical features and outcome of acute erythroleukemia.

Methodology Design : A retrospective study. Seven patients with erythroleukemia diagnosed between 1996 to 1999 were reviewed for the morphology, cytochemical features and eventual outcome. The diagnosis was made based on FAB classification. The following data were analysed: age, sex, hemoglobin, myeloperoxidase, PAS and acid phosphatase staining, and type of blast cells.

Result There were five females and two males. The age at diagnosis range from as young as 8 months to 54 years. The mean for hemoglobin at diagnosis is 5.0 ± 2.5 gm/dl. Nucleated red cells were noted in the peripheral blood of all patients. The bone marrow revealed four cases with myeloblasts predominance classified as AML M6A and three cases with proerythroblast predominance classified as AML M6B. Two of the M6B patients were infants. Five patients were negative for myeloperoxidase. PAS were coarse positive in the proerythroblast in two of the AML M6B cases. Total of three cases were focal positive for acid phosphatase and only one was noted in AML M6A patient. All the AML M6B patients died one month after the diagnosis. Two of AML M6A patients still survive after two years whereas the other two died after one year of the diagnosis.

Conclusion From the above observation AML M6B is more common in infant. It is important to identify and classify AML M6B because it is a very aggressive disease with shorter survival. For the future we would like to study more cases to reevaluate and confirm the above findings.

Title ANTIBACTERIAL ACTIVITY OF SOME LOCAL PLANTS

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Introduction The use of plant materials as herbal remedies is commonly practiced among different communities in Malaysia.

Objective The aim of this study is to determine the antibacterial effect of certain local plants against the Gram-positive and gram-negative bacteria.

Methodology The alcoholic and water extracts of sixteen plants were prepared at the concentrations of 25, 50 and 100 mg/ml. Gentamycin and *Allium sativum* were used as the standards. Zone of inhibition around the filter paper disk (6 mm diameter) impregnated with the pre-established amount of each plant extract was measured with Vernier caliper. Antibacterial activities were graded and score made based on various concentrations of the plant extracts used.

Results Extracts of six plants showed antibacterial activities. They were *Lawsonia inermis*, *Cassia obvata*, *Phyllanthus niruri*, *Datura fastuosa*, *Murraya koenigii* and *Cymbopogon citatus*. The highest zone of inhibition (22.10 ± 0.05 mm) was exhibited by the alcoholic extract of *Cassia obvata* against *Stap. aureus*, while the lowest was by *Phyllanthus niruri* (6.10 ± 0.005 mm) against *B. subtilis*.

Conclusion This study reconfirms the potential of local plants for their usage in the treatment of bacterial diseases and in the development of new drugs.

Reference Aroura, D and Kaur, J. 1999. Antimicrobial activity of spices. *Int. J. Antimicrob. Agents* 12(3): 257-262.

Title EPIDEMIOLOGICAL SCREENING OF LYMPHATIC FILARIASIS AMONG IMMIGRANTS USING DIPSTICK COLLOIDAL DYE IMMUNOASSAY

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Introduction In Peninsular Malaysia, lymphatic filariasis is caused mainly by *Brugia malayi* and infection with *Wuchereria bancrofti* is seemingly becoming unheard of. Before the economic downturn, there was a massive influx of immigrants into this country. Immigrants are employed in various economic sectors.

Objective The aim was to screen for cases of lymphatic filariasis infections among the immigrant workers at oil palm estates using a rapid in house dipstick assay (DIA) developed by our laboratory.

Methodology The sample population consisted of 630 male Indonesians (n=390) and Bangladeshi (n=240) immigrants employed with the RISDA Oil Palm Estate Pekebun Kecil (ESPEK) at Terengganu Tengah, Peninsular Malaysia. Blood samples were taken by venipuncture between 8 to 12 P.M. The presence of microfilaria was detected parasitologically by microscopic examination of stained thick blood smears (60ul). Filariar antigenemia was screened immunologically using the rapid in house DIA test.

Results Microfilaria with *B. malayi* were detected in 54 (8.57 %), of which 42 (10.77%) were among the Indonesians and 12 (5%) among the Bangladeshis. Microfilaria with *W. bancrofti* were detected in 27 (4.478%) of which 15 (3.85%) were among the Indonesians and 12 (5.0%) among the Bangladeshis. 78 (12.38%) antigenemic cases were detected using the DIA of which 45(7.46%) were among the Indonesians and 33 (5.24%) among the Bangladeshis.

Conclusion Findings from this study appears to show that immigrant workers may pose a sizeable amount of health problems especially with regard to *W.bancrofti* transmission, which may eventually be reintroduced into Peninsular Malaysia.

Title TRANSFER OF PLASMID-MEDIATED STREPTOMYCIN RESISTANCE OF LISTERIA MONOCYTOGENES

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Abstract That R factors behave differently in different host cells has been known for some time. We are interested in this phenomenon and will present data from some of our preliminary studies on this subject. We have obtained a strain of *L. monocytogenes* 35 isolated from imported frozen beef, that showed resistance to streptomycin. In conjugation studies, we use a streptomycin-resistant *L. monocytogenes* 35 strain containing a 54 kilobase plasmid as the donor and streptomycin-sensitive and plasmidless *L. monocytogenes* 65 and 100 strains as the recipients. The streptomycin resistance was transferred to *L. monocytogenes* 65 and 100 recipients at frequencies of 3.3×10^{-8} and 1.2×10^{-9} per input donor cells, respectively. In both occasions, we also observed the concomitant transfer of the donor's 54kb plasmid. These results showed that the streptomycin resistance in *L. monocytogenes* 35 was mediated by the 54 kilobase plasmid.

Title APOLIPOPROTEIN E POLYMORPHISM IN HEART PATIENTS and its relation to lipid profiles

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Introduction Apolipoprotein E (apo E) is an important genetic factor in the development of cardiovascular disease. In humans, the gene for apo E is polymorphic: three common alleles, E2, E3, and E4 code for three major isoforms, resulting in six common genotypes. Apo E3 is the predominant isoform; the other two isoforms differ by an amino acid substitution: apo E4 differs at position 112 (Cys@Arg) and apo E2 at position 158 (Arg@Cys). These substitutions affect ligand binding of triglyceride-rich lipoproteins to remnants and apo B/E receptors, thus affecting cholesterol serum levels.

Objectives To investigate the relationship between apo E polymorphism on serum lipids, lipoproteins and apolipoproteins in heart patients.

Methodology Samples were obtained from heart subjects, multiethnic population aged between 20 to 79 years old. The ethnic distribution was 55 % Malays, 21 % Chinese, 20 % Indians, and 4 % others. Apo E genotypes were identified through *Hha*I digestion overnight at 37 °C of the polymerase chain reaction-amplified samples. Digested DNA fragments were analyzed through 18 % non-denaturing polyacrylamide gel.

Results The frequency of the e2, e3, and e4 alleles in the entire sample were 0.03, 0.87, and 0.10, respectively. When subjects were divided into males and females, there were significant differences in total cholesterol (TC) and HDL cholesterol. The Chinese group had significantly higher mean value of HDL cholesterol; they had lower LDL cholesterol.

Conclusions Apo E phenotype group E3/2 had significantly lower total cholesterol and triglycerides in comparison with the phenotypes groups E2/2, E3/3, and E4/3.

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Title HYPOTENSIVE EFFECT OF MELASTOMA MALABATHRICUM

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Introduction Plants of the Melastomataceae family is well known for measuring medicinal values. In China and Taiwan, *Melastoma dodecandrum* has been used for the treatment of hemorrhoids, dermatitis, leprosy, snakebite, post-parturitive abdominal pain and rickets. The leaves extract of *Melastoma candidum* is reported to possess the hypotensive effect (Juei T.C. 1998). In Malaysia, *Melastoma malabathricum* locally known as senduduk, akar senduduk hitam and kodok is found abundantly in bushes and open fields. The leaves and shoots have been used among the Malay population for postnatal treatment, to prevent scarring in smallpox, for the treatment of female diseases, dysentery, diarrhea, wounds, stomach ulcer, and to make a gargle to relieve toothache and to clean teeth. The Chinese in northern region of Peninsular Malaysia use the aqueous extract for lowering their blood pressure. Here, we investigated the hypotensive effect of *Melastoma malabathricum* in rats.

Methodology The hypotensive effect of ethanol extract, methanol extract, hexane extract, chloroform extract, and purified compounds such as rutin, and quercetin of *Melastoma malabathricum* were performed in pentobarbitone anaesthetized adult albino Wistar rats weighing 250-350g (n=6). The extracts were injected through a jugular vein. EKG and heart rate were recorded using electrodes attached to the limbs. Intestinal activity was measured using a water filled balloon which was inserted into the small intestine. All pressures were measured by pressure transducers and data recorded on a MacLab.

