

INFECTIOUS DISEASES IN A GLOBAL ECONOMY - CONSEQUENCES FOR DEVELOPING NATIONS

**Peter McDonald AM
Emeritus Professor Flinders University
Professorial Fellow NCHECR, University of NSW**

Since the end of the cold war the world economy has become dominated by Western [largely US] interests. In this period there have developed several pandemics or epidemics of infectious diseases that have affected most nations. HIV, SARS, Avian Influenza, Hepatitis-C, Bovine Spongiform Encephalopathy, drug-resistant TB, viral zoonoses, are specific examples that will be discussed in terms of their genesis, economic impact and consequences for ways of life in the range of economies – developed, developing and under developed countries.

The burden falls most on the underdeveloped countries who are least able to mount the resources to combat the consequences of these global infections. The capability to diagnose, prevent, treat and manage is largely in the hands of commercial interests that are anchored into international trade agreements. This circumstance contrasts with the situation that existed for vaccine development and distribution in the early parts of 20th century. Most countries established “public good” institutions that developed vaccines for public health purposes [diphtheria, tetanus, polio, pneumococcal antisera are examples]. In this 21st century the international capability for developing vaccines is largely in the hands of industry.

Thus the developing countries need support of UN or similar global organizations to underwrite product development that suits their needs. The process of product development, safety and efficacy assessment will be presented in a manner that indicates the crucial and essential role of developing nations – and why they should receive fair recognition for their contributions.

SEXUALLY TRANSMITTED DISEASES: THE HIDDEN EPIDEMIC. ARE WE DOING ENOUGH?

Rokiah Ismail

Professor of Medicine & Dermato-Venerologist

Faculty of Medicine, Universiti Teknologi MARA, (UiTM)

Shah Alam

Issues relating to sex and sexuality have been taboo from time immemorial. Therefore, the topic of sexually transmitted diseases (STDs) has not been an easy subject for discussion even among health care professionals. Thus, this problem has not been high on the health agenda of most countries. Health care professionals tend to gloss over the age-old STD problem. This causes STDs to remain on the backstage and people affected by STDs resort to looking for treatment through the back alleys of clinical practice. Often it is left to dermatologists and primary care physicians to handle the day to day management of these patients.

Since the epidemic of HIV/AIDS began, the link of sexual activities to the spread of HIV has been more openly discussed. The rapidity of the global spread of HIV has become centre stage for the last 20 years, although recognition that effective control of STDs may prevent the spread of HIV is still wanting.

Effective STD prevention programs will require concerted effort from all sectors of society, public and private, including the government and the medical profession. There is need for nationwide awareness and preventive education programs both in the public and private sectors. Medical schools have a major role to play in ensuring that adequate teaching on this subject is included in the undergraduate curriculum.

An integral part of the national strategy in HIV prevention is to strengthen the STD control program nationwide.

A concerted effort in tackling this problem would be for the clinicians and the public health personnel to work together in providing a holistic strategy to ensure that STD control is handled effectively.

Because of the deleterious consequences of uncontrolled STD infection and HIV to the individual, the family, the community and its economic consequences to the country, it is imperative that more should be done to prevent the spread of STD.

***SPECTRUM OF EYE CONDITIONS IN 6-&12-YEAR OLD CHILDREN :
SYDNEY CHILDHOOD EYE STUDY***

Frank Joseph Martin
Assoc. Prof. of Ophthalmology,
Head of Ophthalmology Department
Children's Hospital Westmead, New South Wales,
Australia

PURPOSE :

To describe the prevalence and associations with common eye conditions (refractive errors, anisometropia, amblyopia, strabismus), in a sample of younger and older school children attending primary and secondary schools in Sydney, Australia.

METHODS :

The Sydney Childhood Eye Study is a population based survey of a sample of Year 1 and Year 7 school children resident in the metropolitan area of Sydney, Australia. Of the 2238 eligible Year 1 students 1760 (78.9%) participated (mean age 6.7 years), while of the 3130 eligible Year 7 students 2353 (75.1%) participated, (mean age 12.7 years). Ethnic groups included European Caucasian (63%) and East Asian (17%) children. The comprehensive eye examination included corrected and un-corrected log MAR visual acuity, cover testing, assessment of ocular movements, tests for stereopsis, color vision, auto- and subjective refraction, ocular biometry, slit lamp examination, optical coherence tomography and mydriatic digital retinal photography.

RESULTS :

Prevalence rates for myopia and moderate hyperopia were 1.5% and 13.2%, respectively, for the younger group, with corresponding prevalences of 12.8% and 20.9%, respectively, for the older group. Rates of bilateral and unilateral visual impairment (with best correction) were 0.9% and 2.8% in the 6-year old children (caused by uncorrected astigmatism and amblyopia), while for the 12 - year old children, corresponding rates were 1.1% and 5% (80% correctable by refraction), most non-correctable impairment was due to amblyopia. Amblyopia was present in 1.8% of the younger and 1.9% of the older group (of whom 60% and 73%, respectively, had been successfully treated). Strabismus was present in 2.8% of the younger and 2.7% of the older group, and was associated with gestational parameters, refractive errors, particularly hyperopia and amblyopia. An anisometropia, of at least 1 dioptre was present in 1.6% of the younger group and was strongly related to amblyopia and strabismus.

CONCLUSIONS :

Data from this study of two age groups of school children has defined the prevalence of common childhood eye disorders causing impaired vision.

AN EVIDENCE-BASED APPROACH IN THE DIAGNOSIS OF ACUTE CORONARY SYNDROME

Shirley Ooi Beng Suat

Assoc. Prof. & Senior Consultant Emergency Physician

**Emergency Medicine Department, National University Hospital
Singapore**

This lecture aims to give an evidence-based perspective in the diagnosis of ACS. The lecture will cover the evidence for using clinical presentation, electrocardiogram, biomarkers, cardiac imaging and computer-based decision aids in the diagnosis of acute coronary syndrome.

With regards to clinical presentation, this lecture will present the evidence showing how strongly the descriptors of chest pain, anginal equivalents and the classical risk factors of coronary heart disease are associated with the acute diagnosis of ACS.

The standard 12-lead ECG, with a relatively high sensitivity for AMI is not highly sensitive nor specific for ACS. This lecture will discuss the fundamental limitations in the standard 12-lead ECG and cover briefly the impact of continuous, nonstandard lead ECG and exercise stress ECG on the acute diagnosis of CS.

The most rapid development in the diagnosis of ACS is probably in the field of cardiac biomarkers. This lecture will cover the more commonly used cardiac markers such as creatine kinase, troponin T and I, myoglobin and the lesser used but up and coming heart-type Fatty Acid Binding Protein. Future biomarkers for the detection of ischaemia and risk stratification in ACS will then be discussed.

This lecture will cover briefly the role of cardiac imaging (echocardiography and Technetium-99m sestamibi myocardial perfusion imaging) in the acute diagnosis of ACS.

Finally the lecture will briefly cover computer-based decision aids (the acute cardiac ischaemia time-sensitive predictive instrument and the Goldman chest pain protocol).

REDUCING INFANT MORTALITY: AN EVIDENCED-BASED APPROACH

Heather Jeffery
Department of Neonatal Medicine
Royal Prince Alfred Hospital, Misselden Road
Camperdown 2050 NSW
Australia

The global community, through the United Nations General Assembly, has targeted eight key areas of global concern, termed the Millennium Development Goals (MDG's). Central to these are two that aim to reduce child mortality (goal 4) and maternal mortality (goal 5).

This presentation will focus on strategies to reduce child mortality and specifically neonatal mortality. As the mortality for children aged under five years has decreased in many countries in the last decade, neonatal deaths (deaths in first 28 days of postnatal life) now contribute a significant and large proportion of the infant deaths (almost two thirds) and under five deaths (nearly 40%)^{1,2}. This is particularly so for countries in so called 'epidemiological transition'.

Further reduction in infant and under five deaths is dependant on a substantial reduction in neonatal deaths. Yet neonatal mortality has not been adequately addressed in either maternal or child health programs, despite an estimated 4 million newborn deaths each year and another 4 million stillbirths each year. Most newborn deaths occur in the first 48 hours and first week of life.

Neonatal care cannot be separated from maternal care. A continuum of care is needed for female children as future mothers, extending from childhood to pregnancy, childbirth and postpartum care.

Most neonatal deaths could be prevented through evidence-based action. This encompasses implementation of proven and cost-effective interventions such as tetanus immunization, breast feeding, newborn resuscitation) through effective behavioural change (health providers, families and communities).

A model to demonstrate this approach will be presented³. Application of the model to Macedonia, a low income country with one of the highest perinatal mortality rates (neonatal deaths + stillborns) in Europe will be illustrated⁴. Elaboration of barriers and facilitators to change is essential to changing behaviour so that best evidence becomes best practice. In Macedonia this was achieved primarily at health provider level, although increasing demand for care from families and communities is important and will also accelerate change.

1. Black R, Morris SS, Bryce J. Where and why are 10 million children dying each year? *Lancet* 2003;361:2226-34
2. Lawn JE, Cousens S, Bhutta Z, et al. Why are 4 million babies dying each year? *Lancet* 2004;364:399-401
3. Parlato RP, Darmstadt GL, Tinker A. *Saving newborn lives, Tools for newborn health - Qualitative research to improve newborn care practices*. Washington . 2004.
4. Heather Jeffery, Mirjana Kocova, Fimka Tozia, Marina Pop Lazarova, Dragan Gjorgiev, Kirsty Foster, Jan Polverino, David A Hill. *The impact of evidence-based education on a perinatal capacity-building initiative in Macedonia*. *Medical Education* 2004; 38:435-47

THE NEW GENETICS / GENOMICS REVOLUTION IN HEALTH CARE

Ravindran Ankathil
Additional Professor, Division of Cancer Research
Regional Cancer Centre, Trivandrum - 695 011,
Kerala, INDIA.

Earlier, Human Genetics has been a rather academic branch of medicine, with little intervention possible, and emphasis was on understanding gene structure and function. Later, development of technology and research capabilities have led to accelerated progress in this field and the emergence of New Genetics, which refers to knowledge and procedures based on DNA technology. Over the past several years, a revolution in New Genetics has been taking place, that is having a profound impact on virtually all specialties of medicine. The revolution has been accelerated by the availability of the human genome sequence and the many high throughput technologies that have been developed in the Human Genome Project. It is now well recognized that the genetic composition of individual humans has a significant role to play in an individual's health and predisposition to common diseases such as heart disease and cancer. This new genetic / genomic era provides excellent opportunities to identify genes and the specific genetic changes that are responsible for human disease and to understand how such changes can cause disease.

During the next few years, all of the estimated 30,000 human genes (including disease causing genes) will be identified. In the clinical arena, it is becoming possible to utilize the emerging genetic and genomic knowledge in the diagnosis, prognosis and treatment of human diseases. The new health model, though still in its infancy and without an official title, has been called predictive, personalized, preventive or pre-emptive care. This new approach calls upon subspecialties of proteomics, functional genomics, epigenetics, bioinformatics and computational biology to develop a medical standard of care that acts upon early clues that portend the development of disease. The genetic basis of human disease is ushering a new era in drug development that is focused on targeted drug development. Genetic profiling of individuals in clinical trials would help in correlating individuals with their response to specific drugs. Widespread use of such genetic / genomic information would revolutionize medical practice to result in personalized medicine. Thus the rapid pace of advancement of knowledge in Genetics and Genomics poses a major educational challenge for all health providers, investigators and the public. But are we really ready for this revolution?

Professor Ravindran is currently a visiting Professor in the Human Genome Center, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia.

BASIC DIFFICULTIES AND POSSIBLE STRATEGIES IN UNDERSTANDING DISEASES : A PHILOSOPHICAL AND PRACTICAL APPROACH

Gynter Mödder
Cologne/Germany

There exists a remarkable difference in scientific progress between physics and medicine. Why are we able to fly round the world and to planets but do not know similar satisfactory treatments of cancer, rheumatism, and even influenza? Progress in medicine concerns mainly diagnostics and less therapy. Overwhelming complexity in biologic systems induce a certain helplessness in creating effective studies, so that tsunamis of publications lead to confusion. And as the most common discoverer remains pure chance.

We know a plenty of scientific tools but a change in basic view could be helpful: "Paradox logic" versus usual dualism. Best example: Success in treatment of thyroid cancer.

We may also derive new insights into pathogenesis of diseases by the not yet well understood efficacy of certain routine diagnostics and treatments (i.e. radiation synovectomy: involvement of nuclear medicine in treatment of arthritis).

The lecture tries to give a few brainstorming initiatives into our everyday work as scientists.

SCINTIMAMMOGRAPHY - A NEW METHOD IN THE MANAGEMENT OF BREAST CANCER

B.K. D A S

**Sanjoy Gandhi Post Graduate Institute of Medical Sciences
Lucknow, India**

In many developing countries in South-East Asia the incidence of breast cancer has shown a steady increase and now it occupies the second place in the list of cancers suffered by women. In spite of several developments in the method of management, the rate of morbidity and mortality has not changed significantly. Early diagnosis appears to be the most cost effective and acceptable method for reducing morbidity and mortality.

X-ray mammography has been the backbone of early detection of breast cancer. Several large scale systematic studies have shown that judicious use of X-ray mammography can indeed save life. However, though reasonably sensitive, X-ray mammography lacks in specificity leading to many unnecessary biopsies and delay in the diagnosis.

Scintimammography is a relatively new imaging method to demonstrate cancer tissue in the breast. A radiopharmaceutical (Tc-99m Sestamibi) is administered intravenously and images of the breast are taken under a Gamma Camera. There is no need of any manipulation like compression of the breast as required to be done during X-ray mammography. The radiopharmaceutical accumulates in the breast in the presence of cancer tissue which can easily be seen in the images. The affinity of the cancer tissue to this radiopharmaceutical is up to 9 times in comparison to normal breast tissue.

Several multi centric studies with blinded image interpretation has established the sensitivity and specificity of the method to be above 85 and 90 % respectively as compared to 89 and 14 % respectively for X-ray mammography. The positive and negative predictive values of scintimammography are 70 and 83 % as against 49 and 57 % respectively for X-ray mammography.

With the increasing availability of Nuclear Medicine facilities it is expected that more and more patients will be benefited by this new imaging modality.

Professor Das is currently a visiting Professor in the Dept. of Nuclear Medicine, Radiotherapy & Oncology, University Sains Malaysia, Kubang Kerian, Kelantan.

THE NEW GENETICS: ETHICAL AND LEGAL IMPLICATIONS FOR MEDICINE

Zalina Ismail

Assoc. Prof., Acting Dean

School of Health Sciences, 16150 Kubang Kerian, Kelantan, Malaysia

With the completion of the Human Genome Project in 2003, classical Mendelian genetics has moved to the cutting edge of science and medicine. Genomics or the “new genetics” brings with it the promise of curing disease and prolonging human life. It has contributed greatly to our understanding of the molecular basis of disease and to the development of effective interventions. The development and use of such genetics will have a profound impact on our understanding of disease and behaviour.

At the same time, the “new genetics” raises many issues besides scientific ones. Who should have access to genetic information? Who owns genetic information? How will personal genetic information lead to stigmatization and discrimination? How reliable is genetic information in making reproductive decisions? More importantly, the new genetics raises questions on the conceptual and philosophical implications regarding human responsibility, free will versus genetic determinism, and concepts of health and disease. There is concern that the often uncritical presentation of genetic research as well as the attitudes of the biomedical profession has contributed not only to the medicalisation of genetic predispositions, but also to an abdication of responsibility towards health and environmental conditions. It has also led to the commercialization of genetic material including property rights (patents, copyrights, and trade secrets) and accessibility of data and materials. This paper explores some of these ethical issues as well as the socio-cultural consequences of the new genetics.

In the legal area, the new genetics raises even more challenging questions. What if a gene is found that seems to point to a predisposition to criminality? How should lawmakers deal with this information? How acceptable is this risk? Similarly, genetic predispositions can lead to workplace discrimination, even in cases where workers are healthy and unlikely to develop disease or where the genetic condition has no effect on the ability to perform work. This paper also explores the legal implications of genome research with an emphasis on issues of privacy and the fair use of genetic information. It will examine the current status of Malaysian legislation regarding the confidentiality of genetic information of the individual and current legal standards for the collection, use and disclosure of such information. It will examine how Malaysia is considering amendments to specific legislation as well as enactment of new legislation to address the issues involved in genetic privacy and non-discrimination.

The new genetics gives us a greater understanding of how life works at the molecular level and will revolutionise the way we approach health and disease. At the same time, the new genetics has extensive legal and ethical implications with the potential to permanently alter the socio-cultural and moral fabric of our lives. In the course of redefining our perceptions of health and disease, we need to maintain the fragile balance between biological, legal, moral and social needs. The challenge is to ensure continuing development of the new genetics without sacrificing moral and ethical integrity.

*ORAL MEDICAL
SECTION*

OM-01

THE ASSOCIATION BETWEEN SMOKING AND SELF-ESTEEM AMONG ADOLESCENTS IN KOTA BHARU, KELANTAN

Norhayati MN*, Zulkifli A*, Rohana J*, Jamil Y**

***Department of Community Medicine, **Department of Psychiatry, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan**

PURPOSE :

Over the past few decades, the need for high self-esteem has risen from an individual to a societal concern. High self-esteem is now recognised central psychological source from which all manner of positive behaviors comes, whereas, low self-esteem is the root of individual and societal problems and dysfunctions. If high self-esteem could help prevent smoking among young people, thus, that would be a valuable contribution to both individual and societal welfare. Hence, the objective of this study was to determine the association between smoking and self-esteem among adolescents in Kota Bharu, Kelantan.

METHODS :

A cross-sectional study was conducted between January to June 2005 among 1364 randomly selected Form Two and Form Four students in ten coed government secondary schools in Kota Bharu. Data was entered using SPSS 12.0 and was transferred to Stata Intercooled 8.0 using Stat Transfer software. Since the design of this study was stratified multistage cluster sampling, a survey data analysis was used.

RESULTS :

The prevalence of smokers among adolescents in Kota Bharu was 7.7%. Among the boys, 15.4% were smokers, whereas, among the girls, 1.3% was smokers. There was no association between smoking status and self-esteem ($p=.593$) after controlling for age, gender, BMI and school status. The adjusted mean difference of Rosenberg SES between non-smokers and smokers was .30.

CONCLUSION :

There was no association found between smoking and self-esteem among adolescents in Kota Bharu, Kelantan. However, the cross-sectional design of this study does not permit conclusion about causal relations and both smoking status and self-esteem were based on self-reporting. Hence, information bias might be introduced.

OMI-02

**PERCEPTIONS AND ATTITUDES TOWARDS PAP SMEAR SCREENING
AMONG SOME MALAYSIAN WOMEN**

Lim CS *, Intan O, Zainab W***, Rashidah S******

School of Education, **School of Management, ***School of Social Sciences, *
Women's Development Research Centre –KANITA, Universiti Sains Malaysia,
11800 Minden, Penang, Malaysia.**

PURPOSE :

To highlight parts of findings of a larger research project, titled: “A Multi-centre Comparative Study of the Knowledge, Beliefs and Socio-Behavioral Risk Factors in Women and their Spouses on Pap smear screening” that was carried out to explore the level of knowledge, understanding and beliefs of cancer of the cervix and its prevention among women and their spouses. However, we concentrate on these women's perceptions and attitudes towards Pap smear screening.

METHODS :

The study employs mainly in-depth semi-structured interview to collect data. 62 women from various races and age groups were interviewed. The research participants were divided into four main groups: (a) women who were screened normal; (b) women who had never been screened; (c) women detected with precursor lesion and (d) women infected with cancer of cervix.

RESULTS :

Analysis of the interview data show that only women who screened normal were aware of the importance of Pap smear screening. They have positive attitude towards Pap smear screening. They did their Pap smear screening regularly. However, majority of the other two groups (b) and (c) of women were not aware about Pap smear screening before they experienced signs and symptoms of cancer of cervix such as bleeding and smelly discharge. Many of the never screened women were either totally ignorant about Pap smear screening or holding negative attitudes towards Pap smear screening. There are various barriers and individual beliefs that prevented these women from doing Pap smear screening. These include shyness, anxiety and sex of the healthcarers.

CONCLUSION :

In view of the prevalence of Cancer of cervix being the second killer among Malaysian women, while Pap smear screening has been recognized as the best way of early diagnosis, findings of this study imply the importance of arousing the awareness of women towards the importance of Pap smear screening.

OM-03

MALAYSIAN MEN'S KNOWLEDGE AND ATTITUDE TOWARDS THEIR SPOUSE SEEKING PAP SMEAR SCREENING

Intan O*, Lim CS, Zainab W***, Rashidah S****, Noresma J***

*** School of Management, ** School of Education, *** School of Social Sciences, **** Women's Development Research Centre –KANITA, Universiti Sains Malaysia, 11800 Minden, Penang, Malaysia**

PURPOSE :

To identify the level of knowledge among men on Pap smear screening as well as their attitude towards their spouse seeking Pap smear screening. Specifically, the paper hopes to uncover men's knowledge on the purpose, procedure, frequency, and eligibility about Pap smear screening. In addition, it also explores the impact of men's attitude on their spouse Pap smear screening seeking behavior.

METHODS :

The study employs mainly in-depth semi structured interview to collect data, 91 respondents from the northern region of Malaysia participated. The respondents were divided into six groups: (a) women who were screened normal (n=18); (b) women who had never been screened (n=12); (c) women detected with precursor lesions (n=16); (d) women infected with cancer of cervix (n=16); (e) healthcarers (n=11); and (f) men (n=18). The men respondents include spouses to some women respondents of the four subgroups.

RESULTS :

Analysis of the data shows that majority of the men respondents espoused that they have heard of Pap smear screening. Some were able to state to some extent the reasons for doing Pap smear which included detection of cancer and other female diseases. However, their knowledge level about the procedure, frequency is generally low, and in terms of the eligibility, the responses seemed to vary. Generally they mentioned that all women between the ages of 15 to post menopausal must go for Pap smear and they tend to have a misconception on eligibility and practices of Pap smear.

CONCLUSION :

In terms of attitudes, these men respondents seemed to display positive encouragement towards their spouse's decision making on Pap smear screening. As a result, there are serious direct and indirect implications on women seeking Pap smear screening and consequently the importance of men's involvement in spouse seeking Pap smear screening as an early diagnosis of cervical cancer will be further discussed.

OM-04

RESPIRATORY SYMPTOMS AND LUNG FUNCTION TEST AMONG MALE RICEMILLS WORKERS IN PENINSULAR MALAYSIA

Nurul AH*, Mazlan A*, Razlan M*, Azwan A*, Azlihanis AH*, Nasir S*, Zulfazli H*, Rusli N, Naing L****

***Department of Community Medicine, School of Medical Sciences, **School of Dental Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan.**

PURPOSE :

Rice mills workers are continuously exposed to rice grain and husk dust and hence developing occupational lung diseases. Organic dust will contribute to abnormalities of lung, thus leading to variety of health problems. Our aim is to determine the prevalence of respiratory symptoms and association between lung function tests with selected variables such as age, height, smoking habit, and duration of work among workers.