Results Ethanol extract, methanol extract, rutin, and quercetin of *Melastoma malabathricum* induced dose dependent drop in blood pressure and heart rate, with an increase in GIT activity. Pretreatment with atropine prevented hypotensive effect of the ethanol extract, methanol extract and quercetin, but not the rutin. The possible hypotensive effect of ethanol extract, methanol extract, and quercetin may be exerted through the cholinergic receptors or act via the cholinergic nerve. However the hypotensive effect of rutin is not cholinergic in nature. The more soluble type of extract like hexane extract and chloroform extract failed to decrease the blood pressure and heart rate. Kim KH et al reported that the chloroform extract possessed antinociceptive effect for a short duration of 105 minutes. However, it had no effect on blood pressure.

Conclusion We conclude that the Ethanol extract, methanol extract, rutin, and quercetin of *Melastoma malabathricum* may contain a substance that lowers blood pressure and heart rate and increases GIT activity in the rat. The purified compound rutin, and quercetin need to be extensively studied for possible use as anti-hypertensive agent in future.

Title IMMUNOGENECITY OF A PLASMID DNA EXPRESSING THE MTP 40 GENE OF MYCOBACTERIUM TUBERCULOSIS

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Introduction The development of improved vaccines is considered a high priority in the effort to control TB world wide. The MTP40 is the gene that encodes a 14 kDa protein. The gene was isolated and characterized by Parra *et al.* (1991) and appears to be a prominent target of human B- and T- cell mediated immune responses in human being afflicted with tuberculosis (Fallae *et al.*, 1991). Our preliminary study showed that the lymphocyte responses to some mtp40 peptides were found to be higher among healthy contacts compared to those of TB patients. Therefore the gene may be useful as a vaccine candidate for TB.

Objective Adopting the current concept of DNA vaccination, our objective was to construct a plasmid DNA expressing the mtp40 gene and to study its immunogenicity in mice.

Methodology The MTP40 gene was cloned in frame with the tPA signal sequence of pJW4303 plasmid. DNA for immunization was isolated using the Qiagen Maxi Kit, adjusted to a concentration of 1 mg/ml in PBS. Six C57BL/6 mice (10-12 weeks old) were immunized with plasmid pJWmtp40 clone and another six with blank vector pJW4303. 50 mg/ml of plasmid was injected intramuscularly into the tibialis anterior muscle of each hindleg. Mice were boosted 2 times at 2 week intervals. Two weeks after the last injection blood and spleen were collected from all mice. ELISA (enzyme linked immunosorbent assay) and LTT (lymphoblastic transformation test) were done using 7 mtp40 peptides (P1-P7) for both antibodies and lymphocyte response respectively.

Results The recombinant clone pJWmtp40 was obtained after the cloning process and analyzed by PCR and DNA sequencing method. Result of the immunogenicity studies of the pJWmtp40 showed that antibody responses to mtp40 peptides were found in 3/6 (P1), 2/6 (P2), 4/6 (P3), 4/6 (P4), 3/6 (P5), 2/6 (P6) and 4/6 (P7) mice whereas the lymphocytes response were found in 2/4 (P4) and 2/4 (P6) mice.

Conclusion The results of this study indicated that vaccination of mice with pJWmtp40 was able to stimulate both antibody and lymphocyte responses.

Title LACTOFERRIN AND P53 EXPRESSION IN BREAST LESIONS

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Introduction Lactoferrin is produced by tumour cells to obtain iron which is an important element in their growth. Expression of lactoferrin in breast carcinoma has been reported in literature. At molecular level, mutation of anti-oncogene p53 is believed to be one of the events that is crucial in carcinogenesis and has been reported in cases of breast carcinoma.

Objective The aim of this study is to analyze the expression of lactoferrin and p53 in breast lesions and correlating these expressions with patient's age, tumour size, histological grading and lymph node status.

Methodology 67 cases of breast lesions comprised of 21 benign and 46 malignant lesions were selected from our department registry book. Tissue blocks were retrieved and cut. The tissue section were subjected to immunohistochemical staining using antibodies against lactoferrin and p53. Intensity of the immunoreactions of these proteins was graded from 0 to 4 points.

Results The mean age for benign lesions was 30.48 years with minimum age of 14 years and maximum age of 57 years. Whereas, in the malignant cases, the minimum age was 26 years and the maximum age was 81 years, with mean age of 47.91 years. The expression of lactoferrin and p53 in relation to tumour size did not show significant correlation statistically. Lactoferrin was observed in 38.10% of benign cases while p53 was not expressed at all in the benign cases. Only benign cases with epithelial hyperplasia and papilloma were positive for lactoferrin whereas cases of fibroadenoma were not. Lactoferrin was positive in one of our two cases of carcinoma in-situ whereas p53 was negative in both. In the malignant cases, 60.87% and 26.9% of the cases showed immunoreactivity for lactoferrin and p53 respectively. Tumor grading and axillary lymph node involvement in malignant cases with lactoferrin did not show significant correlation. However, strong correlation was seen for tumour grade and lymph node involvement with p53 expression ($p = 0.0046$ and $p = 0.029$ respectively).

Conclusions Malignant breast lesions occur at a much older age group than their benign counterparts and can occur in advanced age. P53 protein expression correlates strongly with high tumour grade and lymph node involvement and thus tumour aggressiveness. Lactoferrin do not show good correlation with tumour grade. None of the markers showed good correlation with tumour size indicating that poor prognosis associated with tumour size more than 5 cm is independent of these markers' expression. This study also showed that both markers have potential roles in differentiating benign from malignant lesions. Lastly, studies with larger number of cases will be required to validate our findings.

Title MOLECULAR FINGERPRINTING AND COMPUTER-AIDED comparison of electrophoresis patterns for GROUPING TWO SALMONELLA SPECIES

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Abstract Enterobacterial repetitive element-polymerase chain reaction (ERIC-PCR) patterns and pulsed-field gel electrophoresis (PFGE) patterns were used for the characterization of two *Salmonella* species. The two most revealing and commercial primers ERIC1R (5'-CACTAGGGTCTCGAATGTA-3') and ERIC2 (5'-AAGTAAGTGACTGGGGTGAGCG-3') and a rare-cutting enzyme, *Xba*I were chosen from a pretested lot for the typing of 11 *Salmonella agona* and 23 *Salmonella muenchen*. Comparisons of the fingerprints were made using a computer program. Both ERIC-PCR and PFGE patterns confirmed the group division established in our previous studies and provided new information concerning the genetic relatedness of the isolates. PFGE patterns were found to have the greatest discriminatory power, revealing the genetic variation among and within isolates of *Salmonella agona* and *Salmonella muenchen*.

Title STUDIES ON THE MULTIPLE ANTIBIOTIC RESISTANCE OF LISTERIA MONOCYTOGENES

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Abstract Clinical aspects of infective resistance discussed here are closely connected with other problems and especially genetic and molecular biological ones. At the some time clinical material as a source of R-factors of pathogenic organisms not only raises questions but also answers them. Our objective was to investigate the annual trends of bacterial resistance to antibiotics in foods in Malaysia. In this paper, we report firstly present data on the state of sensitivity of *L. monocytogenes* isolated from food sources and secondly on the multiple drug-resistant strains of *L. monocytogenes*. Isolates were screened for resistance to ampicillin (10 mg), erythromycin (15 mg), streptomycin (10 mg), tetracycline (30 mg), chloramphenicol (30 mg), kanamycin (10 mg), gentamycin (10 mg), norfloxacin (10 mg), vancomycin (30 mg), nalidixic acid (30 mg), and sulfamethoxazole (30 mg) using commercial discs. Isolated strains were propagated in a Mueller-Hinton broth medium (37°C, 24 hr). We have found that the level of drug resistance of *L. monocytogenes* are different depending on the foods sources of isolation. These results: antibiotic susceptibility testing of the *L. monocytogenes* indicated that all were resistant to gentamycin, norfloxacin and vancomycin, and that three-drug-resistant, four-drug-resistant, and so on. It is interesting that four-drug-resistant and five-drug-resistant strains are most frequent, and that six-drug-resistant and seven-drug-resistant are less frequent.

Title ISOLATION OF *ESCHERICHIA COLI* IN IMPORTED BEEF HARBORING THE SHIGA-LIKE-TOXINS (SLTS) IN MALAYSIA

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Abstract As enterohemorrhagic *Escherichia coli* (EHEC) of serotype O157: H7 causes hemorrhagic colitis is in the increase in many parts of the world, specific surveillance of this pathogen is essential, for identifying the sources and monitoring the spread of *Escherichia coli* O157: H7. In this study a total of 25 imported beef samples were purchased from different retailers shops and two major wet markets in Serdang and were examined for the presence of *Escherichia coli* O157. A total of 7 samples were positive for *Escherichia coli* O157 which yielded 22 isolates that react with O157 antisera. A multiplex PCR was developed to determine the types of Shiga Like toxins (SLT I and SLT II). Out of 22 isolates of *Escherichia coli* O157, 12 isolates were positive for SLT I and SLT II, and 10 isolates were positive for SLT II only. The majority of the isolates were resistant to bacitracin, erythromycin, penicillin and streptomycin, respectively. All the 22 isolates were found to harbor plasmid DNA ranging in size from 60 to 2.2 MDa. All the 22 isolates of *Escherichia coli* O157 were investigated by randomly amplified polymorphic DNA (RAPD) fingerprinting with two primers Gen1-50-09 (5'-AGAAGCGATG-3') and Gen1-50-10 (5'-CCATTTACGC-3'). The two primers generated polymorphisms in all 22 isolates of *Escherichia coli* O157 tested, producing bands ranging from 0.25 to 4.0. The RAPD profiles revealed a high level of DNA sequence diversity within *Escherichia coli* O157 isolates tested.

Title MULTIPLEX PCR TO DETECT VIRULENCE GENE *ctx* AND CLASSICAL AND EL TOR *tcpA* GENES TO BIOTYPE *Vibrio cholerae* ISOLATED FROM SEAFOODS IN MALAYSIA

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Abstract Incidence of *V. Cholerae* was studied in 768 samples of seafoods from different locations in Malaysia from 1988 to 1999. A total of 35 (4.5 %) samples were positive, which yield 113 isolates of *V. Cholerae*. *V. Cholerae* were isolated with the higher prevalence of *V. Cholerae* non-O1 (49 isolates), *V. Cholerae* Ogawa (44 isolates), *V. Cholerae* O139 (18 isolates) and *V. Cholerae* Inaba serovar (2 isolates), respectively. A multiplex PCR was developed to detect cholera toxin-producing *V. Cholerae* (*ctx* gene) and to biotype *V. Cholerae* for *tcpA* genes of classical and El Tor strains. Ninety-five out of 113 isolates of *V. Cholerae* isolates were negative for *ctx* and (*tcpA*) genes. Eighteen isolates were positive for cholera toxin (*ctx*) gene were positive for El Tor *tcpA* gene, respectively.

Title CLONAL RELATEDNESS OF *BURKHOLDERIA PSEUDOMALLEI* ISOLATED IN THAILAND AND MALAYSIA

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Abstract It is increasingly common to use molecular techniques for the characterization of bacterial species. A bacterial species is an assemblage of isolates which originated from a common ancestor population in which a steady generation of genetic divergence arises from random nonlethal mutations that accumulate over time has resulted in clones. Clones are defined as genetically related isolates, and if genetic diversity among isolates of a bacterial species is wide enough, they can be differentiated with DNA-based typing method, and the results can be utilized for the determination of their genetic relatedness in epidemiological studies. In this study, the genetic relatedness of 35 *Burkholderia pseudomallei* isolated from clinical, soil and animals in Thailand and Malaysia were investigated by random amplified polymorphic DNA (RAPD) analysis using an arbitrary primer, GEN2- 60-09. The clustering arising from the dendrogram was correlated with the sources of isolates, revealing the followings: the prevalence of genetically related clones among clinical, soil and animal sources in Thailand and Malaysia and showed a broad dispersion in space and time, because these isolates were collected in different geographic area in Thailand and Malaysia.

Title THE FACTOR V LEIDEN MUTATION IS NOT ASSOCIATED WITH RECURRENT ABORTIONS IN THE MALAY LADIES IN KELANTAN

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Objective To investigate the presence of Factor V Arg 506 to Gln mutation in Malay ladies with recurrent abortions.

Introduction Previous studies have shown that placenta thrombosis can cause recurrent abortions. A common missense mutation in the Factor V gene, the Leiden mutation can predispose to thrombosis and hence abortion in pregnant ladies. The Factor V Leiden mutation is common in Caucasians with a prevalence of 1-15%.

Design A case control study between June 99 and February 2000.

Methodology 16 Malay ladies of child bearing age with history of recurrent abortions (3 or more times) attending Obstetric & Gynaecology clinics/wards in HUSM and Pasir Mas District Maternal and Childhealth clinics are included in the study. Known recurrent abortion secondary to medical diseases, positive antiphospholipid antibodies and acquired or inherited thrombophilias are excluded. 25 Malay women fulfilled the criteria for the control group i.e. healthy women, para 3 or more with uneventful obstetric history. The polymerase chain reaction was used to amplify exon 10 of the factor V gene followed by allele specific restriction using Mnl I enzyme for mutation detection. **Results** Both cases with history of recurrent abortions and controls are negative for factor V Arg 506 to Gln mutation. This study is still ongoing to accumulate the cases and results. Our preliminary conclusion is that, the factor V Leiden mutation is not associated with recurrent abortions in the Malay population. This is in parallel with the reported prevalence of only 0.5% of this mutation in the Malays.

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Title A RARE CASE OF A FOSSA POSTERIOR ARTERIOVENOUS MALFORMATION

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Introduction Arteriovenous malformation (AVM) can arise throughout the CNS. Ninety percent of intra-cranial AVMs in children occur supra-tentorially. A 8 year old girl presented with loss of consciousness on the day of admission in paediatric ward. She had history of headache on and off for the past one year. The headache was throbbing in nature, increase in severity at both parietal regions. Prior to this admission she complained of headache, then developed one episode of loss of consciousness. Urgent CT Scans revealed a large left intracerebellar intraparenchymal hematoma with cerebellar oedema and dilatation of both temporal horns and surrounding of third ventricle. She was given intravenous Desamethasone and referred neurosurgical for further treatment.

Methodology Magnetic Resonance Imaging was done which revealed bilateral intracerebellar and Results haemorrhage with mass effect to fourth ventricle resulting in obstructive hydrocephalus and no obvious evidence of underlying mass or flow void signal to suggest AVM. The cerebral angiogram showed arteriovenous malformation with a feeder from the left superior cerebellar artery and early venous drainage into the left sigmoid sinus.

Conclusion The patient subsequently refused surgical intervention and opted for noninvasive management in another hospital. Arteriovenous malformation of the posterior fossa are rare and be fatal. The various management of these complex entity is reviewed.

Title COMPARING THE EFFECT OF DIFFERENT DOSES OF Vitamin E Supplementation on Malondialdehyde LEVELS

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Introduction Malondialdehyde(MDA) is a product of lipid peroxidation. Increasing levels of MDA have been shown to associated with ageing, and that the destructive effects of free radicals has long been implicated in the ageing process. Antioxidant especially vitamin E has shown to be effective in reducing lipid peroxidation in ageing rats.

Objective To compare the effect of different doses of vitamin E supplementation on malondialdehyde level in ageing rats.

Methodology In this study, 24 male Wistar rats aged 6 months were divided into 3 groups, group A(control group) was given basal diet, while groups B and C were supplemented with vitamin E at 60mg/kg. diet and 120mg/kg. diet respectively. Plasma MDA levels were determined at 0, 10 and 20 weeks.

Results Preliminary results showed that vitamin E caused a significant decrease in MDA level($p < 0.05$) at the end of the 20 week study. However there was no significant difference noted when comparing the two different doses of vitamin E supplemented. There was no significant difference in MDA in the control group over the 20 week period.

Conclusions The results obtained suggested that vitamin E reduced the ageing process by reducing MDA and increasing the dose of vitamin E did not result in further decrease in MDA level.

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Title BLEEDING MECKEL'S DIVERTICULUM

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Abstract A 15 year-old boy had repeated episodes of per rectal bleeding and right iliac fossa pain. It was associated with hypotension and low haemoglobin requiring blood transfusion. Technetium 99m in vivo labeled red blood cell study showed accumulation of tagged red blood cells in the region of the terminal ileum and proximal colon. Meckel's scan (Technetium 99m Pertechnetate) demonstrated an area progressively increasing uptake of tracer in the right iliac fossa in keeping with a Meckel's diverticulum. Laparotomy revealed an inflamed Meckel's diverticulum with ulcerated haemorrhagic intestinal mucosa with a deep ulcer lined with gastric mucosa. This case report illustrates the usefulness Technetium 99m Pertechnetate and Technetium 99m in vivo labeled red blood cell study in assisting the clinicians to clinch the diagnosis of a bleeding Meckel's diverticulum.