METHODS :

A cross sectional study was carried out among 138 male workers in rice mills in Kedah, Kelantan and Terengganu. The study included spirometric testing and detailed personal interviews using a structured questionnaire adapted from The European Community Health Survey (ECRHS) screening questionnaire on respiratory symptoms. Those who answered "yes" in one of the questionnaire were considered as a positive screening.

RESULTS :

Respiratory symptoms commonly reported by the workers were wheezing (30.1%) shortness of breath (14.0%), chest tightness (35.3%), woken up by an attack of coughing (33.1%), attack of asthma (19.9%), currently taking any medicine for asthma (12.5%), and nasal allergies (54.4%). FVC of these workers was significantly linear relationship with smoking status ($p=0.125$) and height ($p=0.004$). Both FEV_1 and FEV_1/FVC were significantly relationship with age, height and years of working. Multiple Linear Regression confirmed the relationship between FEV_1 and years of working ($p=0.008$), FVC with height ($p=0.006$), FEV_1/FVC with smoking status ($p=0.003$) and years of smoking ($p=0.003$) after controlled the selected variables. The lung functions (FEV_1 , FVC and FEV_1/FVC) for positive screening were not statistically different from negative screening. Twenty-two percent were diagnosed as obstructive, 8.1% mixed, and 13.2% restrictive.

CONCLUSIONS:

The prevalence of respiratory symptoms was greater among positive screening, however there were no decrease of lung function due to the above symptoms.

OM-05

CAN CONVENTIONAL LECTURE AND INNOVATIVE PROBLEM BASED LEARNING (PBL) GO HAND IN HAND – EXPERIENCE FROM RESPIRATORY BLOCK FEEDBACK RESULTS OF UNDERGRADUATE TRAINING PROGRAMME, USM

Hafiza A

Department of Medical Education, School of Medical Sciences, University Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

Along with other teaching methods innovative PBL and conventional lecture is the two main methods for undergraduate teaching. But what students perceive about PBL and lecture? Can they go along side by side? The study was done to explore the students' perception about the two teaching components of phase 2 respiratory block.

METHODS :

A cross sectional study was conducted involving 178 second year medical students of session 2004/2005. A self-administered 5 points likert scale questionnaire rated strongly agree (1) to strongly disagree (5) was used to explore the students' perception about the two components. To see the overall ratings the scale was rated reversely.

RESULTS :

The response rate was 99%. 89% of the students were clear about the objective of each component. 88% agreed that the documented objectives and taught content were well matched in each component. 90% student agreed that the content was well structured, 89% agreed the tutors were well communicated and 93% perceived that they learnt a great deal from lecture. 92% student agreed that the trigger materials were thought provoking, 51% agreed that the number of triggers were fair enough but 45% student stated it as too many, 81% agreed that PBL was well managed and 76% agreed tutors were motivated. 93% student agreed that PBL helped them to be a deep thinker, a problem solver and an independent learner. As a whole 63% and 51% of the students were satisfied with the lecture and PBL respectively. 24% and in PBL 19% students were unsure about the ratings.

CONCLUSION :

Most students agreed that both the components are helpful for their learning but in all aspects lecture got an upper hand over PBL. A considerable percentage is not sure which of the components are of most useful for them. Only respiratory block feedback results do not reflect the actual picture, which identified as a limitation of the study.

OM-06

PRACTICAL ROLE OF CLINICAL SKILLS CENTRE IN COMPETENCY-BASED CLINICAL SKILLS TRAINING IN MEDICAL EDUCATION

Shahid H

Department of Otorhinolaryngology, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

There is a growing interest in teaching clinical skills away from the traditional hospital bedside and ambulatory teaching. Clinical skills centre is one of the context besides other varieties available. The need for this change has come from within and outside medical education. Two main reasons responsible for this change are educational development and external pressure from professional bodies. The awareness about the core curriculum and outcome objective and the use of problem based learning with self directed experiential approach is the adoption of adult educational principle by many centers. The external drive for clinical skills training come from the professional recommendations, patient's consumerism as being less tolerant towards examination by novices and increase in student rise in number. The objective of this presentation is to discuss the potential role of clinical skills centre in skills training in general and School of Medical Sciences in particular.

METHODS :

To define the issue considering the cultured aspect of the medical education in order to adopt and not adapt the western curriculum in teaching and learning. Minimum requirement of clinical centre in terms of space and venue, appropriate staff, standardized teaching using same resources, feedback policies and methods for clinical competency assessment are being discussed in this presentation.

RESULTS :

Achievements in clinical skills centre development in SMS is analyzed to further the development of clinical skills curriculum integrated with PBL is being stressed in undergraduate medical teaching and learning.

CONCLUSION :

The outcome objective of PBL can be achieved if the curriculum is integrated with clinical skills training which is required to be introduced in the earlier years of medical education to facilitate a sound and safe clinical skills training of medical students prior to their exposure to real life patients in subsequent years and during their internship training.

OM-07

THE IMPACT OF URINARY INCONTINENCE ON QUALITY OF LIFE OF THE ELDERLY IN PONDOK AGAMA LUBOK TAPAH, PASIR MAS, KELANTAN

Wan Hasliza WM, Dariah MY, Rahimah MA

Nursing Programme, School of Health Sciences, University Sciences of Malaysia, 16150 Kubang Kerian, Kelantan.

PURPOSE :

To estimate the prevalence of UI and to evaluate whether the severity of UI influences the elderly people's QOL in Pondok Agama Lubok Tapah, Pasir Mas, Kelantan.

METHODS :

A cross-sectional study was done using convenience sampling method at Pondok Agama Lubok Tapah, Pasir Mas, Kelantan. A total of 120 respondents aged over 60 years were interviewed using a set of questionnaire based on the King's Health Questionnaire (KHQ). Data were then analyzed using Statistical Package for Social Science (SPSS) version 12.0 and t-test and descriptively presented in frequency and percentage.

RESULTS :

The prevalence of UI among the elderly in Pondok Agama Lubok Tapah was 43%. The mean age was 74 years old (SD=7.24). Majority (67%) of the respondent were indicated to have mild incontinence. The severity of UI was significantly affected the respondent QOL which merely on the functional and sleep/energy domains ($P<0.025$).

CONCLUSION :

Most elderly people in Malaysia also experienced UI similarly to those in the western countries. Unfortunately, UI has been accepted as a natural circumstance of aging process by the respondent in this study. This is due to the reason that it caused less impact on their QOL.

OM-08

SOCIODEMOGRAPHIC, OCCUPATIONAL AND PSYCHOSOCIAL FACTORS ASSOCIATED WITH JOB STRAIN AMONG SECONDARY SCHOOL TEACHERS IN KOTA BHARU, KELANTAN

Azlihanis AH*, Naing L*, Aziah BD*, Rusli N*****

***Department of Community Medicine **Biostatistic and Research Methodology Unit, School of Medical Sciences, ***School of Dental Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan, Malaysia**

PURPOSE :

Occupational stress can no longer be considered an occasional; it is becoming an increasingly global phenomenon, affecting all categories of workers, workplace and countries. Job strain is the harmful physical and emotional responses that can happen when there is a conflict between job demands on the employee and the amount of control an employee has over meeting these demands. The aim of this study is to identify the prevalence and factors associated with job strain among teachers working in secondary school in Kota Bharu, Kelantan.

METHODS :

A cross-sectional study was conducted in 20 secondary schools in Kota Bharu involving 580 teachers. The Malay version of the Job Content Questionnaire (JCQ), originally developed by Professor Robert Karasek, was self-administered by the teachers, and analyzed using SPSS Version 11.5 and STATA Version 8.0. Job strain index was used as an outcome and the sociodemographic, occupational and psychosocial job factors were the independent variables.

RESULTS :

There were significant linear relationship between job strain and duration of current employment, duration of working, job insecurity and social support.

CONCLUSION :

Occupational and psychosocial job factors have great influences on job strain among secondary school teachers in Kota Bharu.

OM-09

A STUDY OF ANATOMY TEACHING IN UNIVERSITY SAINS MALAYSIA

Nasir A, Abdus Salam*

**School of Health Sciences, *School of Medical Sciences, Universiti Sains Malaysia,
16150 Kubang Kerian, Kota Bharu, Kelantan.**

PURPOSE :

Teaching of anatomy plays a specific role both in traditional and integrated teaching based curriculum throughout the world. The anatomists have relied on the use of cadavers, atlases and live lectures to teach anatomy in medical and health sciences. University Sains Malaysia, Health campus as a pioneer university in problem-based learning is providing knowledge and skills in the subject of anatomy through various tools like lectures, demonstrations, practicals, fixed learning modules, small group discussions and self study tutorials. Anatomy museum and multidisciplinary laboratories are equipped with models, charts, radiographs, video films and specimens. Present study was designed to assess the effectiveness of lectures, the most widely used teaching instrument aimed at educational development.

METHOD :

A sample of one hundred Year 1 (phase-1) medical and dental students of both sexes from School of Medical Sciences (SMS) USM of academic session 2003-2004 were studied at the end of their musculoskeletal block. A questionnaire containing different attributes of a lecture was used to collect the data. The data was then processed and analysed.

RESULTS :

Out of 85 respondents, 84.7% were in the opinion of objectives of lecture were clear at the beginning while 10.6% were undecided and 4.6% were not clear. 82.3% stated that contents of lectures were related with the objectives. 61.2% stated that lecture delivery were easily understandable. 78.8% respondents felt that teaching aids used by the lecturers were appropriate. 67% students were of the opinion that lectures were satisfactory.

CONCLUSION :

For an effective lecture, a lesson plan is very important and motivation is the key issue in learning. It is the lecturing not the lecture, which is the key to the learning of students. The study outcome will guide the lecturers to implement an effective lecture, so that students can get more benefit from a lecture.

OM-10

SURVEY ON CHRONIC POST-TRAUMA STRESS DISORDER SYMPTOMS AMONG TSUNAMI VICTIMS AT KOTA KUALA MUDA, KEDAH, MALAYSIA

Alzamani MI*, Nik Arif NM*, Idzwan Z*, Abu Yazid MN*, Mahathar AW**

***Department of Emergency Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan **Department of Emergency Medicine, Hospital Kuala Lumpur**

PURPOSE :

Chronic Post-trauma Stress Disorder (PTSD) is a mental condition that may be experienced by victims of traumatic incidence. It is diagnosed when a victim who was exposed to a traumatic event suffers symptoms which fall into 3 categories : reexperiencing, avoidance and hyperarousal. Our aim is to compare the PTSD symptoms among Tsunami victims staying at the transit houses and their original houses at the sea side.

METHODS :

A total of 94 victims were included with 50 from the transit houses (T) and 44 from seaside houses (S). One to one interview was conducted based on a questionnaire obtained from the "Expert Consensus Treatment Guidelines for Posttraumatic Stress Disorder" according to DSM-4 1994 (American Psychiatric Association) 6 months post Tsunami.

RESULTS :

In general 77.42% (S) and 48% (T) fulfilled either 1 or 2 criteria for PTSD but none actually fulfilled all 3 criteria for PTSD. There was significant difference ($p < 0.05$) between the two group according to repeated memories: 31%(S) vs 1.8% (T), flashbacks : 50% (S) vs 10.7% (T), intensed physical or emotional distress : 73.8% (T) vs 32.1% (S), irritability : 11.9% (S) vs 3.6% (T), "On guard" : 73% (S) vs 17.9% (T), exaggerated response: 71.4% (S) vs 23.2% (T) and change in sleeping and eating habits. 4.8% (S) vs 0% (T). However none of them displayed restricted range of emotions, problems in concentrating, lost of interest in life or feeling worthless. None of them took alcohol or drugs to alleviate symptoms.

CONCLUSION :

Transit houses clearly reduce symptoms of PTSD among Tsunami victims. Despite not fully fulfilling the criteria for PTSD according to DSM-4, the symptoms present are still significant and continued emotional support should be provided especially to people who are still staying at their original houses by the seaside.

OM-11

DUPPLEX DOPPLER ULTRASOUND OF THE CEREBRAL VESSELS IN HEALTHY NEONATES BORN AT TERM IN HUSM, KELANTAN: ESTABLISHMENT OF NORMAL VARIABLES MEASUREMENT

Fatimah H, Noreen Norfaraheen LA

Department of Radiology, School of Medical Sciences, Health Campus, University Sains Malaysia, 16150 Kubang Kerian, Kelantan

PURPOSE :

The aims of this study are to establish the mean and standard deviation of RI and PI values of Anterior Cerebral Artery (ACA) and Middle Cerebral Artery (MCA) in healthy term neonates born in HUSM, Kelantan and compare it to the established data and to determine the relationship of the RI and PI of both vessels with their demographic data such as gestational age, head circumference, birth weight and postnatal age.

METHODS :

A prospective study involving 95 neonates undergone cranial duplex Doppler ultrasonography through the anterior fontanelle using a 7.5MHz sector transducer from December 2004 to November 2005.

RESULTS :

The mean (standard deviation) values of Resistive Index (RI) and Pulsatility Index (PI) of the ACA are 0.71 (0.08), and 1.14 (0.22) respectively. For the MCA, the mean (standard deviation) values of RI and PI are 0.73 (0.09) and 1.18 (0.25) respectively. Mixed results were obtained when comparing the result of this study with other published studies, in which in three studies no significant difference demonstrated while the opposite noted in another four studies. The patients' demographic data does not significantly affect the RI and PI of both vessels.

CONCLUSIONS :

The mean and standard deviation values of RI in the ACA determined from this study showed no statistical difference with three previous study and statistically significant different with another four published studies. There is no relationship observed between participants' demographic data with the RI and PI of both vessels.

OM-12

YOUNG CHILDHOOD ACUTE GASTROENTERITIS IN QUEEN ELIZABETH HOSPITAL, KOTA KINABALU: DEMOGRAPHIC PROFILE AND RISK FACTORS

Dg Zuraini S, Noorizan AM.

Department of Paediatrics, School of Medical Sciences, USM Health Campus, 16150 Kota Bharu Kelantan

PURPOSE :

To demonstrate the demographic profile and identify their risk factors for developing Acute Gastroenteritis (AGE) in children aged 1 month to 60 months old admitted to Queen Elizabeth Hospital (QEH), Kota Kinabalu.

METHODS :

This study was conducted from 1st September 2003 till 31st May 2004 in Queen Elizabeth Hospital, Kota Kinabalu. There were 180 children who were enrolled according to the study's criteria and 180 children were taken as comparison group. AGE cases and control group were then compared and analyzed for risk factors of AGE by using univariate and logistic regression. As to identify factors associated with increased risk of developing AGE independently, a multivariate analysis was done to adjust for confounder effect of variables.

RESULTS :

The incidence of AGE in this study was highest in the first year of life with 59.4% of total cases followed by the second year of life with 26.1%. There was male predominance with 79.1%. Most of the patients were bumiputra Sabah (76.1%) and followed by immigrants from Philippines (26.1%). Most of the cases came from Menggatal (14.4%), Penampang (10.0%), Putatan (8.9%), Inanam (8.9%) and Pulau Gaya (7.8%). Overall, the mean was 20 patients per month with mode of 29 patients per month. The risk of developing AGE was higher among wasted children (OR 2.9), low household income (OR 5.5), crowded family with 3-4 young children (OR 3.8), sending child to day care center (OR 18.2), never breastfed (O.R 17.6), weaning period of 3-6 months old (OR 6.0) and positive contact history (O.R. 6.5).

CONCLUSION:

This study demonstrated the demographic profile of patients with AGE in QEH, Kota Kinabalu. It was shown that among the risk factors associated with AGE were malnutrition, low household income, and crowded family with children less than 5 years old, sending child to nursery, weaning period and contact with AGE patients. Meanwhile, breastfeeding conferred protective effect against AGE. Knowing these risk factors could help in planning the preventive measures to reduce the incidence and severity of young childhood AGE in Sabah.

OM-13

ADEQUACY OF THE SYMPTOMS CONTROL AMONG THE CHILDREN WITH BRONCHIAL ASTHMA PRESENTED TO ACCIDENT & EMERGENCY CLINIC, HOSPITAL USM FOR ACUTE ASTHMA

Nor Rosidah I, Quah BS.

Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

To determine the adequacy of the asthma control and the risk factors for frequent visits to emergency department among children with asthma presenting to Accident & Emergency Clinic Hospital USM.

METHODS :

This is a cross sectional study. A total of 260 children between 5 to 12 years old who presenting to Accident & Emergency Clinic for acute asthma requiring nebulised β_2 agonist were enrolled in this study. Parents who consented will be interviewed using a standard questionnaire consisting of demographic data, asthma history, medication history and risk factors for frequent Emergency Department visits and poorly controlled asthma.

RESULTS :

Almost one third (27.2%) of the children reported daytime asthma symptoms more than one per week in the previous 4 weeks. Thirty percent (30.4%) and 22.7% of the children reported nocturnal cough and nocturnal wheeze more than twice per month during the previous one month, respectively. Inhaled β_2 agonist was used at least once per week in 25.4% of the children during the last one month. Overall, 15.4% of the children required hospital admission in the previous one year with 2.5% of them had more than one admission. Single emergency department visit was reported in 26.2% of children with 73.9% required at least one revisit to ED for the last one year. About half (50.9%) of the children had school absenteeism at least one day in the previous one year. About one third of the children who reported had good controlled asthma were actually having persistent asthma according to the GINA guideline classification. Frequent use of β_2 agonist bronchodilator (OR=16.76), family history of eczema (OR=2.67), family history of asthma (OR=1.94) and poor compliance to treatment (OR=2.56) were the risk factors for frequent visit to ED. Family history of asthma (OR=2.57), family history of allergic rhinitis (OR=2.05) and presence of allergic rhinitis (OR=2.78) were the risk factors for poorly controlled asthma.

CONCLUSIONS :

Our children's asthma symptoms are still not adequately controlled. Many of them are still disturbed by day or nocturnal symptoms. The perception of asthma control differs between the parents and GINA guideline. Few factors for frequent ED visits were identified such as poor compliance to treatment, frequent use of β_2 agonist bronchodilator, family history of asthma and eczema. Presence of allergic rhinitis, family history of asthma and allergic rhinitis are identified as risk factor for poorly controlled asthma

OM-14

THE IMMUNOLOGICAL FACTORS AFFECTING RHEUMATIC HEART DISEASE AND ITS CHRONICITY

Hemlatha S, Wan Pauzi WI, Rahim WA.

Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian

PURPOSE :

Acute rheumatic fever, etiologically related to group A beta hemolytic streptococcal pharyngitis, is associated with humoral and cellular immune responses. Since T cells play an important role in acute rheumatic fever and rheumatic heart disease pathogenesis, we tried to verify whether a different immunophenotypic pattern exists between these groups of patients and normal individuals.

METHODS :

We investigated lymphocytes subpopulation using a Flow cytometry analysis in acute rheumatic fever (ARF), acute rheumatic heart disease (ARHD), chronic rheumatic heart disease (CRHD) and healthy controls. Venous blood was collected for immunophenotyping using the flow cytometer and monoclonal antibodies (CD19, CD3, CD4, CD8, CD16 and CD45RO).

RESULTS :

There were 24 patients with ARF, 21 patients with CRHD and 13 patients under control group. All were between 4 to 17 years. A significant decrease was documented in total number of natural killer cells during ARF in comparison to CRHD and control group (p-value=0.022 and 0.033 respectively). Absolute counts of CD8 memory cells were reduced in ARHD compared to the control group (p=0.047). Similarly absolute counts of CD8 memory cells were reduced in CRHD compared to the control group (p-value=0.042). No significant changes were noted in percentages or absolute counts of lymphocytes, CD3, CD4, CD8, CD19 and CD4 memory cells during acute rheumatic fever in comparison to chronic rheumatic heart disease and normal controls from the same population with p-value > 0.05.

CONCLUSION :

Our postulation was that children who are at risk to ARF could be those with deficient natural killer cells. The decrease in CD8 memory cells in ARHD and CRHD compared to control suggests that reinforcements of adaptive immunity have not taken place. Thus we suspect the depletion of natural killer cells impairs the innate immunity and further impair the response CD8 memory cells. This augmented immune response leading to more tissue destructions and chronicity of the disease.

OM-15

PROGNOSTIC FACTORS ASSOCIATED WITH SURVIVAL OF PATIENTS WITH VSD

Suhaimi H, A Rahim W, W Pauzi WI.

Department of Paediatrics, School of Medical Sciences, USM, 16150 Kelantan.

PURPOSE :

To determine the factors that are associated with survival of patients with Ventricular Septal Defect (VSD).

METHODS :

A retrospective cohort of all cases of VSD admitted to HUSM from 1996 to 2003 were reviewed

RESULTS :

Univariate Cox regression of survival time of patients with VSDs revealed that 4 factors had prognostic significance namely sepsis (HR= 287.7, 95% CI 51.1, 1618.5, P < 0.001), Down syndrome (HR = 14.89, 95% CI 3.00, 73.92, P = 0.001), pulmonary hypertension (HR=14.58, 95% CI 1.69, 125.7, P=0.015) and large VSDs (HR=8.23, 95% CI 1.5, 45, P=0.015). Sepsis was the only significant prognostic factors for the survival of patients with VSDs using the multivariate Cox proportional hazard model.

CONCLUSION :

Sepsis, Down syndrome, pulmonary hypertension and sepsis were identified as important prognostic factor in survival of VSD patients.

OM-16

OUTCOMES OF VENTRICULAR SEPTAL DEFECT IN CHILDREN RECEIVING TREATMENT IN HUSM OVER SEVEN YEARS PERIOD

Suhaimi H , A Rahim W, W Pauzi WI

Department of Paediatric, School of Medical Sciences, USM, 16150 Kelantan.

PURPOSE :

Ventricular septal defects (VSDs) is the commonest congenital heart disease contributing about 20-30 % of all congenital heart diseases. Its incidence is estimated to be about 1.5 – 3.5 per 1000 live births in full term infants. There are many studies on the natural outcomes of VSDs conducted overseas but there had been no studies on the outcomes of VSDs in our Malaysian community. Therefore we undertook this study to examine the outcomes of the VSD in children receiving treatment in HUSM over 7 years period.

METHODS :

All cases of VSDs admitted to HUSM from 1996 to 2003 were reviewed. Inclusion criteria are isolated VSD and at least 2 echocardiograms recordings done. Exclusion criteria are cyanotic heart disease with VSDs and only 1 echocardiogram finding.

RESULTS :

351 cases were included. The 7-year period prevalence in HUSM was 1.4%. Mean follow up was 4.0 +/- 3.6 years and a median of 3 years. VSDs were perimembranous in 67.8%, outlet in 21.9%, muscular in 8.5% and inlet in 1.7%. Thirty seven out of 238 (15.5%) perimembranous and 12 out of 30 (40 %) muscular VSDs closed spontaneously ($p = 0.013$). Aneurysmal transformation was detected in 90 (25.6%), aortic valve prolapse in 17 (4.8%) and aortic regurgitation in 19 (5.4%). Aortic regurgitation was higher in outlet (36.6%) than perimembranous (7.6%) VSD's ($p < 0.001$).