Title JUVENILE NASOPHARYNGEAL ANGIOFIBROMA - AN USM HOSPITAL EXPERIENCE OF 5 CASES

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Abstract Juvenile nasopharyngeal angiofibroma (JNA) are uncommon benign tumours that typically occur in young men. JNA is histologically benign yet locally aggressive tumour. The site of origin of JNA is usually from posterolateral wall of nasal cavity close to the sphenopalatine foramen. The numerous concepts regarding etiopathogenesis proposed so far are based on hormonal, vascular and fibroblastic theories. However evidence of antibodies to sex hormones particularly androgens and to some extent progesterone have been reported.

The incidence varies from 1 in 5000 to 1 in 60,000 in otolaryngology patients. More commonly seen in South East Asia. It is estimated to account for only 0.5% of all head & neck neoplasms. So far no case has been reported from Kelantan-Malaysia.

This presentation reviews our recent experience of 05 cases of JNA at Hospital University Sains Malaysia (USM) during a short span of period from Nov. 1998 to Feb.2000. Their clinical presentation, radiographic studies, treatment and outcome are retrospectively analyzed. The current procedure of transarterial super selective embolization (SSE) has been found a valuable advent to reduce intraoperative morbidity as surgery has become the first choice of treatment in these cases.

Clinical and demographic features and radiological diagnosis are comparable with a number of other studies. However surgical approaches adopted in 02 of these cases (mid facial degloving with maxillary osteotomies and endoscopic sinonasal surgery) has added valuable information and operative convenience from the management angle. Moreover it gives us opportunity to precisely visualise the residual tags and trace of pedicle to the site of origin. Follow up, though short has shown no recurrences or worth mentioned complications in these cases.

Title REVERSED FASCIOTOMY FLAP FOR SALVAGE OF A BURN CONTRACTURED FOOT

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Introduction Burn injuries can lead to debilitating sequelae such as severe contracture. The initial burn treatment should be comprehensive. However when aspects of the treatment had been neglected, the outcome of the treatment are frequently unsatisfactory. We present a case of girl who has developed severe deformities of the leg after she sustained a flame burn injury at an early age.

Case report A 10-year-old girl presented with postburn deformities of both legs. She sustained a flame burn injury at the age of five. She underwent delayed debridement and split thickness skin grafting after a prolonged period of conservative treatment without physiotherapy nor splinting. She developed contracture of the right foot and was unable to use any footwear. The foot was in a severe dorsiflexion and plastered to the anterior aspect of the tibia. The ankle joint was dislocated anteriorly. Magnetic resonance imaging of the foot showed a severely dorsiflexed foot with presence of a soft tissue cleavage between the foot and the tibia. The tendons were intact but shortened. The joint surfaces and bones appear normal despite the dislocated ankle joint. The contracture was released, tendons lengthened, extensor retinaculum reconstructed and the dislocated ankle joint reduced. A distally based fasciotomy flap was used to cover the neurovascular structures, exposed tendons and the reconstructed retinaculum. External fixator was used to maintain the foot position and facilitate dressings. Twelve weeks later the patient was able to walk with a satisfactory foot mobility and was able to attend school again.

Discussion With a combination of various reconstructive procedures, advanced stage of limb burn contractures can be salvaged despite the initial plan of amputation as the limb was categorized as a 'nuisance foot'. The distally based fasciotomy flap is a valuable alternative tool allowing a single stage reconstruction. Therefore the reconstruction has enabled this young patient to wear relatively normal footwear and regained a fully functional foot.

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Title VASCULARISED FIBULAR GRAFT USING REVERSE PERONEAL FLOW IN THE TREATMENT OF CONGENITAL PSEUDARTHROSIS OF TIBIA

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Introduction Pseudarthrosis of the tibia has gained a well-deserved reputation for being difficult to treat since first described by Hatzoecher in 1708. Non-union and repeated fractures are common problems. In extensive review of the literature, Morrissy (1982) found that only 55% of patients progressed to bony union after 167 operations of 23 different types. Amputation is necessary if repeated operation failed. We present a case of a young patient with congenital pseudarthrosis of tibia who underwent resection and reconstructed with ipsilateral osteocutaneous fibular graft using reverse peroneal flow.

Case Report A 3-year boy presented with complaint of anterolateral bowing of the right leg since birth. Examination revealed few café-au-lait spot over the back and there was marked anterolateral bowing of right leg. X-ray showed pseudarthrosis of tibia at the junction of middle and lower third of tibia with normal fibula. Resection and reversed peroneal fibula graft was done as primary procedure. The disease segment of the tibia was excised through anterior incision. Estimated of 6.6 cm of tibia was resected together periosteum and abnormal soft tissue surrounding it. Another lateral incision was made to expose the fibula. The central segment of fibula harvested as osteocutaneous flap. Peroneal vessels were identified and isolated. The proximal vascular pedicle was divided and distal pedicle was dissected down until adequate length acquired. After tourniquet was released, good retrograde arterial flow was noted. Total fibula resected was 11.0 cm, skin paddle 2.5 x 7.5 cm. The distally based pedicle fibula was rerouted through intermuscular septal plane. The tibial defect after realignment was 5.5 cm. The fibula was slotted into both end of the tibia, overlapping 2 cm proximally and distally. Both end was fixed with K-wire to achieve better fixation. Postoperatively an above knee plaster was applied. Skin showed good perfusion that indicated viable flap. X-ray taken one month later showed present of callus at both end. He was allowed weight bearing with below knee plaster after two months. Plaster of Paris was removed after 6 months and replaced by external thermoplastic splint. X-ray at 6 months showed hypertrophy of the fibula.

Conclusion Pseudarthrosis of the tibia represents one of the more difficult conditions to treat, often resulting in delayed amputation or shortening. A technique is described where the central segment of the fibula containing the nutrient artery can be mobilized based on retrograde peroneal artery flow. This can then be transposed and slotted into the tibia defect after complete resection of the pseudarthrosis segment, allowing bone replacement and correction of length. This procedure with the aid of magnification can be carried out more safely with shorter operation, at earlier age than by microvascular anastomosis and provide a good result (Townsend 1990). With this approach the problem associated with microsurgical transfer can be avoided.

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Title THE ROLE OF AMNIOTIC MEMBRANE IN RECONSTRUCTIVE PLASTIC SURGERY

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Introduction The clinical application of the fetal membranes has been known for many years ranging from burn injuries to treatment of chronic ulcers. We present our experience of using Cobalt 60 irradiated amniotic membrane in reconstructive plastic surgery. In our centre, the amniotic membranes are initially used for the treatment of partial thickness burn injuries. Presently, we have used the amniotic membranes in various aspects of plastic and reconstructive surgery such as split-thickness graft donor site dressings, dressing for facial abrasion wounds and temporary wound cover prior to definitive reconstructive surgery. The use of amnion has been extended from treating clean wounds to more challenging wounds such as granulating or colonised wounds and in association with free flaps.

Discussion Historically, the use of amniotic membranes as a substitute for skin in wound closure was first suggested to John Staige Davis by a medical student. The use of amniotic membranes reduce pain, decrease electrolyte, fluid, and protein loss, and protect the raw surface of the host. Fresh surgical wounds may be protected by amniotic membranes. This may be a skin donor site or a full-thickness wound such as in the case of free flap reconstruction. In partial thickness wounds re-epithelialization occurred under the membrane. However in full-thickness wounds, the amnion act as a biological dressing. The dressing is temporary, until the area heals spontaneously by epithelial ingrowth or surgically closed. The amnions which is semipermeable, translucent, thin and non-allergenic proved to be effective as an important adjunct in reconstructive surgery. These advantages include ease of contouring and filling irregular surfaces, preserves healthy excised wound bed, protects from external contamination thus controlling of sepsis, allows monitoring of wound bed, without removing the amnion which is particularly very helpful in assessing wounds after debridement and in monitoring status of free flaps transfer, relieves pain, reduces the needs of frequent dressing change and the associated discomfort and reduces the cost of dressings in term of time and labour.

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Title A NEW SCORE FOR HAEMORRHAGIC STROKE MANAGEMENT : THE KUBANG KERIAN MANAGEMENT STROKE SCORE SYSTEM

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Objective To purpose a new score system for the intention of treating all patients diagnosed with haemorrhagic stroke, presenting to the Neurosurgical Unit, Hospital University Sciences Malaysia.

Methodology This score was done after a multivariate analysis of certain factors, common and uncommon to patients presenting with this pathology.

Results An operative score systems recommended for adult patients with ICH in Malaysia is invented. (Proposed HUSM – Kubang Kerian Stroke Management score). This score divides age variable into 5 groups: less than 40 years, 41-60 years, 61-70 years, 71-80 years and more than 80 years. Blood parameters included were High Total White Differential Cell Count, Lactate dehydrogenase pupil size and reactivity. Systolic blood pressure, hematoma volume, Glasgow Coma Scale, brain oedema, grades, intraventricular hemorrhage and midline shift were important parameters.

Conclusion A prospective study of this score system is now underway to established its sensitivity and specificity. This score system will assist primary physician in their decision for conservative and aggressive therapy.

Title MANAGEMENT OF A COMPLEX TRAUMATIC DISLOCATION OF C1 IN A CHILD: A CASE REPORT AND REVIEW OF INNOVATIVE TREATMENT

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Introduction A complicated neglected congenital C1/C2 abnormality usually cause mortality and morbidity. This patients may present do part of a congenital complex disease, degenerative process or trauma.

Objectives To report and review the innovative management done for a rare case of C1/C2 dislocation from a trivial trauma.

Methodology A 14 year old Malay male was admitted to the Intensive Care Unit of the Hospital USM after developing severe paraparesis due to a C1/C2 dislocation. Cervical spine x-ray as well as Magnetic Resonance Imaging of the cervical spine revealed a medullopapth secondary to compression. The atlas was seen to compress the spinal cord at the level of the foramen magnum.

Results After nearly a month of conservative therapy due to parental refused a posterior approach was done to fused occiput to C3. Intraoperatively the T-Frame system was used with soft wires (Johnson&Johnson) assisted with allograft and a Halo Frame. Postoperatively the patient took 3 months to recover from his paraparesis and ventilatory support.

Conclusions Neglected atlantoaxial dislocation with paraparesis is rarely seen and its management is complicated. This case despite being neglected had a favorable outcome.

Title VASCULARISED FIBULA AUGMENTED ALLOGRAFT AND VASCULAR THROUGH-FLOW ONE-STAGE RECONSTRUCTION OF A COMPOSITE DEFECT OF THE LEG

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Introduction The management options of complex resection defect varied. Composite defect with bony vascular and soft tissue remain a challenge for reconstructive surgeons. We present a case of a young patient who underwent a curative resection of a giant cell tumour of the tibia and subsequently reconstructed with a combined graft and through-flow vascular repair.

Case Report A 24-year old man presented with four months history of pain and swelling of the distal tibia region. There was a diffuse hard swelling on the anteromedial aspect of ankle. X-ray showed a diffuse expansile lytic lesion with cortical breakage of the distal tibia. Incisional biopsy revealed a giant cell tumour. En-bloc resection of the 10 by 5 cm mass with resection of the anterior tibial vessel, muscle of the anterior compartment and the overlying skin was performed. The resection left a bony defect of 14 cm, segmental vascular defect and soft-tissue defect of 12 by 4 cm. The bony defect was bridged with a massive allograft forming a shell supporting a centrally placed vascularised osteocutaneous free fibula autograft. The protruding fibula fitted into slots made proximally in the tibia and distally in the talus. Proximally the peroneal artery of the flap was anastomosed to the anterior tibial vein proximally and to the long saphenous vein distally reconstituting the anterior tibial vascular system. The fasciocutaneous component of the flap was used to reconstruct the overlying soft tissue defect. Selective arteriogram showed good patency and normal flow direction of both arterial anastomoses. Postoperative recovery was uneventful and patient regained satisfactory limb function.

Conclusion The combination of a massive allograft and vascularised free fibula osteocutaneous flap, allow a successful single stage total anatomical reconstruction of this composite defect after a curative resection of a locally advanced giant cell tumour as well as reconstructing the vascular defects.

Title TWO RARE CASES OF GIANT SPINAL NEUROFIBROMAS

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Abstract We report two rare cases of sporadic non NF 1 spinal neurofibromatosis with two different presentations. Patient one, a 41 years old Malay female, presented with h/o of recurrent fall for 1 week prior to admission. An MRI done then revealed a giant intradural extradural lesion arising from cervical two to cervical 6 measuring 4.3 cm with enlarged lateral foramina at level C4-5 and C5-6 on both sides. Only when the patient was tetraplegic did patient give consent. A posterior approach compressing of laminectomy of C2 to C6 was done and the tumour was completely excised.

The second patient was born with a soft tissue swelling of her lumbosacral area since birth which progressively grew in size. At the age of 33 two new swellings were noted

Title A RARE PRESENTATION OF AN EPIDERMOID CYST : CASE REPORT AND LITERATURE REVIEW

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Introduction Haemorrhage from a benign intracranial epidermoid cyst is a rare occurrence. This is the 4th case report in the English literature (A current Index Medicus 2000).

Objectives To report a rare case presenting as a recurrent fossa posterior bleed in a young patient initially thought to be an arteriovenous malformation.

Methodology The patient presented with acute symptoms of raised intracranial pressure and mild cerebellar signs. An MRI scan of the brain and angiogram revealed no vascular abnormality.

Results A suboccipital approach to the lesion was done which revealed a gross appearance of an epidermoid cyst. Postoperative the patient developed a transient 6th nerve paresis which recovered spontaneously after 3 months.

Conclusions Histopathology revealed an epidermoid cyst with areas of haemorrhage. This is a uncommon as epidermoid cysts are not known to bleed. This patient did well despite a long rehabilitation period.

Reference 1. Tsurushima H et al. Intracranial epidermoid cyst including elements of old hematoma. Neurol Med. Chir (Tokyo) 1997;37:861-4. 2. Lunardi P, Rizzo A, Guidetti G. Unnatural CT-dense transtentorial epidermoid cyst. Neurochirurgica (Stuttg)1988;31:219-21. 3. Surgical treatment of cerebral haemorrhage. Press Med 1969, 77:213.

Title CERVICAL SPINE COMPRESSION DUE TO LOCAL EXTENSION OF A THYROID CARCINOMA

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Abstract Anterior compression of the cervical cord to local extension from a thyroid carcinoma is rare. We report a patient with this pathology who presented with increasing spastic tetraparesis. She was known to have a thyroid swelling but refused surgical intervention 2 years prior to Neurosurgical intervention. A total thyroidectomy was done followed by anterior cervical excision of metastatic vertebral body of C and C with insertion of an allograft using an anterior cervical plate system (Synthes)[®]. the patient recovered neurosurgically but unfortunately developed metastasis in her right femoral head as well as her skull bone. Patient was treated with radiotherapy after radioactive iodine and followed up for 4 years. Patient eventually developed intracranial metastasis which was managed additional radiotherapy.

Title JUGULAR OXIMETER IN THE MANAGEMENT OF SEVERE HEAD INJURY: IS IT SENSITIVE ENOUGH ?

Authors M.N.M. Tarmizi*, J. Abdullah*, G. Ghazaine*, A. Ashok*, A. Rosdi*, M.A. Fadzil*, W.I.W. Zarinah*, P.S. Shareen*, N. Noza*, D. Fatimah*, I. Marshamsina*, M. Norzihan*, M. Yaacob* and AR Dass*.

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Introduction Jugular oximeter has been used in the Intensive Care Unit of Hospital USM since 1998; cerebral oximetry and of intracranial pressure monitoring has not been able to reduced the mortality rates in severe head injuries. The introduction of other monitoring parameters have been recommended by the society of neuroanaesthesia and critical care. We purpose a protocol to manage severe head injury patients according to the European Brain Injury Consortium and American Association of Neurosurgical Society. This protocol made after a study on the different types of management of severe head injuries in Malaysia is presented. There is currently no national protocol for severe head injury patients in Malaysian tertiary centers.

Conclusion This protocol will improve the management of severe head injury in Malaysia. The combination of cerebral oximetry, intracranial pressure monitoring transcranial doppler and cerebral blood flow study is vital to the better outcome of severe head injury patients.

Title NEUROPHYSIOLOGY (EEG, SSEP AND TRANSCRANIAL DOPPLER) MONITORING AS PROGNOSIS DETERMINANTS. COMPARING NEUROPHYSIOLOGY VERSUS CLINICAL FINDINGS IN THE AGGRESSIVE NEUROSURGICAL INTERVENTION OF ACUTE SUBDURAL HEMATOMA IN SEVERE HEAD INJURY PATIENTS

Authors MDM. Ashraf*, J. Abdullah*, G. Ghazaine*, A. Ashok*, A. Rosdi*, M.A. Fadzil*, W.I.W. Zarinah*, PS Shareen*, N. Noza*, D. Fatimah*, I. Marshamsina*, M. Norzihan*, M. Yaacob* and AR Dass*.