CONCLUSION :

Perimembranous VSD is the commonest subtypes of VSDs compared to other subtypes. Muscular VSDs in general have better prognosis. The incidence of outlet VSDs is high in our population and therefore careful observations and regular follow up are important because this type of VSD is highly associated with AVP and AR.

OM-17

THE STUDY OF SERUM MAGNESIUM LEVEL IN ACUTE CORONARY SYNDROME PATIENTS

Alzamani MI*, Rashidi A*, Hasenan N, Zurkurnai Y*****

*** Department of Emergency Medicine, ** Department of Chemical Pathology, *** Cardiac Unit, Department of Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan**

PURPOSE :

There is a need to know the state of serum magnesium in Acute Coronary Syndrome (ACS), which consists of STEMI, UA and NSTEMI in our population. Our aim in this study is to determine the serum magnesium in ACS. Knowledge on this will serve as a guide on future investigations, studies and treatment of the disease.

METHOD :

The serum magnesium level of 420 patients with chest pain was taken at the Emergency Department. Upon confirmation based on WHO criteria, 255 were confirmed case of Acute Coronary Syndrome (64 STEMI, 155 UA and 37 were confirmed as NSTEMI). 95 healthy control samples (age range from late teen to elderly) were taken as comparison.

RESULTS :

Mean serum magnesium in ACS group (0.88 ± 0.15) is still within the normal range but there is a significant difference as compared to the control group ($p=0.038$). The lower level of serum Magnesium was mainly found in NSTEMI patients. Hypomagnesemia was found in 12.5% of STEMI ($p=0.00$), 9.7% of UA ($p=0.039$), 29.7 % of NSTEMI ($p=0.00$) and 3.2% of control patients. 9.4% of STEMI patients actually had hypermagnesemia. The Odd's Ratio for developing ACS in the presence of hypomagnesemia in symptomatic patients is 4.559 times compared to normal control. (95% Confidence Interval between 1.364 and 15.236); $p=0.00$.

CONCLUSIONS :

Serum magnesium of ACS patients is within the normal range but tends to be at the lower level. Compared to the control healthy population, there is a significant proportion of hypomagnesemia in ACS group and within the subgroups. NSTEMI has the highest proportion of hypomagnesemia There is 4.6 folds risk of developing ACS in patients with hypomagnesemia presenting with chest pain compared to normal healthy population.

OM-18

COMPARISON STUDY OF EJECTION FRACTION CARDIAC CALCULATIONS IN ECHOCARDIOGRAPHY

Alzamani MI*, Rashidi A*, Azhari R**

*** Department of Emergency Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan ** National Heart Institute, Jalan Tun Razak, 50400 Kuala Lumpur**

PURPOSE :

In determining the ejection fraction, various calculation methods are available such as Teichholz, Modified Simpson's and Cubed formula. The Cubed formula is used when bedside EF measurement is attempted using the less sophisticated and less expensive ultrasound machine, often in the Emergency departments of peripheral hospitals. Our aim is to compare the variations in ejection fraction calculation between Cubed formula with Teichholz and Modified Simpson calculation.

METHODS :

Data of 55 patients in sinus rhythm from echocardiogram performed by 3 highly experienced ECHO technicians are collected prospectively. The LVIDd, LVIDs from the M-mode of 2D ECHO, the computer calculation of EF by Teichholz and Modified Simpson's are collected. The EF derived by Cubed formula is manually calculated using the similar LVIDd and LVIDs of the same patient obtained whilst using the Teichholz and Modified Simpson's for the calculation.

RESULTS :

There is an overestimation of between 8 to 11% of EF calculation using the Cubed formula compared to Teichholz or Modified Simpson's method. Mean EF was 61.42 ± 12.17 by Cubed formula, 53.00 ± 11.89 by Teichholz formula and 50.66 ± 12.77 by Modified Simpson's formula. There was a significant difference between Cubed and Teichholz calculations ($p=0.01$) and also between Cubed and Modified Simpson's calculations ($p=0.01$). There is no significant difference between Teichholz and Modified Simpson's calculations ($p=0.563$). Linear regression shows a strong correlation between the calculations enabling formulas to be derived. Modified Simpson's = $-2.449 + 0.885(\text{Cubed})$. Teichholz = $-6.912 + 0.975(\text{Cubed})$.

CONCLUSIONS :

Whilst the standard measurement of EF using Teichholz and Modified Simpson's show no significant difference and is still the recommended method of estimation. There is a reproducible evidence that the Cubed calculation method can be used if a 10% overestimation is corrected. Further study needs to be done for patients with low EF.

OM-19

SONOGRAPHIC KIDNEY MEASUREMENTS OF NEWBORN: IS WESTERN STANDARD APPLICABLE FOR MALAYSIAN BABIES?

Kartikasalwah AL*, M.Abdul Kareem*, Wan Madziah W.M**

***Department of Radiology, **Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan.**

PURPOSE :

Sonography is the best non-invasive imaging modality to evaluate renal pathology in newborn. Many renal problems in neonate are associated with changes in the sizes of kidneys. Normative standards of various kidney measurements that are available in Malaysia are largely based on Western data. The applicability of these normal standards in Malaysian babies has not been formally validated. Our objective of this study was to establish a set of normal standard of various kidney measurements in newborns based on sonography in our population in comparison to Western data.

METHODS :

Sonographic examination was performed on 215 healthy newborns delivered at the Hospital Universiti Sains Malaysia from May 2005 until September 2005, in this prospective study. Kidneys length, width, anteroposterior diameter and cortical thickness were determined.

RESULTS :

There were 180 term and 35 preterm newborns. In the term newborns, the mean newborns kidney length was 4.04 ± 0.32 cm, mean kidney volume was 8.31 ± 1.53 cm³, and means cortical thickness was 3.65 ± 0.49 mm. Both kidney length and volume showed best correlation with birth weight. The predicted kidney length (cm) = $3.4 + [0.2 \times \text{birth weight (kg)}]$ and the predicted kidney volume (cm³) = $4.4 + [1.2 \times \text{birth weight (kg)}]$. Both kidney length and kidney volume were smaller when compared to the western standard.

CONCLUSION :

Our study provides a baseline local data suggested that kidney size in Malaysian babies were relatively small when compared to western population. The routine use of western reference standard in our local clinical practice needs further validation.

OMI-20

WHAT DO HEART PATIENTS EXPECT FROM DOCTORS? A SURVEY ON 'HEART PATIENTS' AT INSTITUT JANTUNG NEGARA

Alzamani MI*, Hisamuddin NAR*, Rashidi A*, Azhari R**

*** Department of Emergency Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan **Institut Jantung Negara (IJN), Jalan Tun Razak, 50400 Kuala Lumpur**

PURPOSE :

This survey is conducted in order to understand patients' expectations in receiving explanation regarding treatment from doctors, preference of doctors and interaction with their doctors. Hoping to provide a documented guide as to what patients really want from their doctors at IJN.

METHOD :

'Heart Patients' at IJN are randomly selected to answer a set of questionnaire via one-to-one interview. 94 patients participated in this survey: 50 are outpatients who had undergone procedures in the past and 44 are inpatients who just had procedures done.

RESULTS :

Most cardiac patients were interested in their disease (90.3%) and wish to receive better explanation of their disease (93.5%). 53.7% find out on their own. Majority (88.2%) expects recommendations on reading materials especially explanation on preventive measures, consequences of their disease and better explanation of the future procedure. 88.2% have correct understanding of their disease. 83.9% consult family before deciding to undergo procedure and thus expect explanation given to family members (79.6%). 64.5% understand that consent for procedure is not a warranty for successful procedures. Explanation on the outcome of procedures (87.1%), procedure risks (86%) but claimed that this does not decrease their confidence in their doctors (80.6%). 60.2% want to know about their doctor's background: training background (75%), duration of practice (62.4%) and success rate of procedures performed (65.6%). 65.6% do not mind either foreign or local doctors. 71% think that the more time doctors speak with them the better. 92.5% expect doctors to know them by their name. 86% expect doctors to smile a lot. 84.9% want doctors to attempt social conversations with them.

CONCLUSION :

Patients with life threatening condition such as heart problems expect better explanation regarding their condition from the treating doctors. Cardiac patients perceived that the training background of the treating doctors is the most important criteria to ensure success of the procedure.

OM-21

PRELIMINARY STUDY OF COMPUTERED TOMOGRAPHY PERFUSION (CTP) OF PENUMBRA IN PATIENTS WITH HYPERTENSIVE INTRACRANIAL HAEMORRHAGE (ICH)

Zulkifli Zaki AG*, Salmah J*, Abdullah J**, Tharakan J**

*Department of Radiology, **Department of Neuroscience, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kota Bharu, Kelantan.

PURPOSE :

This preliminary study was aimed to determine perfusion characteristics of perihaematoma region and correlation with clinical outcome. These will be used as predictor of the outcome whether medical or surgical treatment benefits the patients. Other aims are to find out contributing factors of abnormal perfusion and factors affecting its clinical outcome.

METHOD :

From July 2004 till November 2005, 10 patients diagnosed with ICH who fulfilled the inclusion criteria were enrolled and written informed consent obtained. Nonenhanced Computered Tomography (NECT) scan to confirm the presence of ICH then CTP was performed. Haematoma volume and distance from skull were measured in NECT scan. Perihaematoma regions were divided into four sections in relation to distance from the skull. The regions of interest (ROI) were drawn based on CTP colour mapping. Each parameters of perfusion were produced by the perfusion software and were analyzed whether selected region were normal, penumbra or umbra perfusion status. Modified Barthel Index (MBI) was scored at presentation and 4 weeks.

RESULT :

Perfusion ischaemic injury have been established in perihaematoma region in which penumbra seen in 30%, 10%, 20% and 30% of ROI3, ROI4, ROI5 and ROI6 respectively, however no statistical correlation of the perihaematoma area with clinical outcome. Significant statistical Spearman correlation at the 0.05 level (2-tailed) noted between ages and initial MBI, and haematoma volumes with haematoma distances to skull. Significant Pearson correlation of haematoma volume and ischaemic injury sizes at the 0.01 level (2-tailed) noted.

CONSLUSION :

This study established ischaemic injury of perihaematoma area, however no significant statistical correlation. A larger sample size may reveal a different correlation. However, age is a factor influencing initial MBI and haematoma size is affecting by its distances from the skull.

OM-22

A PILOT STUDY OF POWER DOPPLER SONOGRAPHY USING TUMOUR VASCULARITY PATTERN IN DIFFERENTIATING BENIGN FROM MALIGNANT BREAST LESIONS.

Siti Nor Badriati SS, Latifah MB

Department of Radiology, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kota Bharu, Kelantan

PURPOSE :

To determine the specificity and sensitivity of the criterias of the tumour vascularity pattern using power Doppler sonography in differentiating benign and malignant breast lesion.

METHODS :

Ethics committee approval and informed consent were obtained. This study was carried out in Hospital USM, Kubang Kerian, Kelantan for 16 months from July 2004 until October 2005. Power Doppler sonography using 13.5MHz transducer was prospectively performed on a total of 40 patients with breast lesion. The tumour vascularity criterias assessed were the flow, distribution, vessel morphology and presence of penetrating artery. FNAC and/or HPE were obtained for all cases. The power Doppler criterias and HPE were analysed using univariate analysis. The sensitivity, specificity, positive predictive value and negative predictive value calculated.

RESULT :

There was detectable blood flow in 13 infiltrating ductal CA and 16 benign lesions. The mean size of vascular lesion was 30.5mm with 1.8mm standard deviation. The size of the lesions may have played a part in the vascularity of the lesion with a p value of 0.005 for flow characteristics. In the vascular lesions, irregular vessel and presence of penetrating artery showed a significant p value of 0.004 and 0.011. There was no single vascularity pattern which was specific for benign and malignant breast lesion. The descriptors of vessel morphology, flow, distribution and penetrating artery were not found to be highly predictive of malignancy with positive predictive value of 50.0%, 54.5%, 56.0% and 63.1% respectively. High negative predictive values were interestingly noted in the following descriptors: peripheral distribution (100%), low flow (88.9%) and regular vessel (87.5%).

CONCLUSION :

Power Doppler US provided only limited additional information in differentiating benign solid breast lesions from malignant lesions. Vascular assessment was helpful only when it supported a benign morphology.

OM-23

SERUM TH1 AND TH2 CYTOKINES IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS: IT'S RELATIONSHIP WITH DISEASE ACTIVITY AND ORGAN INVOLVEMENT

Eshan K*, Kamaliah M D*, Nadeem A**

*Department of Medicine ** Department of Immunology, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

To determine the serum levels of two Th1 (IL-2, IFN- γ) and two Th2 (IL-6, IL-13) cytokines in systemic lupus erythematosus (SLE) patients, to compare serum levels of these cytokines with the disease activity and to assess their relationship with different organ involvement.

METHODS :

We included 90 SLE patients and 30 healthy controls in this comparative cross sectional study. Serum levels of 4 cytokines (IL-2, IFN- γ , IL-6 and IL-13) were measured by ELISA. Anti-dsDNA, ANA, C3 and C4 complement levels were determined. Disease activity was recorded according to the Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) and classified as high (> 8) or low (≤ 8). Different organ affected was recorded.

RESULTS :

The mean age of the patients was 31.0 ± 10.8 years; 81 were females (90%) and 9 were males (10%). Majority was Malay (92.2%) and the rest was Chinese (7.8%). Patients with active and inactive disease were 38 (42.2%) and 52 (57.8%) respectively. Serum levels of cytokines in SLE patients were significantly higher than in controls, except for IL-2 (IFN- γ $p < 0.001$, IL-6 $p < 0.001$, IL-13 $p = 0.002$, IL-2 $p = 0.639$). Serum cytokines levels were significantly higher in active SLE patients than in inactive group, except for IL-2 (IL-6 $p < 0.001$, IL-13 $p = 0.009$, IFN- γ $p < 0.001$ and IL-2 $p = 0.087$). There was positive correlation between Th1 (IFN- γ) and Th2 (IL-6 and IL-13) cytokines with the disease activity (IFN- γ $p = 0.002$, IL-6 $p < 0.001$, IL-13 $p = 0.006$, IL-2 $p = 0.151$). There was significant correlation between serum level of IL-13 and musculoskeletal involvement ($p = 0.016$) and also IL-6 with haematological involvement ($p = 0.003$).

CONCLUSION :

The serum levels of Th2 (IL-6 and IL-13) and Th1 (IFN- γ) cytokines were significantly elevated and correlated with disease activity in SLE patients. This reflects a more dominant role of Th2 over Th1 cytokines. Serum cytokine level could provide useful information about disease activity in SLE patients.

OMI-24

AN EXPLORATORY STUDY OF THE COGNITIVE DISTORTION BETWEEN SEX AND NON-SEX OFFENDERS IN TWO MALAYSIAN STATE PRISONS

Rahmattullah Khan AWK*, Wan Rafaie AR*, Mat Rasid J, Roslinda A***, Norlesuhaila S*, Zaizul AR*.**

***Department of Psychology, International Islamic University Malaysia ** Department of Prison, Kajang, Selangor *** Universiti Institut Teknologi MARA, Shah Alam, Selangor**

PURPOSE :

An alarming increased case of rape and incest is emerging in Malaysia, especially among the middle and lower income families in remote rural and coastal communities.

METHODS :

This is a study conducted in two Malaysian state prisons in 2005. Fifty-one sex offenders (rape and incest) were compared to the fifty non-sex offenders to identify common variables and differences in the demographic variables and cognitive distortion using the Abel & Becker Cognitive Distortion Questionnaire, the Negative Life Events Questionnaire and a structured interview questionnaire.

RESULTS :

Using both descriptive and inferential statistics the study found a number of different factors between both groups for example age, level of education, occupation, marital status and religious commitment. The reasons given by the perpetrators for their criminal behavior were poor religious commitment, influenced of alcohol and drugs and viewing of pornographic movies. .

CONCLUSIONS :

An important aspect of this study includes the cognitive distortion between the two groups for example in their perception on women where the sex offenders viewed women as “weak” and “could easily be controlled”. The study also discussed educational intervention programs to be conducted to curb the rising menace

OMI-25

A PRELIMINARY REPORT ON PATIENT SATISFACTION TOWARDS ACUTE PAIN MANAGEMENT IN DEPARTMENT OF EMERGENCY MEDICINE, HOSPITAL UNIVERSITI SAINS MALAYSIA, KELANTAN

Rashidi A*, Ashikin A, Kasmah WP**, Rogayah AR**, Chua BE***, Zaidun K*****

***Department of Emergency Medicine, School of Medical Sciences **School of Health Sciences, ***Hospital Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan**

PURPOSE :

Acute pain is a common problem in Emergency Department (ED). Acute pain management is very challenging and time consuming. Patients hope their pain to be relieved as soon as possible. They worried if the doctor couldn't relieve their pain. Few studies stated that acute pain management in ED was poor and this lead to patient dissatisfaction. Our objective is to determine patient satisfaction towards acute pain management in ED HUSM.

METHODS :

This is a cross sectional study for a period of 1 month in ED HUSM. Those who fulfilled the inclusion criteria will be assessed and interviewed before treatment and 30 minutes after treatment. Patient satisfaction towards acute pain management will be determined after 30-minute post treatment.

RESULTS :

48 patients were recruited in this study. 60.4% of them had abdominal pain. 52.1% had moderate pain and 43.8% had severe pain. There was significant reduction in pain intensity after treatment ($P < 0.05$). 85% of the subjects were satisfied with the acute pain management.

CONCLUSION :

Patient satisfied on acute pain management ED HUSM. Their pain reduced after treatment. Treatment of acute pain in ED HUSM needs to be upgraded and standardized to ensure overall satisfaction.

OMI-26

A PRELIMINARY REPORT ON WAITING TIME AT DEPARTMENT OF EMERGENCY MEDICINE, HOSPITAL UNIVERSITI SAINS MALAYSIA, KELANTAN

Rashidi A*, Ashikin A, Kasmah WP**, Rogayah AR**, Chua BE***, Zaidun K*****

***School of Medical Sciences, **School of Health Sciences, Universiti Sains Malaysia, ***Hospital Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan**

INTRODUCTION :

Emergency Department (ED) provides 24 hours emergency care. The number of cases overwhelms the ED human resources. Triage systems were used to overcome the problems. Priority was given for those who were very sick. Waiting time was set for each triage category to ensure patients satisfaction toward ED service. In ED HUSM, green tag waiting time was 2 hours.

OBJECTIVE :

The main objectives of this study are to determine waiting time for non-urgent patients (Green tag) at ED HUSM and whether it follows the recommended waiting time by the ED HUSM.

METHODOLOGY :

This is a prospective observational study for 2 months (December 2005 – January 2006) at ED HUSM. Those who fulfilled the criteria will be included. Waiting time is duration from patients registered at ED and seen by a doctor.

RESULTS :

178 patients involved in this study. Mean waiting time was $71 \pm SD 39.14$ minutes. 90% of the subjects were seen less than 120 minutes. Waiting time for those who have been seen after 120 minutes were $166 \pm SD 26$ minutes. There was an association between the patients' attendance (shift, public holiday, after office hour) and waiting time.

CONCLUSION :

90% of green tag patients were seen within the department recommended time. However, those 10% were the one who made a lot of noise. Serious action should be taken to reduce the waiting time and complains.

OMI-27

PIT VIPER BITE

Terence Leslie DS, Abu Yazid, Mohd Idzwan Z

**Department of Emergency Medicine, School of Medical Sciences, Universiti Sains
Malaysia Health Campus, 16150 Kota Bharu, Kelantan**

INTRODUCTION :

Snakebites are a common problem in Malaysia and while the mortality rates are only 0.3 per 100,000 populations, these venoms can cause prolonged morbidity. Although antivenoms are easily available nowadays, its administration has to be carefully weighed against the probability of anaphylactic reactions, which occurs in about 20 percent of cases. The following case illustrates a patient who presented with a pit viper bite who had an undiagnosed Familial Thrombocytopenia condition.

CASE REPORT :

An elderly gentleman presented with complaints of a pit viper bite he sustained while he tended to his garden in Kota Bahru, Kelantan. Other than a background history of Hypertension, the patient claimed to be well. Examination revealed two puncture marks over his left ankle with no surrounding reaction (which is uncommon with pit viper bites). The patient's vital signs were stable and systemic review revealed no cardio respiratory embarrassment. A Complete Blood Count revealed that platelets were 70,000, and had fallen subsequently to 21,000. It was at that point that the antivenom was instituted, without incidence. After further follow-up with our Medical colleagues and with extensive investigations, the patient was later diagnosed to have Familial Thrombocytopenia.

CONCLUSION :

The above case illustrates an example of the limitations that the Emergency Department has in performing urgent investigations and as such it would be impossible to diagnose such an underlying Medical condition at that point. Also, local necrosis is subject to the contents of the venom and need not be always present. Though it may be have been marrow failure that caused the fall of the platelet count, a decision to withhold the antivenom any further could have also resulted in disastrous consequences had the thrombocytopenia be secondary to systemic envenoming.

OM-28

IFRT IN THE MANAGEMENT OF LYMPHOMA PATIENTS, HUSM EXPERIENCE

Bhavaraju VMK*, Aziz B, Biswal BM*, Abu Dzar GA**, Nik Min A***

***Department of Nuclear Medicine, Radiotherapy & Oncology, **Department of Hematology Oncology, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan**

PURPOSE :

The control of the bulky disease of lymphomas is very difficult with chemotherapy alone. They need radiation for the better control. The same hold good for the locally advanced lymphomas. Treating the primary bulky disease sites with radiation is called as Involved Field Radiotherapy (IFRT). Here we present our experience of IFRT at HUSM.

METHODS :

A retrospective data was obtained from 2002 to 2005. A total of 47 patients were referred to the oncology clinic for further management. Thirty four percent (16) patients received radiotherapy treatment. Patient's age ranged from 14 years to 73 years. Majority was male patients. The commonest lymphoma referred was Non-Hodgskin lymphoma (NHL). Radiotherapy delivered in conventional fractionation schedules.

RESULTS :

Commonest site of residual was head and neck Lymph nodal areas followed by spinal cord compression. The most preferred chemotherapy protocol was CHOP fro NHL followed by ABVD for Hodgkin Lymphomas. At the time of analysis 25% patients were disease free and the same percent of patients lost to Follow Up. One patient receiving the radiotherapy and another just completed radiation.

CONCLUSION :

The role of IFRT is well documented in controlling the bulky disease of lymphoma patients. The over all response of chemotherapy followed by IFRT is encouraging. All the patients with bulky nodal disease or patients with partial response to chemotherapy should be considered for IFRT.

OMI-29

THE METABOLIC SYNDROME IN NORMAL WEIGHT MALAY SUBJECTS

Al-Mahmood AK*, Ismail AA, Faridah AR*, Wan Mohamad WB***, Azwany NY**, Shyong Tai E****.**

Department of Chemical Pathology, **Department of Community Medicine, ***Department of Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia *Department of Endocrinology, Singapore General Hospital, Singapore**

PURPOSE :

Information regarding the prevalence of features of Metabolic Syndrome (MS) in Malaysia has not been previously reported. There are also difficulties in using Western cut-off criteria to define MS in the Malay population. The aim of this study was to determine the prevalence of features of MS in normal body weight normoglycaemic Malay subjects. An additional aim was to determine the optimal waist circumference cut-off which best identified MS in this population.