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Introduction Severe head injuries are defined as those between Glasgow Coma Scale 3-8. Acute subdural hematoma when untreated are mostly fatal. Most severe head injury patients subdural hematoma are not operated on due to their high mortality ie cerebral death due to malignant oedema and coning. Decisions are made on subjective feeling and experience rather on clinical objective and neurophysiological reasoning.

Methodology 10 patient with acute traumatic subdural hematomas and poor Glasgow Coma Scale were analysed via neurophysiological parameters (EEG, SSEP and transcranial doppler) before decision for aggressive surgical intervention were taken. A standard ICU management were done for all this cases.

Results All patients with reactive pupils (n=8) with reactive EEG, SSEP and transcranial doppler survived despite having a high morbidity (infection, long hospital stay etc). Patients with unreactive pupils (n=2) with preoperative reactive EEG, SSEP and transcranial doppler did not survive despite aggressive postcraniotomy and neurointensive care. Post operative monitoring revealed slowing of EEG waveform. Prolonged SSEP and decrease cerebral flow compared to the other 8 patients.

Conclusion A longterm prospective followup is necessary to determind the value of neurophysiological monitoring of head injury patients in the pre, intra and post operative period. Pupillary dilatation may be more sensitive than any neurophysiological value. This needs to be tested in a long term followup.

Reference Farmaier G. Emergency indication of EEG in the situation of a head injury in children and adults. Neurophysiol. Clin 1998;28:121-33. Verwadt Geb 1976;7:122-32.

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Introduction Severe head injuries are defined as those between Glasgow Coma Scale 3-8. Acute subdural hematoma when untreated are mostly fatal. Most severe head injury patients subdural hematoma are not operated on due to their high mortality ie cerebral death due to malignant oedema and coning. Decisions are made on subjective feeling and experience rather on clinical objective and neurophysiological reasoning.

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Conclusion A longterm prospective followup is necessary to determind the value of neurophysiological monitoring of head injury patients in the pre, intra and post operative period. Pupillary dilatation may be more sensitive than any neurophysiological value. This needs to be tested in a long term followup.

Reference Farmer G. Emergency indication of EEG in the situation of a head injury in children and adults. Neurophysiol. Clin 1998;28:121-33. Verwade Geb 1976;7:122-32.

Title A RARE CASE OF HEMANGIOPERICYTOMA OF THE THORACIC SPINE

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Introduction Intradural and extramedullary hemangiopericytoma are rare. The Index Medicus cites only 2 case reports on this tumour located in the thoracic spine.

Objective To report a rare case of an intradural extramedullary hemipericytoma and its management.

Methodology A 36-years old Malay lady was referred to the neurosurgical unit with history of progressive paraparesis. An urgent Magnetic Resonance Imaging of the spine revealed an intradural extramedullary tumour with invasion of the intervetebral foramen of thoracic twelve and lumbar one.

Results An emergency laminectomy of lumbar 1 and 2 was done with removal of this tumour which grossly resembled a neurofibroma. The histopathology results revealed a hemangiopericytoma.

Conclusion The patient's paraplegia improved to grade 3/5 with aggressive physiotherapy. The patients is currently receiving radiotherapy.

References 1. Fathe K. Hemangiopericytoma of the thoracic spine: Case report. J. Neurosurg 1970;32:371-4. 2. Nonoka M et al. Metastatic meningeal hemangiopericytoma of thoracic spine. 3. Clin. Neurol Neurosurg 1998;100(3):228-30.

Title USE OF SENSORY EVOKE POTENTIAL MONITORING IN SPINAL CORD/ BRAIN STEM SURGERY: REVIEW OF THE FIRST CASES MONITORED IN THE HOSPITAL UNIVERSITI SAINS MALAYSIA

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Introduction Spinal cord evoked and brain stem potential monitoring is now a golden standard in monitoring the physiological changes during neuroorthopaedic operations. We described the cases monitored since the concept of intraoperative monitoring was establishment in June 1999.

Methodology The first 10 cases were retrospectively analysed and their pathology determined by both neuroradiological imaging and neuroohysiological charting. There were 9 cases of cervical cord /brain stem pathology and one case of thoracic spine tumour. All patients had evidence of clinical neurological deficit ie paraparesis, monoplegia, tetraplegia or cranial nerve deficit.

Results All 10 patients were monitored intraoperatively and changes during high speed drilling, instrumentations were recorded. Any abnormal were form was informed and method of operation was changed. There were no permanent waveform changes intraop or postoperatively. All patients did not do worse than their preoperative neurological deficit. All cases had improvement in motor function after 6 months of aggressive rehabilitation.

Conclusion Neurophysiological monitoring of spinal cord function is important and should be the gold standard for all neuroorthopaedic intervention.

Title INTRAVENTRICULAR CENTRAL NEUROCYTOMA

Authors A.R. Ariff^{*}, A.S. Muda^{*}, J.M. Abdullah^{*}, Gurjeet K. and B.M. Biswal^{*}

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Abstract A case of intraventricular neurocytoma is reported. A 36-year old Malay lady presented with a headache of 8 months duration. Physical examination revealed signs of increase intracranial pressure. CT-scan and MRI showed tumour in both lateral ventricles. The findings on CT-scan were considered as choroid plexus tumour. Central neurocytoma was not mentioned as a differential diagnosis in the initial radiological report. Patient underwent tumour debulking followed by palliative radiotherapy. Histopathology confirmed the diagnostic of central neurocytoma. The radiological appearances of central neurocytoma are discussed.

Title LATISSIMUS DORSI FLAP FOR CLOSURE OF LOCALLY ADVANCED BREAST CARCINOMA

Authors Noor Azam Nasuha, Ahmad Sukari Halim, Abdul Hamid Sain and Ahmad Zahari Zakaria

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Introduction Locally advanced, recurrent breast cancer is commonly seen in our local population. Occasionally patient presented with radionecrosis or local lesion which has not responded to radiotherapy and/or chemotherapy. One technique of palliation for the ulcerating tumour is a radical mastectomy with replacement of the chest wall defect with a myocutaneous flap. In cases where adjuvant treatment is needed, there will be no delay in the subsequent delivery of chemotherapy or radiation treatment. The reconstructed chest and breast tolerate the treatment well. Post-reconstruction irradiation used in immediate reconstruction for locally advanced breast cancer appears safe. Here we reported 2 cases of locally advanced breast carcinoma that underwent mastectomy with latissimus dorsi-myocutaneous flap for coverage.

Conclusion Latissimus dorsi myocutaneous flap offers the best solution in closing large resection defects of locally advanced breast carcinoma. Due to the size of resultant defect and poor quality of surrounding tissue, simple direct closure is frequently not possible. Although surgery will not affect the survival, the quality of life will be significantly enhanced due to local control strategy. Palliative local control of this advanced tumour relieves patients from pain due to rib invasion, the socially unacceptable odour of fungating tumour as well as the non-healing tumorous growth. Radical breast resection and reconstruction may be offered to motivated patients regardless of disease stage, as it is a useful modality for palliation of patients with advanced breast cancer.

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Title HEPATOBLASTOMA: A CASE REPORT AND REVIEW OF THE LITERATURE

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institution Department of Pathology, School of Medical Sciences, University Sains Malaysia, Kota Bharu, Kelantan, Malaysia.

Introduction Hepatoblastoma is a rare malignancy of childhood that accounts for 25-40% of paediatric liver tumours. A review of the literature revealed no previously reported cases in Malaysia.

Case report A one-year-old boy presented with a one-month history of progressive abdominal distension and weight loss. He was cachexic, anaemic, had gross hepatomegaly and ascites. He had been born prematurely with a birth weight of 1.23 kg, and his developmental milestones were delayed. Ultrasound and CT scan demonstrated a large solid tumour in the left lobe of the liver with a smaller superficial nodule in the right lobe. Serum alpha fetoprotein was significantly raised. A left lobe hepatectomy and complete excision of the right sided nodule was performed. There was no evidence of metastatic disease. Histopathological examination confirmed hepatoblastoma of the fetal type. The patient developed features of intestinal obstruction a few days after surgery which was attributed to paralytic ileus after a re-laparotomy. Unfortunately, the child's condition worsened and he succumbed ten days after laparotomy.

Discussion The clinical presentation and investigation results in this case are characteristic. Recent reports have suggested a strong relationship between very low birth weight (< 1500gm)/prematurity and hepatoblastoma as is illustrated by this case. Surgery is the mainstay of therapy in hepatoblastoma although preoperative chemotherapy to reduce the tumour volume has been recommended by some workers. A brief review of the literature on this rare tumour will be presented.

Title ONE DISEASE OR TWO DISEASES?

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Abstract An 18 year-old Siamese boy was diagnosed as acute lymphoblastic leukemia (ALL) in HUSM in September 1999 from bone marrow aspiration and immunophenotyping which showed B-lineage ALL with CD 10 expression. The cytochemical findings were all negative. He had a background history of autoimmune haemolytic anaemia in 1998 and had been investigated and treated in another hospital. His previous marrow from trephine biopsy was compatible with lymphoma (scattered groups of larger non-cohesive cells exhibiting nuclear features of centroblastic-like and occasional centrocytic cells. These cells are three to four times larger than the normal resident cells. The immunohistochemical staining i.e. LCA, T-cell and B-cell were equivocal at that time). However the patient defaulted follow-up and no definite treatment was given. He received our standard induction chemotherapy treatment for ALL, following which his marrow aspirate shows less than 5% L1 blasts, however there is presence of abnormal mononuclear cells which is about 6%. The bone marrow trephine biopsy showed hypocellular marrow, no other abnormal cell infiltrates seen. We believe that his ALL is currently in remission, however the presence of the abnormal mononuclear cells raises the probability of an underlying lymphoma or did he have two synchronous diseases? Further investigations such as molecular studies would be a useful tool in arriving at the correct diagnosis.

Title THE NEUROJAF 5TH VENTRICULAR SET: A PROTOTYPE DESIGN

Author J. Abdullah

Institution Neurosurgical Unit, Department of Surgery, Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia.

Introduction A 5th ventricular catchment system for the collection of cerebrospinal fluid designed by Dr. Jafri Malin Abdullah is described and shown. This set consists of a ventricular catheter made of silicon, a recipient cylinder a bag collector with markings.

Results This set is currently being prepared for "international market". (The author has no financial rewards what so ever present and future in the invention and sale of this 5th ventricular set system).

Title CAVERNOUS SINUS THROMBOSIS : 2 CASE REPORTS

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Abstract We report 2 interesting cases of cavernous sinus thrombosis. The first case is a 7-year old boy, developed cavernous sinus thrombosis following a nasal cutaneous infection. The diagnosis is based on his clinical presentation and also CT scan findings. The second case is 14 year old, unknown case of thalassemia major, presented with proptosis and ophthalmoplegia. Unlike the first case, he was diagnosed clinically since CT scan was normal. The challenging aspect in managing cavernous sinus is ability for early diagnosis and to give appropriate treatment. These report highlight that cavernous sinus is still with us and the importance of a high index of suspicion, since this condition largely diagnosed by physical signs and symptoms. As illustrated in our report, with appropriate and early treatment, the prognosis is good and patients able to achieve complete remission without neurological sequelae.

Title TRANSCRANIAL DOPPLER MONITORING OF SUBARACHNOID HAEMORRHAGE : A STUDY OF RESPONSE TO AGGRESSIVE ICU THERAPY

Authors M.D.M. Ashraf^{*}, J. Abdullah^{*}, G. Ghazaim^{*}, A. Ashok^{*}, A. Rosdi^{*}, M.A. Fadzil^{*}, W.I.W. Zarinah^{*}, P.S. Shareen^{*}, N. Noz^{*}, D. Fatimaf^{*}, I. Marshamsina^{*}, M. Norzihan^{*}, M. Yaacob^{*} and A.R. Dass^{*}

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Introduction Aggressive treatment is necessary in the management of subarachnoid haemorrhage (SAH) secondary to primary intracerebral haemorrhage due to hypertension or vascular abnormalities. Delay recognition may cause irreversible secondary damaged causing life long morbidity.

Objective To look into the ICU outcome of transcranial doppler monitoring of vasospasm in SAH.

Methodology 18 aneurysm cases were analysed prospectively and retrospectively in their relationship to vasospasm associated with subarachnoid haemorrhage (SAH). Transcranial doppler monitoring were done on admission (preoperatively), and postoperatively in the aneurysm SAH operative group and those from day 1 till day 3 of the hypertensive SAH group. All patients received nimodipine as a standard treatment regime.

Results No vasospasm defined as velocity above 100 cm/s were noted in the nimotop group. One patient had a severe contralateral. A vasospasm causing stroke. Hypoperfusion due to hypotension in the nimodipine group caused reduced doppler flows in both hypertensive non aneurysm and hypertensive aneurysm group. Inotropic support had to be started to unincreased cerebral blood flow to acceptable values determined by transcranial doppler. Two patients needed hypertensive, hyperdynamic, hemodilution technique to augment the severe vasospasm noted with improvement.

Conclusion Transcranial doppler measurement of the middle cerebral artery flow is a sensitive method of measuring both regional and global cerebral perfusion. Drop in cerebral blood flow is noted immediately even if the patient is normotensive and can lead to proper aggressive neurosurgical intervention.

Reference 1. Schaller C et al. Amount of subarachnoid blood flow and vasospasm: current aspects- a transcranial doppler study. Acta Neurochir (Wein) 1995,136: 67-71.

Title ROLE OF SURGERY IN SPONTANEOUS INTRACEREBRAL HEMORRHAGE: A COMPARATIVE STUDY OF SURGICAL AND NONSURGICAL TREATMENT OF INTRACEREBRAL HEMORRHAGE WITH THEIR FUNCTIONAL OUTCOMES IN HOSPITAL UNIVERSITI SAINS MALAYSIA

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Institution Neurosurgical Unit, Department of Surgery^{*}, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Abstract Spontaneous intracerebral hematoma accounts for about 6.3 to 13.0 percent of all strokes. It is associated with a disproportionately high morbidity and mortality, which approaches 70 percent in certain patient's subgroups. However, this figure appears to higher in our population (Fauziah, J. et al). The surgical treatment of spontaneous intracerebral hemorrhage varies throughout the world. The indication for surgery in spontaneous intracerebral hematoma is still controversial.

Objective The aim of this study is to compare nonsurgical and surgical outcome in management of spontaneous intracerebral hemorrhage over a 4 years period (1994-1998).

Methodology We analyzed these risk factors, locations and treatments of ICH, and the final outcomes measured by the Glasgow Outcome Scale in 112 patients.

Results Hypertension was seen in 60.7% with intracerebral hemorrhage. The selected variables were incorporated into models generated by logistic regression techniques of multivariate analysis to see the significant predictors of outcome. The mortality rate was 25% by 3 months. 58.9% had poor final outcome while 41.1% had good outcome.

Conclusion Significant predictors of outcome were GCS on admission, duration of surgery and total volume of hematoma. Significant predictors of mortality were high TWDC, low protein, and high lactate dehydrogenase and brain edema. The study suggests that surgical treatment of these categories of patients with ICH does not offer any definite advantage over conservative treatment. We suggest that intracerebral hemorrhage patient's with operative score more than 22 point is not recommended for surgical treatment.

Title TOXICITY OF ANTIFUNGAL DRUG, MICONAZOLE TO RAT HEPATOCYTES: IN VITRO AND IN VIVO STUDIES

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Introduction Azole antifungal compounds are important in the treatment of various mycotic infection which is a growing problem with the rapid increase in immunocompromised patients such as patients with AIDS. Hepatotoxicity due to azole antifungal therapy has been well documented, firstly recognised with ketoconazole (Lewis et al. 1984, Gastroenterology; 86: 503-513). The mechanisms of azole antifungal induced hepatotoxicity are poorly understood. Many azole antifungal drugs are inhibitors of fungal cytochrome P450 and to an extent mammalian P450 (Haria et al. 1996; Drugs. 51: 586-620.) It is possible to access the involvement of cytochrome P450 in the toxicity of miconazole to hepatocytes since rat hepatocytes have drug-metabolising enzymes.

Objective The purpose of this study was to investigate *in vitro* and *in vivo* cytotoxicity of miconazole to rat hepatocytes.

Methodology *In vitro* incubation of rat freshly isolated hepatocyte suspensions with 1.0mM miconazole

and Results had minimal effects on the LDH leakage. Interestingly, phenobarbital pretreatment (75mg/kg/day ip for 4 days) resulted in significant protection against toxicity of hepatocytes *in vitro* to miconazole. *In vivo* miconazole dosing of rats at 200mg/kg also showed minimal effects on the liver where only degenerative changes were observed histologically. Phenobarbital pretreatment also resulted in reduction in *in vivo* miconazole-induced degenerative changes to the hepatocytes in the liver.

Conclusion These results demonstrate the *in vitro* and *in vivo* toxicity of hepatocytes induced by miconazole which were expressed in a dose-and-time-dependent manner. Phenobarbital plays a role in the cytoprotection of hepatocytes to miconazole *in vivo* and *in vitro*.