METHOD :

Data from a cross-sectional study carried out among Malay descendants in Kota Bharu, Kelantan, a city on the east coast of peninsular Malaysia were used. The prevalence of different features of MS was determined using the AHA/NHLBI and IDF criteria.

RESULTS :

The results showed that even after excluding subjects with diabetes mellitus, impaired glucose tolerance (IGT) or impaired fasting glucose (IFG), hypertension, a first degree relative with diabetes mellitus and obesity (BMI >25 kg/m²), the features of MS were still highly prevalent in this population. Furthermore, the features of the MS were associated with reduced insulin sensitivity in an additive manner.

CONCLUSION :

The MS is a biologically relevant construct for the identification of the insulin resistant individual in a Kelantanese Malay population.

OM-30

LONG-TERM OUTCOME OF BREAST PRESERVATION TECHNIQUE IN SUITABLE EARLY BREAST CANCERS

Biswa MB, Nik Min A, Nik Ruzman NI, Rozaimy Z, Syed Ejaz S

Department of Nuclear Medicine, Radiotherapy & Oncology, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

PURPOSE :

Early breast cancers are managed effectively with surgery and adjuvant chemotherapy and radiotherapy. Surgical intervention such as radical/modified radical mastectomy or conservative breast surgery, has gained interest in the past. However recent evidences suggest similar cure rates with minimal surgical removal of the breast tissue with excellent cosmesis. Our aim is to determine the long-term outcome of breast preservation technique on suitable early breast cancers.

METHOD :

A retrospective analysis involving breast cancer patients treated with breast preservation technique from 1994 to 2005 was conducted. The usual treatment sequence was limited excision, lymph node sampling, radiotherapy, and chemotherapy and/or hormone manipulation. After treatment, all patients were followed up at a regular interval.

RESULTS : 30 patients completed breast preservation technique were included. The median age of the patient population was 48 years (range of 33-66 years). According to TNM classification 19 patients belong to T1/T2 lesions and 9 patients having T3/4 lesions. The surgery technique consisted of lumpectomy (5), excision (10), quadrantectomy (6) and miscellaneous (9). The whole affected breast was irradiated to a dose of up to 46 Gy followed by booster radiotherapy to a total dose of 16 Gy. The boost radiotherapy was delivered as coned down electron beam field or interstitial brachytherapy using Ir-192. A total of 21 patients received combination chemotherapy and 6 patients managed with tamoxifen alone. At median follow up duration was 84 months (range 12- 144 months), there was one case of bone relapse and 4 cases of radiotherapy induced subcutaneous fibrosis in this analysis and the cosmetic outcome was excellent in most of the patients. Almost all patients are alive at the time of presentation.

CONCLUSIONS :

Breast conservation technique is an establish option in operable early stage breast cancers that result in good local control and survival.

OM-31

STUDY ON THE USE OF MALAY VERSION NEAR-READING CHART (ALZAMANI CHART) FOR EYE EXAMINATION

Alzamani MI*, Rosmawati U**, Nor Zahirah H**, Shaikh Farid AW*, Goh PP**, Mariam I**

*Department of Emergency Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan ** Department of Ophthalmology Hospital Selayang, Lebuhraya Selayang-Kepong, Batu Caves, 68100 Selangor

PURPOSE :

There is a need for an alternative reading text which is based on Malay language that is comparable to the present English-based reading text for near-reading test as majority of Malaysian eye patients speak Malay.

METHOD :

A Malay version Near-Reading Text (called Alzamani Chart) is developed with elements to make it user-friendly to examiners. The features include creating a story about a boy from age 5 growing up to 48 years of age. The text size correlates with the age of the child (eg N5 was about the story of the boy at age 5. N8 at the age of 8). Each text size starts with correlating statement of age so that the examiner automatically can know the text size as the patient reads the text. 114 patients participated in this study. A comparison is made between the Keeler near reading test to the Malay version in terms of the best (smallest) text size that each patient is able to read. Patient's preference of either Malay or English version is also recorded.

RESULTS :

Among the 114 participants, 54.9% are Malays, 22.8% are Chinese, 21.9% are Indians and 0.9% are others. Their mean age was 51.2 ± 16.8 . 25.4% had primary education, 50.9% secondary education and 23.7 had tertiary education. There is no significant difference in the ability to read Alzamani Chart as compared to the English version ($p=0.698$). Most patients from primary and secondary education prefer Alzamani Chart compared to English version.

CONCLUSIONS:

The Malay version reading chart is an acceptable tool for near-vision eye examination and comparable to the English version. It is the preferred chart especially for the primary and secondary education population.

OMI-32

TSUNAMI DISASTER RELIEF: AN EPIDEMIOLOGICAL EVALUATION

Shaik Farid AW, Rashidi A, Nik Hisamudin NAR, Nik Arif NK, Anisah A, Norazman A, Mohd Idzwan Z

Disaster and Emergency Medical Assistant Team, Department of Emergency Medicine, School Of Medical Science, Health Campus, University Science Malaysia, 16150 Kubang Kerian, Kelantan.

PURPOSE :

To describe the demographics of a relief effort to the tsunami stricken Aceh at day 14 post-disaster.

METHOD :

An observational study for 3 days was conducted during a relief effort by a medical team to 3 villages near Banda Aceh after 2 weeks post tsunami disaster. The data was collected during patient consultations at the 3 separate medical posts. The data that were collected were age, sex, presenting complains, signs, diagnosis and treatment given. The data were obtained from log books of 5 medical doctors in the team.

RESULTS :

A total of 204 patients were seen during the 3 day period. There were 106 males and 98 females. The common cases seen were skin infection (32.8%), followed by upper respiratory infection (28.9%) and gastroenteritis (2.8%). Most patients were treated symptomatically at the medical posts. There were 2 patients transferred to Banda Aceh, one with suspected malaria and the other was corneal laceration.

CONCLUSION :

Most cases seen by the medical team at day 14 post tsunami disaster were minor cases namely skin infections, upper respiratory infections and gastroenteritis. These data will hopefully help the disaster medical team preparation in future.

OM-33

A STUDY ON ACCURACY OF PREDEFINED SCREENING CRITERIA FOR SELECTIVE ORDERING OF CHEST X-RAY IN ROUTINE MEDICAL EXAMINATION AMONG STUDENTS ENROLLING INTO HIGHER LEARNING INSTITUTION ATTENDING HOSPITAL UNIVERSITI SAINS MALAYSIA

Norwati D*, Harmy MY*, Ezane AA**

***Department of Family Medicine, **Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan.**

PURPOSE :

The practice of doing chest x-ray (CXR) in routine medical examination (RME) is still prevalent in Malaysia although many studies argue the benefit of routine CXR in asymptomatic individuals. The objective of this study is to develop a set of screening criteria for selective ordering of CXR in RME and determine its accuracy. The accuracy of chest x-ray interpretation by medical officers as well as the agreement between medical officers and radiologist will also be determined.

METHODS :

Four hundred and eight students were screened by the screening criteria. All the chest x-rays were reported by medical officers and a radiologist whose report is the gold standard.

RESULTS :

The screening criteria have a sensitivity, specificity, positive predictive value and negative predictive value of 26.1%, 66.8%, 4.5% and 93.8% respectively. The prevalence of abnormal chest x-ray is 5.64%. The sensitivity, specificity, positive predictive value and negative predictive value of chest x-ray interpretation by medical officers are 17.4%, 98.2%, 36.4% and 95.2% respectively. The agreement on chest x-ray interpretation between medical officer and radiologist was poor ($\kappa=0.206$). All students were finally fit for enrolment.

CONCLUSIONS :

The prevalence of abnormal chest x-ray in RME is low. Although the set of screening criteria developed by the researcher is not accurate, it has a high negative predictive value. There is considerable discrepancy in chest x-ray interpretation between medical officers and radiologist. Chest x-ray findings did not influence the decision of fitness for enrolment. Further research needs to be done to improve the accuracy of the screening criteria.

OM-34

AGE SPECIFIC HISTOLOGIC TYPES OF CARCINOMA BREAST IN MALAYSIANS

Muhammad Kamil S*, Farhat Aziz K*, Imran K, Gokula K***

*** Advanced Medical and Dental Institute, Universiti Sains Malaysia, 13200 Kepala Batas, Pulau Pinang, Malaysia **Hospital Seberang Jaya, Pulau Pinang, Malaysia**

PURPOSE :

Breast cancer is the third most common cancer worldwide and is the most common cancer in women. Breast cancer manifests various histologic types which carry prognostic importance and divided in favorable and unfavorable types according to influence on survival. Our objective was to assess the influence of age on various histologic types of breast cancer and to find out the commonest histologic type at both age less than 50 years and more than 50 years to approximately simulate menopause.

METHODS :

This retrospective study included all patients with confirmed diagnosis of breast cancer presenting at Ministry of health hospitals between 2002 and 2004. Patients case records were reviewed and data was collected regarding age of the patient at presentation and type of histology of breast cancer.

RESULTS :

A total of 155 cases were reviewed. At age less than 50 years total numbers of cases recorded were 92, of which 60 cases (65.2%, 95% CI: 54.6 – 74.8%) were Infiltrating ductal carcinoma, 11 cases (12.0%, 95% CI: 6.1-20.4%) represented Ductal carcinoma in situ (DCIS). Medullary carcinoma constituted 9 cases (9.8%, 95% CI: 4.6-17.8%), Invasive lobular carcinoma 6 cases (6.5%, 85% CI: 2.4-13.6%) Mucinous carcinoma 4 cases (4.3%, 95% CI: 1.2-10.8%) and poorly differentiated carcinoma represented only 2 cases (2.2%, 95% CI: 0.3-7.6%). At age more than 50 years total number of cases recorded were 63, of which 47 cases (74.6%, 95% CI: 62.0- 84.7%) were Infiltrating ductal carcinoma , Ductal carcinoma in situ (DCIS) 9 cases (14.3%, 95% CI: 6.7-25.4%), Mucinous carcinoma 5 cases (7.9%, 95% CI: 2.6-17.6%), Medullary carcinoma 1 case (1.6%, 95% CI: 0.0-8.5%), Papillary carcinoma 1 case (1.6%, 95% CI: 0.0-8.5%).

CONCLUSIONS :

Age specific analysis of different histologies of breast cancer shows that infiltrating ductal carcinoma is the commonest histology at both age less than 50 years and more than 50 years with slight predominance at age more than 50 years. Although the number of cases too small to be statistically significant, Ductal carcinoma in situ (DCIS) is seen almost equally at both ages. Invasive lobular carcinoma and Medullary carcinoma are seen predominantly at age less than 50 years. Mucinous carcinoma, poorly differentiated carcinoma and Papillary carcinoma were least common histologies.

OM-35

RANDOMIZED CONTROL TRIAL BETWEEN SINGLE PHOTOTHERAPY PLUS LOW-COST WHITE CURTAIN AND CONVENTIONAL PHOTOTHERAPY

S Djokomuljanto*, Quah BS*, Surini Y*, Noraida R*, Nik Zainal ANI*, TWR Hansen, H Van Rostenberghe***

***Department of Paediatrics, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia **Department of Paediatrics, Rikshospitalet-Radiumhospitalet HF, University of Oslo, NO-0027 Oslo, Norway.**

PURPOSE :

To determine whether the addition of low-cost reflecting curtains to a standard phototherapy unit could increase effectiveness of phototherapy for neonatal jaundice.

METHODS :

This is a randomised controlled clinical trial, performed in the level one nursery of a tertiary University Hospital in Malaysia. The subjects were term newborns with uncomplicated neonatal jaundice presenting in the first week of life. Phototherapy with white curtains hanging from the sides of the phototherapy unit (study group) was compared to single phototherapy without curtains (control group). The primary outcome measure was the mean difference in total serum bilirubin measured at baseline and after four hours of phototherapy. The secondary outcome was the duration of phototherapy.

RESULTS :

There were 50 babies in the study group and 47 babies in the control group. The mean decrease in total serum bilirubin levels after 4 hours of phototherapy was significantly ($p < 0.001$) greater in the study group (27.62 $\mu\text{mol/L}$, SD 25.24) compared to that of the control group (4.04 $\mu\text{mol/L}$, SD 24.27). Cox proportional hazards regression analysis indicated that the median duration of phototherapy was significantly shorter in the study group (10 hours) than in the control group (34 hours) (chi-square-change = 38.93; $p < 0.001$; hazards ratio: 0.21; 95% confidence interval, 0.13 to 0.35). No difference in adverse events was noted in terms of hyper- or hypothermia, weight loss, skin rash, loose stools, or feeding intolerance.

CONCLUSION :

Hanging white curtains around phototherapy units significantly increases its efficacy in the treatment of neonatal jaundice without evidence of increased adverse effects.

OM-36

***THE EFFECTIVENESS OF PHYSICAL ACTIVITY COUNSELING AT
PRIMARY CARE CLINIC HOSPITAL UNIVERSITI SAINS MALAYSIA***

Sariah HM, Azidah AK

**Department of Family Medicine, School of Medical Sciences, Universiti Sains
Malaysia, 16150 Kubang Kerian, Kelantan**

PURPOSE :

To assess the effectiveness of counseling in routine primary care consultations to increase physical activity.

METHODS :

A randomized controlled study with 2 randomized group; control and intervention, performed at Primary Care Clinic (KRK), Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan involving 91 sedentary men. The intervention group received PACE (Patient-Centered Assessment and Counseling for Exercise) individually, group counseling and video show, pamphlet and phone calls and aerobic session once/month. Measurement of weight, height, systolic and diastolic blood pressure, fasting lipid profile, total energy expenditure, SF-36 quality of life and KAP scores were done at baseline and at 6 months of study. In between, at 3 months, blood pressure and BMI were taken. Analyses were done using SPSS for windows version 12.0- Independent t-test, chi-square test and Repeated Measures ANOVA.

RESULTS :

Comparing the intervention and control group, there were significant reduction in weight ($P=0.000$) and triglyceride level ($P=0.029$) and increment in the total energy expenditure ($P=0.000$) and practice score ($P=0.033$). Reduction in diastolic blood pressure of 2.4 mmHg is of clinical significance even though it was not statistically significant ($P=0.05$).

CONCLUSION :

These results proved that counseling given in primary care setting has a clinical value in improving patients' cardiovascular risks and in the long term, reducing patients' morbidity and mortality.

FREE COMMUNICATION
(SURGICAL BASED)

OS-01

ANALYSIS OF EIGHT CASES OF GASTROINTESTINAL STROMAL TUMORS (GISTS) HUSM EXPERIENCE

Syed Ejaz S*, Biswa Mohan B*, Bhavaraju VMK*, Nik Min A*, Mahayuddin AM* Mutum SS, Venkatesh RN**, Mukarramah CA*****

***Department of Nuclear Medicine, Oncology & Radiotherapy, **Department of Pathology, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan Malaysia, ***Department of Pathology, Hospital Kota Bharu, 15150 Kota Bharu, Kelantan, Malaysia**

PURPOSE :

Gastrointestinal Stromal tumors (GISTs) are uncommon non epithelial soft tissue sarcomas arising from mesenchymal tissue usually from Gastrointestinal tract (GIT). Median age of diagnosis is 58 years with higher frequency in men. Common sites of metastasis are liver and peritoneum. Surgery is the preferred treatment modality as GISTs are resistant to Chemotherapy & Radiotherapy. Currently GISTs is defined as c-kit- positive mesenchymal tumors. This study is attempting to analyse the cases of GISTs registered at HUSM.

METHOD :

Department of Oncology & Radiotherapy, Hospital USM, Kelantan is a tertiary referral centre of East Coast of Malaysia. Eight biopsy proven cases of GISTs have been referred to the Oncology & Radiotherapy clinic, HUSM from Sept 2001 to May 2005. Patients details including age, sex, Race, mode of presentation, site of tumor, type of surgery, metastatic work up ,management and outcome is analyzed.

RESULT :

Median age was 59 years with eldest 80 years and youngest 33 years with female preponderance F:M was 6:1. Six patients presented with abdominal mass while one patient presented with bleeding per rectum. Four patients had tumor originated from Stomach, two from small intestine and one from Pancreas. Six patients underwent Exploratory Laparotomy .Four patients had liver metastasis at the time of presentation. Three patients had CD117 positive. One patient received Imatinib (Glevec), while one more patient currently on Imatinib, rest of five patients not received any adjuvant treatment. Four patients died within one year of diagnosis, two patients were under follow up while one patient lost the follow up. Median follow up period is 4.5 months.

CONCLUSION :

GISTs although are rare entity but aggressive tumor and most of the patients having metastasis at the time of presentation, after even complete excision of tumor survival is short so adjuvant treatment is necessary.

OS-02

EARLY MALAYSIAN EXPERIENCE ON THE USE OF HEAD AND NECK LOCALIZERS IN THE PRECISION RADIOTHERAPY OF INTRA AND EXTRA CRANIAL SITES FOR FIRST 28 CASES

Zamzuri I*, Nik Idris NR*, Mar W*, Kanti Pal H*, Abdullah JM*, Zakaria A**, Biswal BM**

*Department of Neurosciences **Department of Radiotherapy & Oncology, School of Medical Sciences, Universiti Sains Malaysia, 16150, Kubang Kerian, Kelantan, Malaysia

PURPOSE :

Precision Radiotherapy at high dose required a fixed and referable target point. The frame system fulfilled the required criteria by making the target point relocatable and fixed within a stereotactic space. Since December 2001, we have treated 28 central and peripheral nervous system lesions using either radiosurgery or fractionated 3-dimensional conformal radiotherapy. Here we described their earlier outcomes.

METHODS :

Since December 2001, we have treated 28 cases of cranial and extracranial small tumours. The frames that we used were Brown Roberts Wells, Gill Thomas Cosman and Head and Neck Localiser Accessories. Twenty one cases received single fraction or stereotactic radiosurgery and 7 cases were treated with fractionated stereotactic radiotherapy. Stereotactic planning was performed on Radionics X-plan 2.2. The 3-dimensional conformal radiotherapy required an additional Radionics miniMultileaf collimator (mMLC) for non-spherical target. The radiation therapy given via Radionics X-Knife Radiotherapy using linear accelerator (LINAC) and Radionics cones for radiosurgery. Each case was followed for every 6 months after the treatment.

RESULTS :

Eighty six percent of our treated lesions showed growth restraint, preventing from causing new symptoms with a median follow up duration of 20.5 months.

CONCLUSION :

A framed based precision radiotherapy was useful in the treatment of small volume lesion situated in the brain and head and neck regions.

OS-03

ACUTE PAIN RELIEF IN MULTIPLE RIB FRACTURE : INITIAL EXPERIENCE WITH PARAVERTEBRAL BLOCK

Aditya NS*, Ang CA, Zainab AG**, Raziman**.**

***Advanced Medical and Dental Institute, University Sains Malaysia, 13200 Kepala Batas. Penang **Department of Anesthesiology, Hospital Seberang Jaya, Jln Tun Hussein, 13700, Seberang Jaya, Penang**

PURPOSE :

Multiple rib fracture (MRF) is associated with severe pain which may result in adverse respiratory consequences for the person. We report our experience with paravertebral block that we had recently used in five patients with unilateral MRF.

METHODS :

A prospective evaluation of the analgesic efficacy was conducted on five patients in Hospital Seberang Jaya with unilateral MRF with/without associated injuries. All the patients were male, 20-68 years in age and had 3 rib fractures on one side. All the patients were on injection Tramadol 50 mg intravenous bolus followed by an infusion. After obtaining informed consent, thoracic paravertebral block was given in operating room, at the mid level of the ribs fractured ipsilaterally, with 18 G Touhy's needle and a catheter left in situ 2-4 cm in the space. The needle was inserted 3cm lateral to midline perpendicular to all the planes, and the space was identified by loss of resistance to air. The block was initiated with 0.25% Bupivacaine with Adrenaline 1:200000 and maintained by an infusion of 0.2% Bupivacaine with Adrenaline 20 min later at 0.1-0.2mg/kg/h for 4 days or till the period of stay. The patients were assessed for pain on a simplified verbal pain score (SVPS of 1-4) at rest, on vital capacity maneuver and cough, before giving the block, 30 min after it and then at 6 hours interval injection of Tramadol 50mg intravenous boluses were to be given in case of a breakthrough pain.

RESULTS :

On Tramadol infusion the SVPS was 1-2 at rest but was 3-4 on vital capacity maneuver and on cough severely restricting the respiratory capacity. 30 min after the paravertebral block the SVPS reduced to 0 at rest and 1 on vital capacity maneuver and cough. The patients could manage incentive spirometry and breathing exercise without discomfort. No additional opioids supplementation was required. There were no complications associated with procedure and all the patients were well satisfied with procedure and quality of pain relief.

CONCLUSION :

Analgesic efficacy of continuous paravertebral block is better than systemic opioids in unilateral MRF. Although the number of patients involved in the study is too small any conclusions with regards to overall superiority.

OS-04

ACUTE ABDOMEN IN THE ELDERLY – A DIAGNOSTIC CHALLENGE

Abdul Kareem M, A. Riaz A

**Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia,
16150 Kubang Kerian, Kelantan, Malaysia**

INTRODUCTION :

The evaluation of *acute abdomen and* abdominal pain in elderly patients is a difficult challenge and destined to be a common diagnostic dilemma. Misdiagnosis in the elderly contributes to the increased mortality. Even in the presence of serious intra-abdominal problems, elderly patients more likely present with vague symptoms and have non-specific findings as they often have associated diabetes or cardiovascular diseases, a diminished or altered sensation with pain likely to be much less severe than expected. The purpose of this study is to present an overview of ten elderly patients with different types of acute abdomen with plain radiography as an early diagnostic aid.

METHOD :

Ten patients, who were above 50 years of age provisionally diagnosed as acute abdomen with one or more clinical features: vomiting, distension of abdomen, absent or altered bowel habits, fever, fatigue, chest pain, or altered mental status were selected. With patients in supine or semi-erect posture, bedside portable x-ray equipment was used to take the plain radiography of the abdomen in suspended respiration. The radiographic findings were analyzed by an experienced radiologist.

RESULT :

The diagnoses and important plain radiography findings of the abdomen of all the selected ten cases were confirmed by CT and surgical intervention. Plain radiography of the abdomen was found to be a very successful initial diagnostic tool in all these patients in aiding the correct diagnosis.

CONCLUSION :

Many elderly patients are at greater risk of being admitted to the wrong service (example: internal medicine when a surgeon may be required) because of misdiagnosis. Therefore, it becomes essential to not only narrow the differential diagnoses of acute abdomen but also to determine if the patient is a surgical candidate. The importance of refreshing and updating our knowledge are emphasized in our paper.

OS-05

SUCCESSFUL TERM PREGNANCY POST UTERINE ARTERY EMBOLIZATION FOR UTERINE FIBROID : THE FIRST EVER CASE IN MALAYSIA

Gurmit KSS, Mohd Shafie A

Department of Radiology, School of Medical Sciences, University Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia.