Title KESAN STRES PENGLIHATAN ARUHAN TERHADAP PERSEPSI TIGA DIMENSI

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Abstract Stres terhadap sistem vergens dan akomodasi adalah salah satu penyebab ketidakseimbangan penglihatan. Keluhan yang biasa dilaporkan oleh pengidap stres penglihatan ini termasuk kerengsaan, sengal di kawasan dahai dan pening kepala (Pickwell, 1991). Namun demikian terdapat banyak faktor lain yang juga menampilkan keluhan yang sama. Ini menyukarkan banyak pihak dalam menentukan punca sebenar keluhan yang dimaksudkan terutamanya sakit kepala. Sistem vergens dan akomodasi yang tidakseimbang menjejaskan kestabilan dwifiksasi mata dan kehadirannya dikesan sebagai dispariti fiksasi iaitu sisihan yang berlaku pada satu atau dua mata dengan magnitud yang sangat kecil semasa penglihatan binokular (Pickwell et al. 1987). Kajian terdahulu telah menunjukkan bahawa stres penglihatan boleh diaruh menggunakan prisma (Jenkins et al. 1992). Kajian ini menggunakan prisma oftalmik 6 prisma bes-dalam pada setiap mata, berfungsi merangsang beban lakuran terhadap rizab vergens dalam penatapandwifiksasi. Ketidakseimbangan ketetapan fiksasi dua mata akibat aruhan stres ini dipantau merujuk kepada magnitud sisihan paksi penglihatan mata kanan dan mata kiri yang ditunjukkan oleh garis nonius pada Unit Mallett. Persepsi tiga dimensi titik rawak TNO digunakan dalam pengukuran prestasi penglihatan binokular dalam kajian ini. Ujian titik rawak TNO dipilih kerana ia tidak mempunyai klu monokular dan persepsi tiga dimensihanya dapat dikesan dengan adanya lakuran binokular global (Tyler, 1983). Nilai ambang persepsi dimensi silang dan persepsi dimensi tak silang diuji semasa ketiadaan stres tanpa stres dan semasa sistem vergens dan akomodasi berkeadaan stres. Seramai 30 subjekjulat umur 19 hingga 29 tahun, terdiri daripada pelajar-pelajar optometri mengambil bahagian dalam kajian ini. Setiap subjek dipastikan mempunyai penglihatan binokular yang baik dan akuiti penglihatan Snellen 6/6 atau lebih baik. Keputusan kajian menunjukkan penurunan nilai ambang persepsi tiga dimensi yang signifikan semasa sistem penglihatan berkeadaan stres berbanding tanpa stres. Untuk keadaan tiga dimensi silang, ujian Wilcoxon menunjukkan $T = 0$, $p = 0.004$ manakala persep sitiga dimensi tak silang ditunjukkan oleh nilai $T = 0$, $p = 0.006$. Kajian ini memperlihatkan bahawa penurunan nilai ambang persepsi tiga dimensi daripada ujian titik rawak TNO boleh digunakan sebagai petunjuk klinikal menandakan keseimbangan sistem vergens dan adomodasi berkeadaan stres.

Title TRICHURIS DYSENTERY SYNDROME - REVISITED

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Abstract The *Trichuris* dysentery syndrome (TDS) affects children heavily infected with the helminth *Trichuris trichiura* and is characterised by chronic dysentery, growth stunting and anaemia.. 5 patients with clinical features compatible with the diagnosis of TDS seen from May 1999 to March 2000 were described. The duration of symptoms prior to the presentation ranged from 1-7 years. All of the patients have been seen by the medical practioners and 2 of them have had multiple blood transfusions due to the chronic anaemia. TDS is said to be uncommon but we have reasons to believe that this severe condition is underdiagnosed largely because the illness is insidious hence diminishing the urgency in seeking medical attention as well as the failure of the medical practioners to recognize this problem.

Title DERMATOGLYPHICS IN NASOBRONCHIAL ALLERGIC DISORDERS

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Abstract The dermatoglyphic characteristics of subjects with nasobronchial allergic disorders when compared with control group revealed significant differences. The whorl were increased in nasobronchial allergic disorder patients; but there were little changes in atd angles between normal and nasobronchial allergic disorder. The observed changes suggest a marked participation of genetic factors in the etiology of nasobronchial allergic disorder and they can be explained by laws of developmental mechanics of the papillary line during embryogenesis. Dermatoglyphics, a non-invasive method, could serve as a screening indicator for the follow up of individuals in threatened families.

Tajuk PRESTASI PENGLIHATAN BINOKULAR PADA ANISOMETROPIA

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Pendahuluan Anisometropia adalah perbezaan ralat refraksi antara mata kanan dan mata kiri. Ia hadir apabila beza ralat refraksi antara dua mata bernilai 1D atau lebih (Grosvenor, 1966). Kajian terdahulu telah menunjukkan bahawa anisometropia boleh menyebabkan berlakunya ketidakstabilan penglihatan binokular dan masalah visual seperti kepayahan fusi, beza upaya akomodasi antara dua mata, symptom astenopia dan sebagainya.

Objektif Kajian ini bertujuan untuk mengukur prestasi penglihatan binokular pada pengidap anisometropia.

Metodologi Seramai 27 orang subjek anisometropia berumur antara 13-40 tahun telah dikenalpasti dan mengambil bahagian di dalam kajian ini. Ujian-ujian yang dilakukan terhadap subjek ini adalah seperti berikut :

1. ujian refraksi
2. pengukuran akuiti visual
3. pengukuran fusi - worth 4 titik
4. pengukuran amplitud akomodasi - pembaris RAF
5. pengukuran dispariti fiksasi – Unit Mallet dan Disparometer Sheedy.

Keputusan Kesemua subjek didapati mempunyai fusi yang baik, stereopsis yang normal dan amplitud akomodasi yang mencukupi.

Kesimpulan Setakat ini, kajian menunjukkan bahawa pengaruh anisometropia terhadap prestasi penglihatan binokular adalah tidak jelas. Ini mungkin kerana kesemua subjek di dalam kajian ini mempunyai anisometropia kurang dari 3.5DS.

Title SPLIT-COURSE RADIOTHERAPY IN STAGE IV HEAD & NECK CANCER

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Introduction Short course of hypofractionated radiotherapy is a standard regime for the palliation of stage IV head & neck cancers. But few patients do respond favourably requiring further radiotherapy in curative intent. We have used split-course radiotherapy technique to find out this conversion rate

Objective To find out the conversion rate of palliative radiotherapy to radical radiotherapy in locally advanced head & neck cancer using split-course technique.

Methodology Between November 1998 to October 1999, twenty six (26) patients with stage IV head & neck cancers were treated with a hypofractionated regime of radiotherapy. A tumor dose of 30 Gy in 10 fractions over 2 weeks (TDF 62) was delivered using a 6 MV linac. A conventional 2 field or 3 field technique were used. Patients were assessed for the regression of tumor on 5th day, 10th day and 4 weeks after the completion of radiotherapy. Patients showing favourable response were allowed to receive further radiotherapy.

Results All patients completed above regime. There were 21 males and 5 females in the study with a median age of 44 years (range 19-77 years). Complete response was achieved among 14 patients (54%), partial response in 6 patients (23%) and no response among 6 patients (23%). Sixteen patients (61%) were suitable for radical radiotherapy after phase-I course. About 17 patients (65%) showed improvement in the general well being with better quality of life. The median follow up of the study population was 7 month (range 4 to 20 months).

Conclusions Split-course technique is an useful method in stage IV head and neck cancers to distinguish between the subset of patients who would require curative treatment and who would not.

Title THE ROLE OF CHEST RADIOGRAPHY IN ROUTINE MEDICAL EXAMINATION : IS THE PRACTICE STILL EFFECTIVE?

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Introduction The practice of routine chest radiography has been based on the assumption that significant disease can be detected in a silent phase when it is more amenable to successful medical treatment. In Malaysia, chest radiography has been part of routine medical examination(RME) for many decades in particular looking for cardiopulmonary diseases especially Pulmonary Tuberculosis(PTB)

Methodology All the available chest radiograph that been carried out at Hospital Kuala Terengganu for the purpose of RME between January 1998 to April 1998 were collected. Every film was reviewed by the Radiologist looking for abnormalities.

Results A total of 945 films were traced and reviewed by the radiologist. The ratio of male to female 520:425. Range of age 11 years old to 51 years old(median age 18 years old). Purpose of RME are mainly for preemployment, student entering higher institutions and army personels undergoing routine health examination. Twenties films were noted to have changes that considered as abnormal. Out of all the abnormalities detected, majority(>80%) were the changes that not going to affect the outcome of RME.

Conclusion The yield of detecting abnormalities on CXR in routine medical examination is very low. This practice needs to be reviewed.