INTRODUCTION :

Pregnancy post bilateral uterine artery embolization is uncommon. Successful term pregnancy post embolization is even rarer. To our knowledge this is the first ever reported case in Malaysia.

CASE REPORT :

We report a case of pregnancy post bilateral uterine artery embolization. This was a 41 years old Malay female who presented with symptomatic uterine fibroids. She had menorrhagia and bulk-related symptoms which were pelvic pain, pelvic heaviness, menstrual cramps, urinary frequency, and back pain which were referable to the fibroids on the basis of their location. Abdominal examination revealed an enlarged uterus. Subsequent sonography of the pelvis and magnetic resonance imaging showed a large uterine fibroid causing distortion of the uterine anatomy. Patient was advised for myomectomy however she refused and opted for embolization instead. Successful bilateral embolization of both the uterine arteries was done with polyvinyl alcohol particles. Post embolization no complications noted. On follow up, one month post embolization she had amenorrhea which is common post embolization. However the patient also complained of having lethargy and nausea. Urine pregnancy test was done immediately and was positive. She subsequently had an uneventful pregnancy and gave birth to a full term healthy baby girl by lower segment caesarean section (LSCS). LSCS was performed due to obstructed labor and transverse lie.

CONCLUSION :

Successful term pregnancy post bilateral uterine artery embolization is a possibility. Limited studies have been done regarding fertility and possibility of pregnancy post embolization however available data suggests that fertility rates appear similar to patient undergoing myomectomy.

OS-06

MULTIPLE PULMONARY ARTERIOVENOUS MALFORMATION (PAVMS) IN A CHILD

Siti Jusna M, Abdul Kareem, Mohd Shafiee A

Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan.

INTRODUCTION :

PAVMS is a congenital or acquired abnormal communication between pulmonary artery and veins. It is very rare with prevalence of 1/10,000 – 1,000,000.

CASE REPORT :

A 7 years old boy presented with exertional dyspnea, cyanosis, clubbing and failure to thrive. Respiratory and cardiac assessment is normal. His oxygen saturation is 80-87% under air. Echocardiography is normal. Chest radiograph showed multiple lung nodules. CT of the thorax revealed multiple enhancing lobulated lesions of varying sizes within both lungs suggestive of PAVMs. Pulmonary angiogram revealed multiple aneurysms. Successful coiling part of the PAVMs were performed by percutaneous transcatheter embolisation. PAVMs affect female more but with male predominance in newborns. 10% of cases identified in infancy or childhood. 70% of patient had unilateral disease and 30% of patient had multiple lesions. Most of lesions affect lower lobes (50—70%) with sizes ranging from microscopic to typical size of 1-5cm. It occurs alone or as part of Osler-Weber-Rendu syndrome (hereditary hemorrhagic telangiectasia/HHT). 70% of PAVMs is associated with HHT while 15-30% of HHT patient have PAVMs. Angiographic classification is based on their architecture. It is either diffuse or focal and simple or complex type. Symptoms usually develops after 4th decade when size of fistula >2cm. Patient with larger AVMs with shunting >25% of pulmonary blood flow may present with dyspnea, fatigue, cyanosis, clubbing and polycythemia. Complications includes brain abscess, stroke, hemoptysis or hemothorax. Definitive diagnosis is established by CT scan or pulmonary angiography. Treatment is based on size, number, location, complication and patient's general condition. Current treatment is by percutaneous transcatheter embolisation.

CONCLUSION :

Though uncommon, PAVMs should be considered as differentials in patient with multiple lung nodules on chest radiograph especially if cyanosis present in background of normal cardiac assessment.

OS-07

OLFACTORY NEUROBLASTOMA : A CASE REPORT

Khattrunada MS*, Nasser AW, Rohaizan Y*, Salmah J*, Abdullah J****

***Department of Radiology; **Department Of Neurosciences, School of Medical Sciences, Health Campus Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan.**

INTRODUCTION :

Olfactory Neuroblastoma or Esthesioneuroblastoma is a rare malignant tumour which has significantly arises from the anterior cranial fossa. Only 3% of intranasal neoplasms accounts for this type of tumor. The primary role of imaging is to define the tumour extension.

CASE REPORT :

A 35 year old man with a mass protruding from his left nostril which had significantly increased in size for the last ten years associated with anosmia. CT scan and MRI revealed a locally aggressive mass in the nasal cavity with bone destruction and involvement of anterior cranial fossa. Surgical intervention was performed and histopathological examination revealed a diagnosis compatible with olfactory neuroblastoma. This rare tumour is locally invasive within the nose and paranasal sinuses, frequently extend into the orbits and intracranially. Treatment depends on the location and extent of the tumour. Hence, identification of the tumour extension is very important. Radiological examinations such as CT scan and MRI will show invasion to the surrounding structures and also as comparison in post-operative surveillance. CT scan is good for assessment of bone and MRI delineates the margins of soft tissue extension.

CONCLUSION :

Olfactory neuroblastoma is a rare and locally aggressive intranasal neoplasm. The treatment depends on the location and extension of the tumour. Radiological examinations play a very important role in defining disease extension and post-operative surveillance.

OS-08

THE ASSOCIATION BETWEEN DEMOGRAPHY, ANTHROPOMETRY, SERUM ESTROGEN AND BREAST DENSITY IN PATIENTS HAVING MAMMOGRAPHY IN HOSPITAL UNIVERSITI SAINS MALAYSIA

Juhara H*, Latifah MB*, Nik Hazlina NH**, Kamarul Imran M***

*Department of Radiology, **Department of Obstetric and Gynaecology, ***Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

The aims of the study were to determine the characteristics of patients with mammography in Hospital Universiti Sains Malaysia and to determine the independent variables associated with breast density.

METHODS :

This study was a cross-sectional study conducted for one year duration from May 2004 to May 2005. Data were taken from menopausal women who came for mammography in Radiology Department, Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan during the study period. Data from 84 patients were collected.

RESULTS :

Significant association noted between parity and body mass index with breast density. Patients with higher body mass index had lower chance of being associated with dense breast. One unit increase in body mass index had 0.864 times chance of association with dense breast. For parity, one unit increased in parity was associated with 31% reduction in chances of having dense breast (95% CI, risk reduction range from 12% to 46%). Serum estrogen however was not a significant independent variable for breast parenchyma.

CONCLUSION :

Parity and body mass index but not serum estrogens were significantly associated with breast parenchyma when adjusted for potential confounding factors.

OS-09

AN UNUSUAL CASE OF CERVICAL CARCINOMA

Adzlina J*, Shah Reza JN*, Nor Hayati O, Nik Ahmad Zuky NL**.**

***Department of Obstetric and Gynaecology, **Department of Pathology, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kubang Kerian, Kelantan.**

INTRODUCTION :

The most common type of cervical cancer is squamous cell carcinoma. Nevertheless, the incidence of adenocarcinoma of the cervix has been reported to be increasing especially in the younger age group.

CASE REPORT :

This report describes a case of a 51 year old female who presented with symptoms and signs of cervical cancer. Following examination under anaesthesia and with the presence of hydronephrosis, a diagnosis of cervical carcinoma stage IIIb was made. Two cervical biopsy tissues however showed two different results; moderately differentiated squamous cell carcinoma and adenocarcinoma of the secretory variant. Could there be dual pathology or one causing the other?

OS-10

MANAGEMENT OF THYROID CARCINOMA, HUSM EXPERIENCE

Abdul Manap M, Bhavaraju VM K, Ahmad NM, Shamim SE, Wan Isa WY, Biswal BM, Das BK

Department of Nuclear Medicine, Radiotherapy & Oncology, School of Medical Sciences, Universiti Sains Malaysia, Kelantan

PURPOSE :

Carcinoma of the thyroid gland is an uncommon cancer but is the most common malignancy of the endocrine system. In HUSM, it constitutes around 8-9%. It is highly treatable and mostly was well differentiated tumor, which is curable. It affects women more often than men and usually occurs between the ages of 25 and 65 years. Radiation exposure to the head and neck is one of the risk factors.

METHOD :

From January 2002 till July 2005, our clinic registered 155 cases of thyroid carcinoma, however only 137 cases were analyzed. Patient profile, histopathology and type of treatment received (surgery, radioiodine ablation and radiotherapy) will be discussed.

RESULTS :

In our case series, our patients' age range from 14 to 76 years. About two-third of the patients are between the ages of 30 and 60 years. The female to male ratio is 4:1. Malays has the highest incidence followed by Chinese and others. Eighty percent of the patients underwent total thyroidectomy. Papillary and follicular types were the commonest histopathological diagnosis. Lymph nodes, bone and lung were the commonest site for metastasis. Sixty percent of the patients were subjected to radioiodine ablation. Approximately eighteen percent of the patients were given external radiotherapy and mainly to the metastatic sites.

CONCLUSION :

Thyroid carcinoma is a common endocrine malignancy and it is highly curable. Using multi modality management, patients' long-term survival will be achieved and this is of clinical importance especially to the young patients, who will be living longer.

OS-11

CRANIOFACIAL SURGERY IN HOSPITAL USM

Zamzuri I, Ghani ARI, Saufi A, Hillol Kanti P, J. Abdullah

Department of Neurosciences, School of Medical Sciences, Universiti Sains Malaysia, 16150, Kubang Kerian, Kelantan, Malaysia.

INTRODUCTION :

Craniofacial surgery in Hospital USM has been started for more than 10 years. The Neurosurgeon, Maxillofacial and ENT surgeons were co-operating to manage the case. We described 5 case series, which were operated through the craniofacial approaches. The skill required to achieve a successful operation is emphasis.

METHODS :

The craniofacial surgical cases were counted as nearly 100 cases, being operated since last 10 years. We described 5 cases which were operated in year 2005 and early 2006. These 5 case series were managed by a team consist of Neurosurgeon, Maxillofacial or ENT surgeons. All cases were operated via craniofacial approaches. The final outcomes of the surgery were determined by regular follow up at the clinic.

RESULTS :

All 5 cases were alive after surgery and has minimal minor morbidity which were resolved after a period of time. Some of the tumour cases were treated further with adjuvant radiotherapy. The advanced in craniofacial surgery and an existence of a team has help patients in many ways to cope with their diseases.

CONCLUSION :

Existence of Craniofacial surgical team in Hospital USM has reduced a burden to the clinicians referring cases to other centers in Malaysia or even outside the country. The team members who were majority USM-trained-surgeons were competence enough to manage such cases.

OS-12

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

Abdul Kareem M*, Lee Cheng*, Mohd Ezane*, Ibrahim L**, Shah Reza JN***

*Department of Radiology, *** Department of Obstetrics and Gynaecology, School of Medical Sciences, USM Health Campus, 16150, Kubang Kerian, Kelantan *
*Advanced Medical and Dental Institute, USM

PURPOSE :

Prevention and treatment of osteoporosis is based on early identification of those at greater risk. Bone mineral density (BMD) is an important parameter for the early diagnosis of osteoporosis. Our objective is to obtain Bone Mineral Density (BMD) reference data for local Malay women and correlate with their geometric properties and bone mineral density. We also aim to correlate the digital x-ray radiogrammetry (DXR) and dual energy X-ray absorptiometry (DEXA)

METHOD :

A total of 137 normal Malay female volunteers were involved. The DEXA scan to obtain BMD and plain radiograph of the non-dominant hand for DXR was performed. Spine, dual femur head, the rib cage, left and right arm left and right pelvis, left and right Leg for total body were the skeletal sites measured. Height and weight of the volunteers recorded. The relationships between BMD and geometric properties were analyzed with Pearson correlation analysis.

RESULTS :

A reference curve of BMD (DEXA) versus age group was obtained. The peak age bone density for vertebral BMD is 40-49, for dual femur BMD and total body BMD is 50-59. Correlation between weight, dual femur BMD and total body BMD is good whereas correlation between weight and vertebral BMD is fair. There are no correlation between age and height with vertebral BMD, dual femur BMD and total body BMD. Poor or no correlation noted between metacarpal cortical diameters with vertebral BMD, dual femur BMD and total body BMD. Positive correlation was seen between cortical thickness and metacarpal index with BMD. Good correlation between geometric properties with vertebral BMD, dual femur BMD and TBBMD in the younger age group (20-29). In our study, the vertebral BMD of fifth decade group as well as the total body BMD of sixth and seventh decades were higher than Caucasian.

CONCLUSION :

In view of the significant differences, local Malay women reference curve have been established for proper and accurate diagnosis of osteoporosis. Geometric properties can be used as a cheapest tool to predict BMD, osteoporosis and fracture risk.

OS-13

OUTCOME OF MODIFIED STEPCUT OSTEOTOMY IN CUBITUS VARUS DEFORMITY SECONDARY TO SUPRACONDYLAR FRACTURE OF HUMERUS

Sallehuddin AY, Sulaiman AR, Munajat I, Nordin S

Department of Orthopaedic, School of Medical Sciences, USM, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

Cubitus varus or gunstock deformity is a relatively common problem in children due to malunion following a supracondylar fracture of humerus. This deformity does not cause any functional deficit but it is very unsightly, that later initiate the patient to seek treatment. The surgical correction is often requested to improve the appearance of the upper limb. Technique of surgical correction and fixation is the most difficult aspect of the treatment and it remains controversial. The aim of this study is to determine the surgical outcome of modified stepcut osteotomy in cubitus varus.

METHODS :

A retrospective, non-comparative study was conducted involving children with cubitus varus seen in Orthopaedic clinic, HUSM from January 1997 to June 2002.

RESULTS :

A total of 13 patients were selected in this study. It consists of 9 boys and 4 girls. Age ranged from 3 to 16 years with the mean of 7.7 years. The follow up period ranged from 6 to 48 months with the mean of 21.8 months. The angle of cubitus varus deformity ranged from 15 to 35 degree with mean of 24.9 degree. Outcome of the modified stepcut osteotomy showed 7 patients with excellent, 4 with good and remaining 2 with poor outcome. Those 2 poor outcomes were due to the poor feedback by parents despite good clinical outcome.

CONCLUSION :

Modified stepcut osteotomy is a good options and a reliable method of correcting the gunstock deformity in children.

OS-14

PROXIMAL FEMUR VARUS DEROTATION OSTEOTOMY AND INTERNAL FIXATION WITH DYNAMIC COMPRESSION PLATE IN CHILDREN

Shukrimi A*, Sulaiman AR**, Sallehuddin AY**, Munajat I**

*Department of Orthopaedics, Traumatology & Rehabilitation, Kulliyah of Medicine, International Islamic University of Malaysia, Kuantan, Malaysia

**Department of Orthopaedics, Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia

PURPOSE :

Varus Derotation Osteotomy (VDRO) is a common osteotomy in pediatric orthopaedic practice. It is meant to correct excessive femoral anteversion and coxa valga. There have been many techniques of osteotomy using different type of fixations. We conducted a study to review the result of this procedure using a cheap and easily available implant, Dynamic Compression Plate (DCP).

METHOD :

A retrospective review of all VDRO done in HUSM from 1988 to 2005 was conducted. The surgery was done by closed wedge osteotomy at the level of subtrochanteric region fixed insitu with a bending DCP. There was no medial shifting done. Post operatively, the child was put on hip spica. Patients records and radiographs were reviewed for sex, age, indication, post operative immobilization, union, complications (trochanteric growth arrest, AVN of head of femur, infection, non-union) were reviewed.

RESULT :

There were 13 patients; age between 2 and 15 Year (mean 7). Osteotomy was done for treatment of Perthes Disease in 4 patient and 8 patient for Developmental Dysplasia of Hip (DDH) .The mean union time was 7.6 weeks (callus formation).. Rotation and varus was corrected as required. No wound infection was noted, the shortening could not be calculated because retrospective. Greater trochanteric arrest occurred in one patient. Avascular Necrosis (AVN) occurred in two patients who underwent open reduction of neglected DDH.

CONCLUSION :

The DCP is a cheap, easily available and reliable choice of implant to hold the proximal femur VDRO. It is suitable for small children who can adapt hip spica cast well and for those who need hip spica for post operative immobilization.

OS-15

DISTRACTION HISTOGENESIS OVER INTRAMEDULLARY NAIL

Sulaiman AR, Liau KM, Munajat I

Department of Orthopaedic , School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan.

PURPOSE :

Distraction histiogenesis using conventional method either ilizarov ring fixator or unilateral external fixator requires an estimated duration of 30 days in children and 40 days in adult for one cm lengthening. Distraction over intramedullary nail is another alternative method with the advantage of three time shorter duration of treatment, improved motion, easier rehabilitation and decrease rate of refracture.

METHODS :

A retrospective, case series involving 4 patients who underwent distraction histiogenesis over intramedullary nail from January 2003 to December 2005 was conducted. The patients' diagnosis, age, amount of bone distraction, type of fixation used, complications, duration of external fixation and healing time were assessed.

RESULTS :

Two patients underwent distraction over interlocking nail using monorail external fixator; the first patient had 6 cm distraction over femur which was short following distal femoral physeal arrest and the second patient underwent 5 cm distraction over normal tibia due to LLD attributed to neglected DDH. Period of external fixation were 19.5 and 14.8 days/cm respectively. The encountered problems were superficial pin tract infection and temporary joint stiffness. There was no avascular necrosis of the femoral head. The other 2 patients underwent distraction over rush nail using ilizarov fixators. A 9 years old boy had distraction of 7.5 cm, requiring external fixation time of 24.3 days/cm. The second patient, a 3 year old girl underwent distraction of 3.4 cm, requiring external fixation time of 12.4 days/cm. The problems were superficial pin tract infection.

CONCLUSION :

Limb lengthening over intramedullary reduces the average duration of external fixation by 50 percent compared to conventional lengthening. Bone healing was not impeded by the loss of medullary blood supply and a traumatized periosteum. Neither osteomyelitis nor refracture was encountered in both cases.

OS-16

BILATERAL THALAMIC GLIOMA

Siti Jusna M, Salmah@Win Mar J

Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia,
Health Campus, 16150 Kota Bharu, Kelantan

INTRODUCTION :

A rare case of bilateral thalamic glioma in a schizophrenic patient was presented. Thalamic tumor is rare, accounting for 1-5% of all brain neoplasms. Bilateral thalamic tumor (BTG) is even rarer

CASE REPORT :

47 years old male, complaining of generalized headache for 1 month with 2 weeks progressive body weakness (right>left) and 1 week history of altered sensorium and facial asymmetry . GCS was 9/15 with neck stiffness, right UMN facial nerve palsy and right spastic hemiplegia were present on admission. CT revealed enhancing irregular bilateral thalamic mass. MRI revealed bilateral thalamic astrocytoma with obstructive hydrocephalus. Thalamic tumor has bimodal age distribution with peaks during first two decades and in 5'th - 6'th decades of life. Diffuse astrocytoma mostly affect people in third decade. Most thalamic tumors are astrocytic. Bilateral tumors are generally of low-grade glioma (grade II WHO classification). Most adults with bilateral thalamic tumors show personality changes or mental deterioration rather than focal neurological signs or signs of increased intracranial pressure. Hemiparesis or hemiplegia occurs in 53% of cases. Headache due to increased intracranial pressure is rare in early stage of the disease. CT diagnosis is difficult as it is isodense with surrounding gray matter. MRI is the best radiological method to recognize the presence and asses the extent of this tumor. It shows specific pattern on MR spectroscopy by increase creatine-phosphocreatine peak which is not seen in unilateral glioma. Diffuse and bilateral involvement makes surgical therapy barely feasible. Main role of surgery is to obtain a histological diagnosis by means of CT guided steriotactic biopsy. Tumor is unresponsive to radio- and chemotherapy unlike more common unilateral thalamic neoplasm.

CONCLUSION :

Bilateral thalamic gliomas are rare neoplasm with specific neuro-radiological, psychiatric and metabolic properties with rapidly fatal clinical evolution.

OS-17

BACTERIAL COLONIZATION OF DISPOSABLE HYDROGEL CONTACT LENSES

Omar I, Chan KW*, Bakiah S, Suraiya MN**

Department of Ophthalmology, **Department of Microbiology, School of Medical Sciences, *School of Health Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

To identify possible bacterial colonization of hydrogel contact lenses and its storage or washing solutions and to study the association factors between colonization and the effects of lens wear.

METHODS :

Disposable hydrogel contact lenses and its storage or washing solutions were collected from study participants at the end of the wearing period. Culture was done for all samples and organism was identified where there was colonization of bacteria. A guided questionnaire was given to each participant to enquire regarding types of solution and the habits of lens wear.

RESULTS :

Fifty participants were involved in the study, from which 100 samples of contact lenses were collected, together with the storage or washing solutions. Bacteria were cultured from 41 (82%) of study participants. The most common bacteria isolated were gram-positive bacteria including coagulase negative staphylococcus, *Staphylococcus aureus*, *Streptococcus* sp. and *Bacillus* sp. of the gram negative bacteria isolated, *Pseudomonas* sp. and *Serratia* sp. were isolated more frequently from contact lenses. Bacteria were also isolated from storage solutions with coagulase negative staphylococcus predominating. The mean bacterial count (in CFU/lens) of contact lenses and storage solutions is 31.4 (median: 14, IQR: 35) and 1.7 (median: 0, IQR: 2) respectively. There was no significant association between bacterial colonization and the lens wear.

CONCLUSION :

Bacterial contamination of contact lenses and the storage or washing solutions is very common. Proper instruction and strict compliance to the regimen of lens care are important to prevent complications.

OS-18

ACUTE VERSUS GRADUAL TWO STAGES LENGTHENING OF FEMORAL SHORTENING DUE TO MALUNITED FEMORAL FRACTURE

Eskandar H , Sulaiman AR , Sallehuddin AY, Munajat I

Department of Orthopaedics , School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

Limb length discrepancy following the malunited femoral fracture can be treated with acute lengthening or gradual lengthening. Acute lengthening was thought to be associated with high rate of complication especially nerve paralysis while two stages surgery require prolong hospital stay and multiple surgery.

METHODS :

We retrospectively review the result of acute one stage and two stages (osteotomy, skeletal traction and open reduction internal fixation with or without bone graft) gradual lengthening. Cases with previous bone grafting procedure, old infection, previous nerve injury and heavy soft tissue scarring were excluded from these surgical methods.

RESULTS :

There were 28 patients with malunited femoral fracture in which 82.1 % of them were the result of non medical treatment. Their ages were between 8 to 38 years (mean: 20.32 years). Limb shortening was between one to 10cm (mean: 4.95cm). Nine patients underwent acute lengthening procedure to gain 2 to 5cm (mean: 3.94cm) length. Nineteen patients underwent two stages procedure to gain one to 9cm (mean: 4.18cm) length. The average duration of neglect was 146 days for both single and two stages. There was no paralysis occur in both groups. Deep infection occurred in 21.1% of cases in two stages procedure but none in one stage procedure. There were 4 cases of aseptic nonunion in cases fixed with plate from both groups. Three of them did not have primary bone graft and one had. All cases fixed with Intramedullary nail united without further surgery.

CONCLUSION :

We conclude that acute lengthening is safe alternative of correction for limb length discrepancy due to malunited fracture femur in selected cases.

OS-19

ROLE OF ANTERIOR CHEMOTHERAPY IN LOCALLY ADVANCED HEAD AND NECK CANCERS- HUSM EXPERIENCE

Wan Yus Haniff WI, Bhavaraju VMK, Biswa MB, Mahayuddin AM, Syed Ejaz S.

Department of Nuclear, Radiotherapy and Oncology, Universiti Sains Malaysia, Health Campus 16150 Kubang Kerian, Kelantan.

PURPOSE :

Much has been talked about the best strategy in giving chemotherapeutic agents and radiotherapy in a head and neck cancer in the literature. The search for the best strategy, better tolerability and the balance between efficacy and safety is still ongoing.

METHODS :

We presented 8 cases of locally advanced head and neck cancers who are not suitable for any treatment at the beginning were treated with induction chemotherapy followed by radiotherapy. From Sep 2003 to August 2005, 6 cases of Nasopharyngeal Carcinoma (NPC) and 2 cases of Squamous Cell Carcinoma of the external auditory meatus (SCC-EAM) received the above treatment strategy. They were given Cisplatin and 5-Fluorouracil for 3 cycles. On completion of 3 cycles at 28 days interval, six of them received radiotherapy. One patient had to be given palliative radiotherapy after 2 cycles of chemo due to progressive disease. Another patient defaulted after second cycle.

RESULTS :

Two Patients died for each disease during radiotherapy due to progressive disease. One NPC patient finished radiotherapy, however with progressive disease. He died 6 months after that. Currently two patients are in the remaining last 3 cycles of chemotherapy. They showed good response after radiotherapy where the neck nodes had completely resolved. One patient with SCC-EAM had completed all treatment with clinically complete response. One NPC patient showed marked symptomatic improvement and complete response after radiotherapy however did not finish the last cycle of chemotherapy. The main toxicity was mucositis during radiotherapy. The 4 survived patients enjoyed good quality of life.

CONCLUSION :

Patients with locally advanced head and neck cancers responded better with induction chemotherapy can be treated with radiotherapy where the aim is curative. This treatment regimen in our experience is acceptable in tolerability, safe and still giving a good chance of cure especially in patients with locally advanced and mostly inoperable head and neck cancers.

OS-20

A COMPARATIVE STUDY OF DRIED HUMAN AMNION WITH DUODERM DRESSING IN THE TREATMENT OF SPLIT SKIN GRAFT DONOR SITES

Mohd. Yussof SJ*, Halim AS*, Leow AM*, Wan Kasim WS*, Imran Y, Norazman M Z****

***Reconstructive Sciences Unit, **Department of Orthopaedics, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan**

PURPOSE :

Duoderm is a hydrocolloid dressing that maintains a moist wound environment allowing optimal wound healing. Amnion is shown to inhibit bacterial activity, reduce scarring and speed up wound healing. The objective of this study is to compare the effectiveness of Duoderm and amnion on split skin graft (SSG) donor sites in terms of wound healing and patient comfort.

METHOD :

Patients admitted to the surgical wards for SSG were screened. Patients who fulfilled the inclusion and exclusion criteria were recruited. A protocol was made to standardize the application of the dressing. Donor sites were inspected at days 10, 15, 20 and 30 post-operation. Percentage of donor site healing together with incidence of itchiness, leakage of dressing material and bad odour were recorded.

RESULT :

Seventy patients were included, 38 on Duoderm and 32 on amnion. At 10 days post-grafting, seventy nine percent of donor sites on Duoderm had healed completely. Eleven percent healed by day 15 and eight percent healed by day 20. On day 10 post-grafting, forty four percent of donor sites on amnion had healed completely. Twenty two percent healed by day 15, twelve percent by day 20. All donor sites on Duoderm and amnion had healed by day 30. Itchiness was the major complaint reported for both Duoderm(81%) and amnion (71%). Thirty two percent of patients on Duoderm reported bad odour from the dressing site, compared to thirteen percent of patients on amnion.

CONCLUSION :

Duoderm is more effective in the healing of SSG donor sites compared to amnion. Donor site itchiness is the primary complaint of patients on both these dressings.

OS-21

A STUDY ON REFRACTIVE ERROR AMONG PRIMARY SCHOOL CHILDREN IN KOTA BHARU

Emma SH, Ibrahim M, Wan Hazabbah WH.

Department of Ophthalmology, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

To assess the prevalence of refractive error and visual impairment in a representative sample of primary school children in the district of Kota Bharu, Kelantan.

METHOD :

A school based cross sectional study was conducted involving randomly selected primary school children from standard 2 and standard 5 students of 10 primary schools in Kota Bharu district. Ophthalmic examination was carried out in all selected schools from January to March 2006. Presenting, uncorrected and best corrected visual acuity was measured in both eyes by using logMAR chart. Predictive value of visual acuity equal or worse than 20/40 is used for further evaluation of refractive error by automated refraction and retinoscopic refraction. Ocular motility, strabismus examination, anterior segment and non dilated fundus examination were performed.

RESULTS :

A total of 1080 students were enumerated, and 914 students were examined. The main presenting visual acuity of the right eye in this sample was 20/20, seen in 78.7% of the right eye and 81.25% of the left eye. The prevalence of uncorrected visual impairment, defined as visual acuity of 20/40 or worse in at least one eye was 5.3%. Refractive error was the main cause (91.7%) of the uncorrected visual impairment. It is found to be more frequent in girls and within the 10 years old age group. Myopia is the commonest type of refractive error (3.8%) followed by astigmatism. From those students recognized to have refractive error, more than 70% of them was not on any corrective lenses.

CONCLUSION :

There was relatively low prevalence of visual impairment and refractive error among primary school children in Kota Bharu. Uncorrected refractive error was the commonest cause of visual impairment. Significant number of children with impaired vision would have near normal or normal visual acuity with a simple prescription of glasses.

OS-22

PROSPECTIVE STUDY OF CATARACT SURGERY OUTCOME IN ALOR SETAR GENERAL HOSPITAL

Azreen Redzal A, Mohtar I, Ahmad S.

Department of Ophthalmology, School of Medical Sciences, University Sains Malaysia, Health Campus, 16150, Kubang Kerian, Kelantan.

PURPOSE :

To assess and study the outcome of cataract surgery in Ophthalmology Department, Hospital Alor Setar.

METHODS :

Prospective study of elective cataract surgery cases from January to Desember 2005 in General Hospital, Alor Setar.

RESULTS :

There were 521 (50.9%) males and 503 (49.1%) females with mean age of 62.3 years. Majority were Malays. Results showed that 902 patients (91.6%) obtained visual acuity 6/12 or better while 82 patients (8.4%) have visual acuity worse than 6/12. Total numbers of operative cases without complication were 1012 (98.8%) while 12 cases (1.2%) have complication. Posterior capsular rupture was the only complication seen in the 12 cases. No endophthalmitis noted in the study as a complication. Among 82 cases (8.4%) with post operative visual acuity worse than 6/12, 48 cases were due to underlying ocular co-morbidity and 34 cases due to high astigmatism. Diabetic eye disease was the most common ocular co-morbidity that responsible for poor vision post operatively. This demonstrates that about 90% of patients achieved good visual acuity after cataract surgery. About 1.2% of the operated cases have complication.

CONCLUSION :

Majority of the patients achieved good visual acuity after cataract surgery and the complication rates were low. Most common cause of poor vision post operatively was due to underlying ocular co-morbidity namely diabetic retinopathy and advanced glaucoma.

OS-23

CASE REPORT : SOLITARY INTRAPAROTID NEUROFIBROMA IN A MALAY BOY

Siti Nor Badriati SS*, Rohaizan Y*, Mohd Shafie A*, Shahid H, Baharudin A**, Hasnan J*****

***Department of Radiology, **Department of ORL-HNS, ***Department of Pathology, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan**

INTRODUCTION :

Solitary intraparotid neurofibroma is extremely rare. Neurofibroma may arise in the facial nerve and present as a parotid mass. Most cases are in children with known neurofibromatosis; although those without other stigmata have also been reported. In regards to diagnostic imaging, these tumours may mimic the appearance of other parotid tumours, thus presenting a particular challenge in their diagnoses.

CASE REPORT :

5 year-old Malay boy presented with painless left preauricular swelling since infancy. He had CT scan done at the age of two which revealed a large solid mass in the left parotid gland obliterating the left parapharyngeal space with thinning of the left ramus of mandible. Biopsy revealed reactive lymph nodes and benign fibrous tissue. Patient defaulted follow up and presented again at the age of five increased swelling for the past 2 years and recent onset of lower motor neuron left facial nerve palsy. MRI revealed an enhancing large lobulated mass in the left parotid gland stretching the superficial part of the gland with no clear plane of demarcation with the ramus of left mandible; suggestive of a benign soft tissue tumour arising from the deep part of the left parotid gland. Left parotid exploration and total parotidectomy was performed following percutaneous tumour embolisation.

CONCLUSION :

Solitary intraparotid neurofibroma in children is very rare. Nevertheless, it should be kept in mind in the differential diagnosis of parotid tumours.

OS-24

RHINO-ORBITAL-CEREBRAL MUCORMYCOSIS : A CASE REPORT

Khatrulnada MS, Rohaizan Y, Mohd Ezane A.

**Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia,
16150 Kubang Kerian, Kelantan.**

INTRODUCTION :

Rhino-orbital-cerebral mucormycosis (ROCM) is an extremely rare, acute and aggressive fungal infection occurring in several immunocompromised patients especially diabetics. ROCM causes a very high morbidity and mortality. Diagnosis depends on tissue biopsy, while imaging is crucial to support the diagnosis and evaluate disease extension.

CASE REPORT :

A 63 year old, poorly controlled diabetic patient presented with painful left eye and purulent discharge for one month. An urgent CT brain and orbit revealed an aggressive left orbital lesion with intracranial involvement and bony destruction. Surgical intervention was performed. Histopathological examination of the ocular tissue was positive for mucormycosis. Due to the rarity of mucormycosis, accurate incidence is difficult. Non-specific symptoms cause difficulties in early diagnosis. The imaging features are often indistinguishable from other orbital cellulitis, however it support the diagnosis and determine the disease extension. CT and MRI scans are useful in planning of surgical intervention. Prognosis involves high morbidity and mortality. Infection that spreads to the brain will increase fatality to more than 80%.

CONCLUSION :

Mucormycosis is extremely rare and clinical manifestation is non specific. Early identification and aggressive treatment are the keys to improving outcome in patients with mucormycosis. Imaging is crucial in supporting the diagnosis and determining the disease extension.

OS-25

NASOPHARYNGEAL CARCINOMA (NPC): A HISTOPATHOLOGICAL REVIEW

Hasnita CH*, Shamim AK, Narazah MY****, James A****, Hasnan J***, Fauziah MI****, Zilfalil BA***

Human Genome Centre, ** Department of Otorhinolaryngology, ***Department, Patology, * Department of Microbiology, School of Medical sciences, USM, Health Campus, 16150 Kota Bharu, Kelantan *****Advanced Medical and Dental Institute (Clinical Centre), USM, Penang.**

PURPOSE :

Nasopharyngeal carcinoma (NPC) is a epithelial neoplasms and histopathological types of NPC in the WHO classification which are keratinizing (type I) and non keratinizing. Keratinizing can be divided into differentiated (type II) and undifferentiated (type III). The present study aimed to determine the pattern of NPC patients in HUSM.

METHODS :

A retrospective study on NPC patients from 1992 to 2004 was undertaken. The histopathological reports of NPC diagnosed in HUSM were reviewed. The patient data and the histopathological features of the tumors were recorded and analyzed.

RESULTS :

Among the 109 NPC cases, there were 31(28.1%) female and 78 (71.6%) males. Female to male ratio was 1:3. With regard to races, the patients were from Chinese and Malay ethnicity. Malay patients were 77 (70.6%) and Chinese were 32 (29.4%). Out of total 109 patients, 8 were keratinizing group and 81 were non-keratinizing group. Among the 81 patients, only 8 of them were differentiated, 53 were undifferentiated and another 20 was just recorded as non-keratinizing NPC. Two cases were recorded as squamous cell carcinoma and 8 cases were recorded as NPC without any histological type. Besides, ten were reported as moderately differentiated NPC.

CONCLUSION :

A male preponderance of NPC among Malay males was observed. There were no reports of Indian NPC patients perhaps because there were not many Indians in Kelantan and the percentage of Indian (1991) in Malaysia is only 0.7 per cent. NPC is one of the most difficult diseases to be diagnosed at an early stage. However, cases presenting at advanced stage could be reduced if a system for early case detection by physicians could be initiated.

OS-26

RHINOPLASTY FOR FUNCTIONAL & AESTHETIC CORRECTION OF NASAL DEFORMITIES

Krishnan A

Advanced Medical & Dental Institute, Universiti Sains Malaysia, Penang

PURPOSE :

This study presents a detailed analysis of 25 patients suffering from their deformed noses with nasal dysfunction, seeking corrective *FUNCTIONAL* as well as *AESTHETIC RHINOPLASTY*.

METHODS :

The pre—operative nasal deformities and dysfunctions have been clearly demonstrated in each case. The operative techniques performed are described, highlighting the functional and aesthetic corrections achieved by the specific combination of *RHINOPLASTY PROCEDURES* indicated for each patient. A comparison of the pre-operative and post-operative photographs reveals the correction achieved.

RESULTS :

Each case was unique in its presentation with a peculiar set of abnormalities in form and function of the nose. Difficulty in breathing due to nasal air passage obstruction associated with “crooked” or “deviated” nose, collapsed and tilted nasal tip & ala, depressed nasal bridge with deviated nasal septum, “saddle nose”, “pinched” nose and “twisted” nose deformities were manifest in highly variable degrees of severity and were found to co-exist in various permutations and combinations in different patients of this series, thereby precluding a simple standard operation to be employed for all cases. Augmentation was required in some cases whereas reduction was indicated in others. As with the game of “CHESS”, there is virtually an unlimited number of “MOVES” that the *PLASTIC SURGEON* can make in a *RHINOPLASTY*: - their sequence, execution and consequence must be understood. This presentation gives us an insight into this understanding and analytically elucidates the rationale for the unique combination of operative procedures performed in each individual patient.

CONCLUSION :

The operative procedures resulted in correction of both form and function. The happy smiles of satisfaction in the post-operative photographs are testimony to the fact that the patient’s high expectations have been fulfilled by the customized *RHINOPLASTY* performed in each individual case.

OS-27

THE INFLUENCE OF BETA2-ADRENORECEPTOR POLYMORPHISM ON SPIROMETRIC CHANGES IN GLAUCOMA PATIENTS RECEIVING TOPICAL TIMOLOL TREATMENT

Selva Raja V*, Liza Sharmini AT*, Nizam MZ, Hoh BP**, Zilfalil BA****

***Department of Ophthalmology, **Human Genome Centre, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kota Bharu, Kelantan, Malaysia**

PURPOSE :

To evaluate the extent of respiratory impairment in newly diagnosed glaucoma patients on topical Timolol therapy and to determine the influence of beta2-receptor polymorphism on the adverse effect of topical Timolol.

METHOD :

36 newly diagnosed primary open angle glaucoma and normotensive glaucoma patients without any history of obstructive airway disease were recruited. Spirometry, pulse, blood pressure and other adverse events were recorded before, 1 month and 6 months after starting topical Timolol-XE 0.5% as monotherapy. 5ml of blood was taken from each patient for DNA extraction and multiplex PCR to determine the Beta2-receptor (2AR) polymorphism at allele 16, 19, 20, 27 and 164. Patients demonstrating a greater than 15% reduction in FEV₁, FVC or FEV₁ / FVC and peak flow (PF) were deemed to have reversible airways obstruction.

RESULTS :

The allele frequencies were Arg16 (68%), Gly16 (32%), Gln27 (89%), Glu27 (11%), Thr164 (100%), 20C (46%), 20T (54%), Arg19 (11%), Cys19 (89%). There was statistically significant association between the spirometric changes and the beta2-adrenoreceptor polymorphisms although the Glu27 allele afforded a mild respiratory protective effect in the elderly.

CONCLUSION :

Genetic variation in the 2-adrenoceptor and its associated proteins is common and therefore potentially relevant to the clinician. Glu 27 allele may be protective against respiratory impairment.

OS-28

3-D FACIAL SOFT TISSUE FEATURES ASSESSED WITH FINITE ELEMENT ANALYSIS IN MALAY SCHOOLCHILDREN

Banabilh SM*, Rajion ZA*, Samsudin AR*, Singh GD*, Halim AS**

***School Of Dental Sciences, **School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan**

PURPOSE :

Geometric morphometric of the facial soft tissue variation are related to growth, development, treatment planning and prognosis of patients. The aim of this study is to quantify and localize the 3D-differences in Class I and Class II facial soft tissue among male and female subjects, using finite-element analysis.

METHODS :

After obtaining appropriate consent, Malay schoolchildren from Kota Bharu, Malaysia, were screened for dental occlusal characteristics. Fifty children (male=20, female=30) with a mean age of 15 ± 0.7 years were divided into two groups. The first group had Class I occlusion. The second group had Class II malocclusion. A 3dMD stereophotogrammetry unit was used to capture the 3-D facial soft tissues using a standardized protocol. For the facial soft tissues, eight homologous landmarks were digitised, using MorphoStudio™ software, and the Procrustes means were computed. The mean Class I and Class II configurations were subjected to t-tests and finite-element analysis.

RESULTS :

Class I and Class II facial soft tissue configurations were statistically different ($p < 0.05$). For females Class II malocclusion an increased in size (15-20%) were found in nasal and oral region. In contrast, the midfacial area were increase in size (20-30%) in males Class II malocclusion

CONCLUSIONS :

3-D Morphologic differences between male and female Class I and Class II facial soft tissue are identifiable using finite-element analysis.

OS-29

THREE DIMENSIONAL EVALUATION OF MANDIBULAR ASYMMETRY IN CLEFT LIP AND PALATE PATIENT

Saeed MB, Zainul AR, Lin SY.

School of Dental Sciences, University Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

Morphology of the mandible could be affected by the presence of cleft deformity and could be one the contributing factor in the aesthetic of craniofacial region in children with cleft lip and palate. The objective of this study is to evaluate mandibular asymmetry in cleft group (unilateral cleft lip and palate) compare with non cleft (NC) group.

METHODS :

A retrospective cross-sectional study was applied and data was collected for 18 Malay patients (9 cleft and 9 non-clefts) with mean age of four-month-old. CT scan was used to capture 3D data images and x, y, z coordinates were obtained. Homologous landmarks were collected from digital CT images and using MorphoStudio™ software, and Procrustes mean were computed. The mean cleft and non cleft groups configuration were subjected to t-test and finite element analysis.

RESULTS :

The mandibular cleft and non cleft configuration were statistically significant ($p < 0.05$). Specifically, the mean mandibular body distance and height of cleft patients was smaller (10-20%).

CONCLUSION :

The mandibular morphology differences between cleft and non cleft patients are identifiable using finite element analysis.

OS-30

***DEFINITIVE SURGERY FOR COMPLEX EXTREMITIES INJURIES-
WHERE ARE WE?***

Azman WS*, Halim AS*, Dorai AA*, Zulmi W, W Faisham****

***Reconstructive Sciences Unit, **Department of Orthopaedic, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan**

PURPOSE :

Traumas to the extremities are extremely common. The management of complex limbs injury has progressed rapidly. Delays in the treatment are causing poor healing process, prolong hospital stay and increased cost of the treatment. The role of the tissue transfer has contributed tremendously in the management of severely injured extremities. The objective of this retrospective review is to determine our achievement in definitive treatment for complex extremities injury in comparison with established centre worldwide.

METHODS :

A retrospective review of cases admitted to our institution due to extremities trauma requiring tissue transfer for definitive wound coverage from August 1997 until December 2005.

RESULTS :

From August 1997 until December 2005, 42 patients with severely injured extremities were admitted to our hospital requiring soft tissue transfer. Ten patients were operated before 3 weeks, 18 patient operated between 22 to 60 days and 14 patient were operated after 60 days. No immediate (within a week) definitive surgery was performed. Thirty two patients require only soft tissues and 10 patients require composite tissue transfer. All cases require multiple surgeries before, (mean: 7), and after, (mean: 3), tissue transfer. Hospital stays were between 17 days to a year prior to definitive surgery and between 10 to 42 days after definitive tissue transfer.

CONCLUSION :

Early definitive soft tissue transfer for wound coverage has a clear advantage to reduce hospital and cost of treatment in severe limbs injury. Further review is needed to treat these injuries as early as possible.

OS-31

DIDELPHIC UTERUS – A CASE REPORT

Muthukrishan R*, George KO, Uma Devi KR*****

***Department of Histopathology, **Department Obstetrics & Gynaecology, King Abdullah Hospital, Bisha, Kingdom of Saudi Arabia **Department of Pathology, Sapt Al Alaya Hospital, Sapt Al-Alaya, Kingdom of Saudi Arabia**

INTRODUCTION :

Uterus didelphus (di+Gr.delphus-Uterus) is a rare symmetric unobstructed disorder of lateral fusion of Mullerian ducts. The Mullerian (Paramesonephric) duct system is stimulated to develop preferentially over the Wolfian duct (Mesonephric) system, which regress in early female fetal life.

CASE REPORT :

The Mullerian ducts are ordinarily pulled together by subperitoneal fibro muscular tissue, and it is suggested that a defect in this, is a cause of Utero-Vaginal malformations. In uterus didelphus the round ligaments are unusually thick & strong which might prevent fusion of two Mullerian ducts. Molecular cytogenetic analysis in mice has suggested a mutation with Hepatocyte nuclear factor-1 beta is associated with renal & genital anomalies. The American Fertility Society classifies the didelphic uterus as class iii Mullerian anomaly. Various signs & symptoms of uterus didelphus depends on the age of presentation. It can be an incidental finding on a routine workup for multiple congenital anomalies, hematocolpos in adolescence, and during child bearing age as low back ache, dysmenorrhea, dyspareunia, hypertension, recurrent spontaneous abortions, and malpresentations during labour. Diagnostic methods include Hysterosalpingogram, ultrasound, ultrasound with transvaginal transducers, high resolution real time mechanical sector scanners. M.R.I is a useful complementary tool for assessing fetal urogenital anomalies when ultrasonography is inconclusive. Ultrasonogram is the method of choice for screening uterovaginal anomalies, and diagnosis is to be confirmed by demonstrating two separate cervical & endometrial canals.

CONCLUSION :

As congenital disorders of development are more common than previously reported because of the use of sophisticated instruments, and correct diagnosis can help to allay patients anxiety to conceive, and to formulate appropriate therapeutic plan by the Gynecologist, like resection of vaginal septum, hysteroscopic or transabdominal metroplasty depending on the anatomic features of the cervix and the uterine cavity.



FREE COMMUNICATION
(BASIC SCIENCES)

OBS-1

CONSERVATION AND SUSTAINABLE USE OF ECOSYSTEMS IN SAFEGUARDING THE NATURAL PRODUCTS FOR MEDICAL RESEARCH IN MALAYSIA : A REVIEW

Rohasliney H, Hasmah A

School of Health Sciences, USM Health Campus, 16150 Kota Bharu, Kelantan

INTRODUCTION :

Plant and animal derived products have been the basis of traditional medicine systems for thousands of years. There is growing concern that increased human interventions of the ecosystems would ultimately limit the sustained supply of these natural resources. The rapid disappearance of species was ranked as one of the planet's gravest environmental worries, surpassing pollution, global warming and the thinning of the ozone layer. Our aim is to review and analyze the current issues of ecosystems degradation, environmental conservation, and sustainable use of natural resources without overexploitation in Malaysia.

METHODS :

Malaysian government policies, regulations, and legislatures on conservation of ecosystem and natural resources were reviewed. Published papers and data from non-government agencies on these issues were searched and reviewed.

RESULTS :

In Malaysia, the usage of plant and animal-derived materials for medical treatment has been unexpectedly increasing and playing an important role in health care. Currently, more than 75% of herbal and animals-derived medical requirement are met through wild collections. However, the habitats accommodated by these species have been decreasing alarmingly due to anthropogenic factors. Deforestation is one of the major threats to biodiversity. Deforestation in Malaysia is accelerating faster than in other tropical countries. Malaysia's annual deforestation rate has jumped to almost 86 percent in 2000-2005 as compared to 1990-2000. In total, Malaysia has lost an average of 140,200 hectares, which was 0.65 percent of its forest area per year since 2000. In addition to that, aggravated pollution and the decades of over-exploitation are also the constant threats to our marine life. Statistics reveals that most of the natural products used for medical research have not yet been documented as threatened or extinct.

CONCLUSION :

In order to reduce ecosystems degradation, and for environmental conservation measures to materialize such that Malaysia can succeed in preserving sustainable ecosystems to safeguard her natural products for medical research, all governmental and/or non-governmental organizations of the country, national and international level agencies should collectively address these issues.

OBS-2

ROLE OF NITRIC OXIDE IN HYDROXYAPATITE-INDUCED PHAGOCYTOSIS BY MURINE MACROPHAGE CELL LINE (RAW264.7)

Gopinath VK, Musa M, Samsudin AR, Lalitha P, Sosroseno W

School of Dental Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan

PURPOSE :

The aim of this study was to determine the role of nitric oxide (NO) in hydroxyapatite (HA)-induced phagocytosis by a murine macrophage cell line (RAW264.7).

METHODS :

The cells were incubated with HA particles at various incubation time and phagocytosis was assessed using phagocytic index (PI). NO production from the culture supernatants was determined by using the Griess reagent. The inducible nitric oxide synthase (iNOS) expression was determined by Western blot. The particles were also incubated with cells pretreated with various concentrations of L-N⁶-(1-iminoethyl)lysine hydrochloride (L-NIL) or L-arginine. Latex beads were used as a control.

RESULTS :

Our results showed that macrophage phagocytosis induced by HA was higher than that induced by the latex beads. However, NO production by HA-stimulated cells was lower than that by latex bead-stimulated cells. iNOS expression in both latex bead- and HA-stimulated cells was observed to be expressed at 7, 15, 30 and 60 minutes. L-arginine enhanced but L-NIL inhibited both phagocytosis and NO production by HA-stimulated cells.

CONCLUSION :

The results of the present study suggest that nitric oxide may play a crucial role in HA-induced phagocytosis by RAW264.7 cells.

OBS-3

PROTEIN EXPRESSION OF INSULIN-LIKE GROWTH FACTORS AND THEIR RECEPTORS IN THE FALLOPIAN TUBE AND UTERINE TISSUES DURING PREIMPLANTATION EMBRYO DEVELOPMENT IN DIABETIC MICE

Rahimah Z*, Nik Soriani Y, Mohd Hamim R***, Norazmi MN******

*** Department of Physiology, ** Department of Chemical Pathology School of Medical Sciences, USM Health Campus, 16150 Kubang Kerian, Kelantan
Faculty of Medicine, UiTM, Shah Alam, Selangor *School of Health Sciences, USM Health Campus, 16150 Kubang Kerian, Kelantan**

PURPOSE :

Little is known about the potential role of maternally-derived insulin-like growth factors (IGFs) in the preimplantation embryo development. We hypothesized that preimplantation embryos develop in the diabetic environment are deficient in specific growth factors. The aim of the present study was, therefore, to investigate the protein expression of IGF-1, IGF-2, IGF-1R and IGF-2R in the fallopian tube and uterine tissue of normal and diabetic mice during preimplantation embryo development.

METHOD :

Sexually matured female ICR mice of 6-8 weeks old were rendered diabetic by streptozotocin (200 mg/kg, intraperitoneally). Fallopian tubes and uterine tissues were obtained from hormonally superovulated diabetic and normal mice at 48, 72 and 96 hours post-hCG treatment. The tissues were subjected to immunohistochemical staining for IGF-1, IGF-2, IGF-1R and IGF-2R and a semi-quantitative subjective scoring was performed using a standardized 5-scale system.

RESULTS :

The score for both IGF-1 and IGF-1R was significantly decreased in the fallopian tube of diabetic mice at 96 hours post-hCG treatment. In contrast, the score for IGF-2 and IGF-2R was significantly increased in the fallopian tube of diabetic mice at 48 and 72 hours; and at 72 hours post-hCG treatment, respectively. However, there was no significant difference in the score of insulin-like growth factors and their receptors in the uterus of controls and diabetic mice.

CONCLUSION :

The decreased protein expression of IGF-1 and IGF-1R in the fallopian tube of diabetic mice could be a reflection of oestrogen deficiency found in diabetic animals. The increased protein expression of IGF-2 and IGF-2R in the fallopian tube of diabetic mice could be a compensatory effect to accommodate for the increased IGF-2 clearance, hence, counteracting the detrimental effect of excessive IGF-2.

OBS-4

EVALUATION OF THE EFFECTS OF ETHANOLIC EXTRACT OF ANDROGRAPHIS PANICULATA ON SPRAGUE DAWLEY RATS SPERM

Dasuki MS*, Siti Amrah S*, Hasnan J, Mohsin SSJ***, D' Souza UJ******

Department of Pharmacology, **Department of Pathology, School of Medical Sciences, ***School of Health Sciences, USM Health Campus, 16150 Kota Bharu, Kelantan *School of Medical Sciences, UMS, Sabah**

PURPOSE :

In the last decade there has been growing concern over the effects of either synthetic or natural products on the male reproductive health. There were few reports on anti-androgenic and anti-fertility effects of herbs including *Andrographis paniculata* (AP). Recently, herbal medicines have become a widespread form of therapy. Male reproductive toxicity studies of this herbal medicine should be considered as part of the safety evaluation process of medicinal plants. Extensive research over the last several decades has revealed that the AP extract is useful as an anti-diabetic, anti-inflammatory, antiviral, antithrombotic, anticancer, immunostimulatory, hypoglycaemic and hypotensive agent. However, adverse effects of AP are still being debated. Our aim was to elucidate whether ethanolic extract of AP imposed reproductive hazards to sperm of male of Sprague Dawley (SD) rats exposed to this herbs for more than 77 days.

METHODS :

Adult male rats weighing 170-210g (8-10 week of age) were administered with the extract of *Andrographis paniculata* (APE) at five doses 0.5, 1.0, 10, 100 and 100 mg/kg for more than 77 days by oral gavaging. The control group received distilled water for the same duration. Animals were sacrificed. Sperm evaluation including sperm motility, sperm mortality, sperm count, sperm morphology, spermatid count and daily sperm production were analysed.

RESULTS :

There were no significant differences observed for sperm motility, sperm mortality, sperm count, spermatid count and daily sperm production between treated and untreated animals. However, dosages of APE0.5 and APE1 had significantly different changes on sperm morphology compared to vehicle treated groups.

CONCLUSION :

The sperm evaluations of APE treated groups were shown to be similar to those of the control groups. APE did not cause any significant changes to sperm parameters except sperm morphology in SD rats.

OBS-5

EFFECT OF FAR INFRARED RADIATION ON BONE HEALING - STUDY IN RABBITS

Azril MA*, Shaifuzain AR, Halim AY, Iskandar MA, Shukrimi A*, Imran Y

**Department of Orthopedic, School of Medical Science Universiti Sains Malaysia,
*Department of Orthopedic, Faculty of Medicine IIUM**

PURPOSE :

To evaluate the role of infrared radiation for enhancement of fracture healing in rabbits

INTRODUCTION :

Biophysical stimulation such as infrared light provides a non-invasive alternative to enhance fracture healing. It was observed that skin wound healed faster when it was exposed to infrared light. However, to our knowledge the effect of infrared radiation on bone healing had never been evaluated. We evaluated the role of non-invasive biophysical stimulation of infrared radiation in fracture healing.

METHOD :

16 rabbits were divided into 2 groups, control (A) and infrared (B). Tibial osteotomies were done in all subjects in order to simulate a simple transverse fracture. The fracture was then reduced and stabilised with an intermedullary K-wire and the leg was immobilised with Plaster of Paris. Subjects in Group B were subjected to daily infrared, two 30-minutes sessions daily. For evaluation purposes, 4 rabbits from each group were sacrificed at 3 weeks and the rest were sacrificed at 6 weeks. The operated tibias were harvested and were assessed via radiological (CT scan) and histological examination.

RESULT :

At 3 weeks, woven bone was seen bridging the fracture site in both groups. In group A, larger area of cartilage was observed as compared to group B, which had more area of woven bone. Both groups had achieved fracture union at 3 weeks. Larger hard callus volume (mean = 0.423) was noted in the infrared group as compared to the control (mean = 0.173). At 6 weeks, the hard callus volume was almost equal in both groups, with mean = 0.204 in group B and mean = 0.233 in the control group.

CONCLUSION :

Infrared radiation modifies bone union by forming larger amount of callus in the early stage of healing

OBS-6

DIFFERENTIATION OF THE HUMAN MESENCHYMAL STEM CELLS FROM UMBILICAL CORD MATRIX INTO OSTEOBLAST-LIKE CELLS

Asma' H*, Al-Salihi KA, Asiah AB**, Samsudin AR****

***Department of Anatomy, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia. **School of Dental Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.**

PURPOSE :

Stem cells can be found in the placenta, umbilical vein, cord blood and also the Wharton's Jelly of the umbilical cord. Our aim was to isolate human mesenchymal stem cells (hMSC) from the umbilical cord.

METHOD :

We attempted the isolation of human mesenchymal stem cells (hMSC) from the Wharton's Jelly of the umbilical cord or umbilical cord matrix (UCM) using optimized isolation and culture conditions. The umbilical cord sample showed cells characteristics of mesenchymal morphology similar to control MSC from adult bone marrow. The adherent layer was initially formed by colonies composed of a clump of heterogenous cells but morphology changed to spindle-like shape, when cultures reached confluence.

RESULTS :

The ability of the human MSC from cord matrix to differentiate into osteoblasts was examined through the used of osteogenic supplement differentiation medium (OS) cultures. Von kossa and alkaline phosphatase staining showed that hMSC from cord matrix were capable of mineralization when cultured in OS. Osteopontin, an osteoblast cell marker, was expressed in these cells as shown by immunocytochemistry.

CONCLUSION :

These findings suggest that hMSC from cord matrix contains stem cells that are a rich source of primitive multipotent mesenchymal cells and have the capability to differentiate into an osteoblast phenotype in vitro.

OBS-7

CYTOGENETIC ANALYSIS AS A DIAGNOSTIC TEST FOR FRAGILE X SYNDROME: IS IT CONFIRMATORY?

Belques AMT, Tarmizi AAB, Siti Mariam I, Suhaida MA, Norhasimah M, Ravindran A, Zilfalil BA.

Human Genome Centre, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kota Bharu.

PURPOSE :

To evaluate the phenotypic characteristics and cytogenetic profile especially the expression of folate sensitive fragile site at Xq27.3 in patients suspected to have FRAXA.

METHOD :

A retrospective study was conducted on case records of 49 patients who had undergone cytogenetic analysis for FRAXA from 1995 to 2005. Data regarding facial features, ages, causes of referral and the cytogenetic reports were retrieved and documented.

RESULTS :

Out of 49 patients 46 were males (93.9%) and there were only 3 females (6.1%). A Male preponderance among FRAXA suspected patients was observed. The main causes of referral were learning disability and mental retardation (83.3%) and global development delay (12.2). The phenotypic characteristics were variable. Cytogenetic analysis of 49 cases confirmed 4 cases (8.2%) as FRAXA, 31 cases (63.3%) as non-FRAXA, 8 cases (16.3) no result and 6 cases (12, 2%) accounted with culture failure.

CONCLUSION :

Cytogenetic analysis may be non confirmatory in the accurate diagnosis of many FRAXA cases. Moreover, cytogenetic analysis exhibit high degree of variability between individuals and laboratories. Thus, molecular analysis is warranted for accurate diagnosis of fragile X syndrome.

OBS-§

A RETROSPECTIVE ANALYSIS OF CHROMOSOMAL ABNORMALITIES IN PATIENTS WITH INFERTILITY AND PRIMARY AMENORRHOEA AT HUMAN GENOME CENTER, HUSM

Sumita P, Siti Mariam I, Suhaida MA, Ahmad Tarmizi AB, Norhasimah M, Ravindran A, Zilfalil BA.

Human Genome Centre(HGC), School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia

PURPOSE :

To evaluate the cytogenetic profile associated cases of primary amenorrhoea, infertility and recurrent abortions at HGC, USM from 1996 to 2006, the cases of primary amenorrhoea, infertility and recurrent abortions and to evaluate the cytogenetic profile associated with these disorders.

METHOD :

A retrospective analysis involving 67 cases, which include 22 cases of primary amenorrhoea, 28 cases of recurrent abortions and 17 cases of infertility due to other causes who had undergone cytogenetic analysis at HGC was done. For chromosomal analysis, peripheral blood lymphocytes of subjects were cultured in RPMI 1640 medium, at 37°C for 72 hours and chromosome preparation made using standard cytogenetic procedures. Karyotyping was done according to International System Human Cytogenetic Nomenclature (ISCN 1995).

RESULTS :

A total of 67 cases were analyzed and chromosomal abnormalities were detected in 10 cases. Among the 67 cases, 55 were females between the ages of 16 to 40 years and 12 cases were males with infertility. The analysis of 22 women with primary amenorrhoea (some with probable clinical diagnosis of Turner syndrome) revealed 7 cases (31.8%) with abnormal karyotypes of whom, 5 cases had 45XO and two cases had mosaic 45, X, 46, iX (q) on chromosomal analysis. Chromosomal abnormalities were found in 2 of 28 cases (7.3%) of recurrent abortions. One case (5.8%) of Klinefelter syndrome (47, XXY) was diagnosed on chromosomal analysis of 17 cases presenting with infertility.

CONCLUSION :

Occurrence of chromosomal abnormalities have a significant impact on both human fitness and reproduction Primary amenorrhea and infertility could be due to abnormal sexual development due to underlying genetic causes. Balanced translocations in one or both partners can lead to recurrent abortions. Identifying the genetic causes of these disorders could help the clinician to make an accurate diagnosis and provide genetic counseling.

OBS-9

BIOACTIVE ELEMENTS IN SUSU HARIMAU: ATOMIC ABSORPTION SPECTROSCOPIC DETERMINATIONS

Shah SW, Norazlin AA, Sahnusi WM, Ghazali FC, Mohsin SSJ

School of Health Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia

PURPOSE :

Susu Harimau (*Pleurotus tuberregium*) commonly called "Tiger Milk Mushroom", belongs to the genus *Pleurotus*. This species is widely distributed throughout tropical regions of the world. Traditionally, this species has been used for treating a wide range of ailments, most prominently tropical treatments of skin diseases, diabetes, stomach disorders, fever, blood pressure and small pox. A limited research on edibility, taxonomy, and medicinal properties of this mushroom is found in literature. The studies on the isolation and identification of biologically and phytochemically significant compounds; and bioactive elements have not been conducted. Our aim in this study is to develop an efficient digestion procedure to determine the elements in Susu Harimau and to establish the element composition using the atomic absorption spectroscopy.

METHOD :

Susu Harimau samples were obtained from local market, cleaned with running tap water and dried at 25°C. The mushroom parts (cap, veil, stem and mycelium) were separated, cut into small pieces and powdered. The coarse powder (0.5 g) of each part was digested with concentrated HNO₃. The acid-digests were filtered and filtrate diluted with double distilled de-ionized water. A Perkin Elmer AAnalyst 800 atomic absorption spectrophotometer was used to determine some bioactive elements.

RESULTS :

The concentration of elements in Susu Harimau determined by atomic absorption spectroscopy is for sodium 22.00 ± 0.02 ppm, potassium 32.70 ± 0.01 ppm, calcium 5.48 ± 0.03 ppm, magnesium 10.51 ± 0.15 ppm and zinc 0.51 ± 0.01 ppm. The linear range was from 0-8 ppm ($r = 0.999$) and recoveries between 96.5–99.3%. This method is suitable to determine elements in other mushrooms.

CONCLUSION :

Atomic absorption spectroscopy is useful in determining the bioactive elements in Susu Harimau. There is potential used for other mushrooms type.

OBS-10

XY CHROMOSOME WITH FEMALE PHENOTYPE – SWYER SYNDROME

Puspa Marlinda O*, Nik Mohd. Zaki NM*, Nor Hayati O**

*** Department of Obstetrics & Gynaecology, ** Department of Pathology, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kota Bharu, Kelantan**

INTRODUCTION :

Swyer syndrome in its complete form is characterized by a female phenotype, normal to tall stature, bilateral dysgenetic gonad, sexual infantilism with primary amenorrhea and 46, XY karyotype. The internal genitalia are female with uterus and full vagina. Swyer syndrome is a sex-reversal disorder resulting from embryonic testicular regression sequences and is induced by mutations in the SRY gene. The incidence of SRY mutations is thought to be approximately 20%.

CASE REPORT :

An 18 years old patient presented to us with a chief complaint of primary amenorrhea. Physical and gynaecological examinations, hormonal, chromosomal and molecular analyses were performed trying to reveal the etiology of this condition. Physical examination revealed there is no secondary sexual characteristic, breast development only Tanner stage 2 and normal female genitalia. Hormonal examination shows elevated gonadotrophic hormone and low estrogen level. Result of genetic study is 46, XY with present of SRY gene. Laparoscopy finding shows hypoplastic uterus, normal round ligament, streak like ovary on the right side, left ovary with external fibrotic features corresponding to non – ovulatory ovary. The histologic examinations revealed ovary like structure with immature testicular tissue.

CONCLUSIONS :

As this patient is a female phenotype but the chromosome revealed that this individu is 46, XY she or he will present in the community as a female, as she is already brought up as a female.

OBS-11

THE ESTABLISHMENT OF SNP GENOTYPING OF MALAY ETHNIC POPULATION IN MALAYSIA USING MICROARRAY.

Hoh BP, Suzailin EH, Mohd Ros S, Zilfalil BA

Human Genome Center (HGC), School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan.

PURPOSE :

The main objective of this project is to establish the methodology of single nucleotide polymorphism (SNPs) array for the use of genotyping the Malay sub-ethnic group. Microarray is a technology using a high-density array of nucleic acids, protein, or tissue for examining complex biological interactions simultaneously which are identified by specific location on a slide array. The data obtained from the genotyping of the Malay ethnic population will eventually be useful to map complex human genetic traits, understand the history of human populations, and to examine the chromosomal copy number changes that lead to cancer and other diseases.

METHOD :

5 cc venous bloods were collected from 18 Malay subjects from various districts from the state of Kelantan (*Melayu Kelantan*). DNA was extracted, followed by restriction endonuclease digestion using *Xba I*, which cut the DNA at specific sites to reduce the complexity of genomic DNA, and then ligating sequences onto the DNA fragments. The complexity was further reduced by PCR amplification optimized for fragments of a specified size range. The PCR products were fragmented, end-labeled, and hybridized to a GeneChip array (Affymetrix). Data was analyzed by using GeneChip Operating System (GCOS) and GeneChip DNA Analysis Software (GDAS).

RESULTS :

Eighteen samples (9 males and 9 females) of *Melayu Kelantan* were analyzed. Call rate was calculated as: interpretable SNPs/ Total SNPs x 100%. The mean average call rate was 93.41%. The lowest call rate was 80.16% while highest was 98.9%. The manufacturer specified that an 85% call rate as satisfactory. A lower call rate less than the suggested value by the manufacturer could result to the possibility of inaccurate calling (interpretable result). The reason for the lower yield possibly because by the lower quality of DNA.

CONCLUSION :

Microarray proven to be useful in detecting larger number of SNP and good technique to be adopted in population study. Identification of a large number of SNPs throughout the genome will be valuable markers for finding SNPs that affect gene function.

OBS-12

GENETIC VARIATIONS OF Y-CHROMOSOME AMONG KELANTANESE MALAY

Nurul Ain MY*, Hoh BP, Zilfalil BA****

***School Of Health Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan **Human Genome Center (HGC), School Of Medical Sciences, Universiti Sains Malaysia 16150 Kota Bharu, Kelantan**

PURPOSE :

To determine the genetic diversity of Y-chromosome among the Kelantanese males.

METHOD :

Three Y-chromosome STR markers were obtained from Seilstad (1999) and Underhill (1997) respectively to study Y-chromosome of Kelantanese Malay to see the variance; DYS19, DYS388 and DYS390. DNA was extracted from whole blood and was genotyped with the markers mentioned. Amplicons were electrophoresed on 2% agarose gel and later on 8% non-denatured polyacrylamide gel.

RESULT :

Samples showed variation with Y-STR markers; DYS388 and DYS390. The identification of product size is analyzed by comparison with 50 bp ladder.

CONCLUSION :

There is variance among samples from different population. The result will be useful in reconstruct the paternal lineages in our population.

OBS-13

QUANTIFICATION OF SMN GENE COPY NUMBER USING REAL-TIME PCR

Watihayati MS*, Zilfalil BA*, Sasongko TH**, Tang TH***, Zabidi-Husin AMH**, Nishio H****.**

Human Genome Centre, **Department of Pediatrics, School of Medical Sciences, Health Campus, 16150 Kota Bharu, Kelantan, Malaysia ***Institute for Molecular Research in Medicine, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan, Malaysia *Department of Public Health, Kobe University Graduate School of Medicine, Japan.**

PURPOSE :

The present study aimed to explore whether real-time PCR method could be utilized for the relative quantification of the copy number of the SMN gene. The SMN1 gene was investigated in parents of a SMA patient while the SMN2 gene copy number was investigated in five SMA patients.

METHODS :

Genomic DNA was extracted from peripheral blood using commercial DNA extraction kit. The concentrations of all samples were standardized into 3 different concentrations by tenfold dilution (5ng/ul, 0.5ng/ul and 0.05ng/ul) in TE Buffer. Targeted gene (SMN1 and SMN2) and housekeeping gene (CFTR) were amplified using Light Cycler FastStart DNA Master SYBR Green 1 Kit with the optimized condition. Copy number calculation principally compares two ratios; the ratio of the target DNA sequence (SMN1/SMN2) to a reference DNA sequence (CFTR) in a patient sample compared to the ratio of the same two sequences in a control sample.

RESULT :

The parents showed 1 copy of the SMN1 gene while all the 5 patients showed 2 copies of the SMN2 gene. Our results suggested that copy number analysis of the SMN1 gene is helpful to the detection of the carrier status of SMA. The 2 copies of the SMN2 gene in all the 5 patients suggested there may be other factors than the copy number that influence the disease severity.

CONCLUSION :

The Light Cycler System offers an easy and fast method to calculate the copy number of a targeted gene. A larger study is underway to analyze the copy number in parents and siblings of the SMA patients for carrier screening and sub typing of SMA in relation to the disease severity.

OBS-14

A NOVEL SNP IN PROSTAGLANDIN F₂ RECEPTOR GENE AND ITS ASSOCIATION WITH PRESSURE LOWERING EFFECT OF TOPICAL LATANOPROST AMONG GLAUCOMA PATIENTS: A PRELIMINARY REPORT

Nizam MZ*, Hoh BP*, Liza Sharmini AT, Chieng LL**, Cheong MT**, Zunaina E**, Zilfalil BA***

***Human Genome Centre, **Department of Ophthalmology, School of Medical Science, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan**

PURPOSE :

To determine the association of novel SNP (IVS-97 A>T) in PGF₂ gene with pressure lowering effect of topical Latanoprost among glaucoma patients.

METHODS :

A prospective cohort study was conducted with 38 glaucomatous patients and 38 controls. All were planned for treatment with topical Latanoprost 0.005%. Measurements of intraocular pressure (IOP) were taken at 0, 1, 3 and 6 month. Patient who obtained more than 30% IOP reduction at 3 month follow up were categorized as good responder, patient between 15% and 30% IOP reduction as moderate responder and those who less than 15% IOP reduction as poor responder. Genomic DNA was extracted from blood. PCR were performed on patients and controls DNA. Amplicons were then mixed with wild type amplicons in a ratio 1:1 and dHPLC was performed. DNA sequencing was done to confirm the mutation.

RESULTS :

Allele frequency in glaucoma patients was A=0.74; T=0.26 and in control group was A=0.72; T=0.28. For IOP reduction, 23.7% of sample homozygous wild type (AA) were categorized as good responder, 15.8% were moderate responder and 15.8% were poor responder while heterozygous (AT), 21.1% were categorized as good responder, 13.2% were moderate responder and 2.6% were poor responder and 2.6% of sample homozygous mutant (TT) were categorized as good responder and 5.2% were poor responder. There was no significant association between a novel SNP (IVS-97 A>T) and responsiveness to Latanoprost (p=0.713).

CONCLUSION :

There is no association between responsiveness to topical Latanoprost with the novel SNP of PGF₂ receptor gene polymorphism found in our population. However, larger sample size is needed to confirm this association.

OBS-15

COMPARISON OF GENOMIC DNA EXTRACTION FROM BLOOD AND BUCCAL SWAB

Siti Aishah Z*, Normastura AR*, Mohd Khairi MD**, Zafarina Z****, Zilfalil BA***

Human Genome Centre, **Department of Otorhinolaryngology, School of Medical Sciences; ***School of Dental Sciences, *School of Health Sciences, USM Health Campus, 16150 Kota Bharu, Kelantan**

PURPOSE :

Genomic DNA is usually obtained from blood samples. However, due to difficulties in obtaining consent approval and venepuncture being an invasive procedure, other alternative sources were sought in order to extract genomic DNA. One of the alternative sources is buccal swab (cotton swab) extraction. Our objective was to compare two sources of genomic DNA extraction; blood and buccal swab. Hypothetically, the concentration of genomic DNA from blood should be same or higher than the concentration of genomic DNA from buccal swab.

METHODS :

Exactly 2ml of blood was obtained from four subjects. Additionally, buccal swab (scraping firmly 20 times against inside of cheek) was obtained from the same subjects. Genomic DNA was extracted from peripheral blood and cotton swab using a commercial DNA extraction kit (GENEALL). The optical density (OD) of the DNA was measured using a spectrophotometer.

RESULTS :

Genomic DNA from blood was found in higher concentration than genomic DNA from buccal swab.

CONCLUSION :

Peripheral blood and buccal swab are good sources to obtain genomic DNA. However, peripheral blood produced a higher genomic DNA concentration compared to buccal swab. Obtaining adequate genomic DNA is crucial in ensuring a good PCR (polymerase chain reaction), dHPLC (denaturing high performance liquid chromatography) screening, sequencing assay and for any DNA study.

OBS-16

ASSOCIATION BETWEEN THE G71R MUTATION OF THE UGT1A1 GENE AND ABO INCOMPATIBILITY WITH NEGATIVE DIRECT COOMBS TEST IN MALAY BABIES WITH NEONATAL JAUNDICE

Surini Y*, H*, Narazah MY**, Noraida R*, Nik Zainal Abidin NI*, Wan Pauzi WI*, M***, H****.

*Department of Pediatrics, School of Medical Sciences, USM Health Campus, 16150 Kota Bharu, Kelantan, **Advanced Medical and Dental Institute (Clinical Centre), USM Penang, Malaysia, ***Department of Pediatrics, Division of Public Health, Department of Environmental Health and Safety, ****Faculty of Medical Sciences, Kobe University Graduate School of Medicine, Kobe, Japan

PURPOSE :

ABO incompatibility is an important risk factor of neonatal jaundice. However, in many cases the Coombs test is negative. In such cases other risk factors for jaundice such as mutations in the bilirubin uridine–diphosphate glucuronosyltransferase (*UGT1A1*) gene may play an important role. Our objective was to determine the frequency of G71R mutation in the *UGT1A1* gene in jaundiced babies having ABO incompatibility with negative direct Coombs test.

METHODS :

A total of 32 jaundiced (total serum bilirubin levels $\geq 250 \mu\text{mol/L}$) neonates with ABO incompatibility and negative direct Coombs test were recruited for the study. The G71R mutation of *UGT1A1* gene was screened using denaturing high performance liquid chromatography (Varian Helix System). Results were confirmed by sequencing analysis using ABI PRISM 3100 Genetic Analyzer (Applied Biosystem).

RESULTS :

Seven out of the thirty-two neonates were heterozygous for the G71R mutation. None were homozygous. The genotypic frequency was 22% with an allelic frequency of 11%. Compared to this, non-jaundiced controls (reported in our previous study) had a genotypic frequency of only 6% and allelic frequency of 3%. The difference between the subjects in this study and the controls in the previous study which used similar methods was statistically significant ($p=0.042$).

CONCLUSION :

The G71R mutation of the *UGT1A1* gene occurs with a high frequency among Malay babies with neonatal hyperbilirubinaemia with ABO incompatibility and negative direct Coombs test.

OBS-17

APPLICATION OF POLYACRYLAMIDE GEL ELECTROPHORESIS IN DETERMINING Y-CHROMOSOMAL VARIATIONS IN THE MALAY ETHNIC GROUPS FROM KELANTAN

Shazlin S, Hoh BP*, Liza-Sharmini AT, Zilfalil BA***

School of Health Sciences *Human Genome Center **Department of Ophthalmology School of Medical Science, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kota Bharu, Kelantan

PURPOSE :

We employed a set of three Y-STR markers to the non-recombining portion of the Y-chromosome to estimate the allele frequencies among Malay ethnic group from Kelantanese population.

METHOD :

Five ml blood samples were collected with informed consent of volunteers from the districts all over Kelantan. We were able to identify nine paternally-unrelated males (for at least three to six generation) as our subjects. The blood was extracted using Qiagen extraction kit, and three Y-STR markers that is DYS391, DYS392, and DYS393 were genotyped. The primers were sequenced and amplified. The amplified products were separated on 2% (w/v) agarose gel and later with 8% (v/v) non-denatured polyacrylamide gel. The fragments were then visualized by UV light.

RESULTS :

Verification of alleles was carried out by comparing the size of amplified PCR product to the allelic ladders. Alleles comparison were made between PAGE and agarose gel. Then, variations were identified among the nine samples at certain Y-STR markers.

CONCLUSION :

We showed the possibility of reconstructing the history of paternal lineages, by examining the differences between markers of Y-chromosome using PAGE.

OBS-18

IDENTIFICATION OF MSX1 GENE MUTATION IN KELANTANESE PATIENTS WITH VARIOUS TYPES OF NON-SYNDROMIC CLEFT LIP AND PALATE

Nurhanini AR*, Wan Azman WS, Hoh BP***, Zilfalil BA*****

***School of Health Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan **Reconstructive Sciences Unit **Human Genome Centre, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan.**

PURPOSE :

To determine the role of MSX1 gene and its allele frequency in the incident of various type of non-syndromic cleft lip and/or palate among Kelantanese patients.

METHOD :

Thirty-five cleft lip and/or palate patients who fulfilled the inclusion and exclusion criteria were recruited. Genomic DNA was extracted from their blood using commercial kit. Primers sequences for PCR (forward: TTAGATTGTCATCAGTCCTC, reverse: GGGCATGTTGATGTCTGCTGAC) obtained from Stegman *et al* (1999) were used in this study. The CA repeats in MSX1 gene was amplified using polymerase chain reaction (PCR) followed by gel electrophoresis. Single bands (homozygous) in the electrophoresis gel show the normal patients while the double (heterozygous) of bands show the mutated MSX1 patients.

RESULTS :

Out of thirty-five patients tested, 5 (2%) showed variation from the others while 7 (31.4%) showed variation in particular locus from control samples. $P > 0.05$ showed no association between mutation in MSX1 gene and clefting. But the sample size is rather limited. Larger sample size is needed for future studies.

CONCLUSION :

MSX1 gene mutation is not associated with non-syndromic cleft lip and/or palate in Kelantanese patients.

OBS-19

MOLECULAR ANALYSIS OF MALAYSIAN PATIENTS WITH DUCHENNE MUSCULAR DYSTROPHY

Salmi AB*, Watihayati MS, Zilfalil BA**.**

***School of Health Sciences, **Human genome Centre, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan.**

PURPOSE :

To study the mutations of the Dystrophin gene in Malaysian patients with Duchenne Muscular Dystrophy.

METHODOLOGY :

Seven clinically diagnosed DMD patients from all over Malaysia involved in this study. Genomic DNA was extracted from the whole blood using kit. Polymerase Chain Reaction (PCR) was applied to amplify the selected exons (exon 43, 44, 45, 46, 49, 50, 51). Gel electrophoresis was used to analyze the results and confirmed the presence of deletion.

RESULT :

PCR product was successfully amplified from the genomic DNA. All seven patients showed deletion of the tested exons.

CONCLUSION :

All seven patients showed deletion of the tested exons. Although we only tested the seven exons out of 79 exons, we managed to find deletion in all the seven patients showed the successfully of the hotspot exons.

OBS-20

IDENTIFICATION OF SINGLE NUCLEOTIDE POLYMORPHISM (SNP) 153,104 (A->G) OF RB1 GENE IN MALAY CHILDREN WITH RETINOBLASTOMA AND THEIR PARENTS: AN EARLY FINDING

Hanani AY*, Hoh BP*, Nur Shafawati AR, Zilfalil BA*, Liza-Sharmini AT*****

***Human Genome Center, **School of Health Sciences ***Department of Ophthalmology, School of Medical Science, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan**

PURPOSE :

To identify the presence of SNP 153, 104 A↯G at exon 19 of RB1 gene among Malay children with retinoblastoma. This SNP was previous exclusively found among Asian population.

METHODS :

5cc of blood was obtained from 7 confirmed retinoblastoma patients and their parents. DNA extraction was done using GeneAll Blood Mini kit. Forward and reverse primers for exon 19 of RB1 gene were designed using Primer3 software. Amplification of DNA was done by polymerase chain reaction (PCR) using forward primer 5'-ATGATGACAAGCAGTTTTCC-3' and reverse primer 5'-GCCAGTAATGTACCTAGAAAG-3'. PCR product was then analyzed using 2% of agarose gel electrophoresis to detect the presence of desired product. Restriction enzyme, Tsp5091 was used to digest the PCR product 65°C for 90 minutes. Restriction fragment were then visualized using electrophoresis with 2% of agarose gel.

RESULTS :

The incidence of SNP among the patients was 43% and their parents were 22%. Allele frequency for AA (wild type homozygus) is 57%, for allele AG (mutant heterozygous) are 43% and no allele frequency for allele GG (mutant homozygous). This SNP presence in three of seven patients with at least one parent had this SNP. The other patients and their parents did not have this SNP.

CONCLUSION :

Based on our preliminary finding, there is possible association of SNP 153, 104 (A G) of RB1 gene to susceptibility of development retinoblastoma in Malay children. Larger sample size and comparison with control group is required.

OBS-21

**DEVELOPMENT OF A NEW TUBERCULOSIS VACCINE:
HOMOLOGOUS PRIME BOOSTING STRATEGY**

Nor Azura M*, Zainul FZ*, Mustaffa M**

***School of Health Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan **Department of Immunology, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan**

PURPOSE :

The aim of the study is to evaluate the immune response elicited by a newly constructed gene (VacII) encoding multiple T cells epitopes of *Mycobacterium tuberculosis* (ESAT6, MPT64, MTP40 and 38 kDa) by prime boosting strategy using different delivery approaches.

METHOD :

BALB/c mice were vaccinated with a DNA vaccine candidate (plasmid DNA encoding VacII gene, pJWVacII) and a carrier vaccine candidate (recombinant *Salmonella* carrying VacII gene designated as STVacII-c) in homologous prime boosting strategies. After vaccination, spleens were harvested and assayed for the expression of intracellular interleukine-2 (IL-2) and interferon gamma (IFN- γ) in CD4+ and CD8+ T-cell subsets by flow cytometry, the proliferation of lymphocytes and the secretion of IFN- γ and IL-4 in the culture supernatant. Serum was also taken for determination of total immunoglobulin G (IgG) by ELISA.

RESULTS :

The results showed that, homologous prime boosting DNA vaccination group had an increased in the secretion of IL-2 and IFN- γ expressed by CD4+ and CD8+ T-cell subsets, the cellular proliferation and IFN- γ production when compared to homologous prime boosting carrier vaccine candidate group. There was no antibody production found in both groups.

CONCLUSION :

This study indicated that the use of *Salmonella typhi* Ty21a as a carrier vaccine in homologous prime boosting strategy did not enhance the immunogenicity of DNA vaccine candidate.

OBS-22

ROLE OF FINE NEEDLE ASPIRATION CYTOLOGY (FNAC) IN THE DETECTION OF MICROFILARIAE: A REPORT OF TWO CASES AND REVIEW OF LITERATURE

S. Sivaselvam

Department of Pathology, Advanced Medical and Dental Institute, Universiti Sains Malaysia, 13200 Kepala Batas, Pulau Pinang, Malaysia

INTRODUCTION :

Filariasis is a major public health problem in developing countries and the diagnosis is conventionally made by demonstrating microfilariae in the peripheral blood smear. However, microfilariae have been incidentally detected in fine needle aspirates of various lesions in clinically unsuspected cases of filariasis with absence of microfilariae in the peripheral blood.

CASE REPORT :

In case 1, a 21-year-old female presented with multiple left axillary lymphadenopathy of 3 months duration. The lymph nodes were firm, non-tender and mobile and the largest node measured 3cm x 2.5cm in size. There was no history of fever or history suggestive of lymphangitis. A clinical diagnosis of tuberculous lymphadenitis or lymphoma was made. In case 2, a 32-year-old female presented with a thyroid nodule of 7 months duration. On examination, she had a solitary nodule arising from the right lobe of thyroid. Clinically, the patient was in euthyroid state and did not give history suggestive of pressure symptoms. A clinical diagnosis of nodular colloid goitre or neoplasm was made. Fine needle aspiration smears from both cases showed sheathed microfilariae of *Wuchereria bancrofti*. But, in both cases microfilariae could not be demonstrated in the peripheral blood smears and the blood eosinophil counts were within normal limits. The histopathologic examination showed neither microfilariae nor adult worm.

CONCLUSION :

The main purpose of this paper is to raise the awareness of students, physicians and cytopathologists of the importance of FNAC in the diagnosis of lymphatic and extralymphatic diseases in bancroftian filariasis so that it is diagnosed and treated properly. These cases illustrate the value of routine FNAC and of careful screening of cytological material which can render definitive diagnosis of early, asymptomatic and clinically unsuspected cases of bancroftian filariasis especially in those with absence of microfilariae in the peripheral blood. Absence of microfilariae in the peripheral blood does not exclude filarial infection.

OBS-23

VALUE OF URINARY ERYTHROCYTE MORPHOLOGY IN THE DIAGNOSIS OF HEMATURIA (GLOMERULAR OR NON-GLOMERULAR) : A PHASE-CONTRAST MICROSCOPIC STUDY

S. Sivaselvam

Department of Pathology, Advanced Medical and Dental Institute, Universiti Sains Malaysia, 13200 Kepala Batas, Pulau Pinang, Malaysia

PURPOSE :

To analyze the value of urinary erythrocyte morphology by phase-contrast microscopy in the diagnosis of hematuria - glomerular or non-glomerular.

METHODS :

Midstream urine samples of second morning urine of 200 patients with hematuria were examined within two hours after voiding, the observer being blinded for the clinical diagnosis. Routine investigations were performed. The diagnoses include, biopsy-proven cases of glomerulonephritis (40), clinically diagnosed cases of glomerulonephritis (104), bladder tumor (16), renal, ureteric and bladder calculus (8), benign hyperplasia of prostate on catheter (4), urinary tract infection(8), hydronephrosis(4), post-renal transplant(8), asymptomatic microhematuria(6) and renal trauma(2). 10ml of the urine samples were centrifuged at 2000 rpm for 5 minutes and the sediment was suspended in 0.5ml of urine. Aliquots of 50µl of the suspension were analyzed. The erythrocyte morphology was assessed by phase-contrast microscope. Atleast 100 erythrocytes were screened in each patient. In each individual the number of erythrocyte(s) of each morphological type was expressed as a percentage of total excreted erythrocytes. In each disease type the mean percentage of respective erythrocyte-type was calculated. Similar urine samples from 50 age-matched subjects were used as control.

RESULT :

Echinocytes were found to be the major dysmorphic erythrocyte-type in both glomerular and non-glomerular hematuria and it could not serve to distinguish between these two. But, in patients with biopsy-proven and clinically diagnosed cases of glomerulonephritis, acanthocytes (erythrocytes with vesicle-shaped protrusions) comprised of 4% of urinary erythrocytes were observed. Whereas, in non-glomerular diseases acanthocytes constituted only 2% of urinary erythrocytes or were absent. Acanthocytes were not observed in the urine samples of healthy control subjects.

CONCLUSION :

Acanthocytes proved to be the most characteristic erythrocyte-type for glomerular hematuria and acanthocyturia of 4% can be used as a marker to detect glomerular hematuria (sensitivity 68% and specificity 93%). Phase-contrast microscopic examination of erythrocytes in urine is a simple, inexpensive and non-invasive technique that reliably distinguishes between glomerular and non-glomerular hematuria.

OBS-24

EFFECTS OF KETAMINE AND ACUTE SWIM STRESS ON C-FOS EXPRESSION IN RAT SPINAL CORD

Idris L*, Asma Hayati A*, Zalina I**

***Department of Physiology, School of Medical Sciences, **School of Health Sciences, USM Health Campus, 16150 Kota Bharu, Kelantan**

INTRODUCTION :

The N-methyl-D-aspartate (NMDA) receptor has been implicated in pain processes especially in central sensitization and persistent nociception. Preemptive administration with low dose of ketamine (non-selective NMDA receptor antagonist) prior to noxious stimulation has been shown to decrease c-fos expression, a specific marker for pain processes in rat spinal cord. Studies also have demonstrated induction of c-fos expression in rat spinal cord due to noxious stimulation and chronic swim stress. The aim of this study was to determine the effects of preemptive administration of ketamine and acute swim stress on Fos-like immunoreactivity (FLI), the protein product of c-fos, in rat spinal cord.

METHODS :

Male Sprague-Dawley rats weighing between 250-300g were divided into four groups consisting of rats pretreated with ketamine and subjected to acute swim stress with formalin injection (n=6) and without formalin injection (n=6), and rats pretreated with ketamine but not subjected to acute swim stress with formalin injection (n=6) and without formalin injection (n=6), respectively. Ketamine (5mg/kg body weight) was administered by intraperitoneal injection. Acute swim stress was performed for 3 minutes in water at 21°C and 50% of 1% formalin was subcutaneously injected into the plantar surface of the right hind paw of the rats. The rats were then sacrificed and the lumbar L4 and L5 segments of spinal cords were removed for c-fos immunohistochemistry. Data were analyzed using one-way ANOVA.

RESULTS :

FLI was significantly higher on both ipsilateral (injected) and contralateral (not injected) sides of the spinal cord in rats pretreated with ketamine and given formalin injection ($p < 0.01$) compared with rats pretreated with ketamine but not given formalin injection regardless of whether they were subjected to acute swim stress or not. In rats pretreated with ketamine given formalin injection, acute swim stress significantly increased FLI in laminae I-II ($p < 0.001$), laminae III-IV ($p < 0.05$) and laminae V-VI ($p < 0.01$) on the ipsilateral and contralateral sides compared with rats not subjected to acute swim stress.

CONCLUSION :

In conclusion, stress alone does not induce FLI expression in rat spinal cord but FLI expression due to noxious stimulation can be modulated by preemptive administration of ketamine and acute stress.

OBS-25

**SCREENING OF CERVICAL CANCER USING FT-IR SPECTROSCOPY,
A NOVEL APPROACH**

Shady GE*, Syed Waliullah S, Rohana***, Nik Muhammad Z*, Nor Hayati O****

****Department of Pathology, *Department of Obstetrics & Gynaecology, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan. **School of Health Sciences, ***School of Chemical sciences, Universiti Sains Malaysia**

PURPOSE :

Infrared spectroscopy of biological cells is a rapidly growing area of research and an emerging method for the study of the difference between the spectra of normal and cancer cells. This difference suggests the occurrence of structural, chemical and metabolic changes associated with cancer formation. We evaluate the use of Fourier transform infrared spectroscopy (FTIR) in detecting cervical cancer and precursor cells as a screening method. The purpose of this study is to determine the infrared spectra of normal and malignant cells and to study the agreement between the results of FT-IR spectroscopy with conventional Pap smear cytology.

METHODS :

Cervical scrapings are taken by the conventional method and placed in thinprep™ medium. The exfoliated cervical cells are dried over infrared transparent matrix (KBr-potassium bromide). By directing a beam of mid-infrared light at the dried cell sample, at frequency from about 4000 to about 400 cm⁻¹, the absorption data are produced. These data are compared with the absorption data for reference set using FTIR spectroscopy software. The reference set has characteristic malignant and pre-malignant (LSIL and HSIL) wave patterns. The results were compared with conventional cytology by light microscopy. Statistical analysis using Kappa test was done.

RESULTS :

A total of 44 samples were examined by FT-IR spectroscopy. In the conventional cytology group, there were 22 normal samples, 7 cases of cervical cancer, 15 cases with Low grade squamous intraepithelial lesion (LSIL). The FTIR spectra for the same showed 21 normal, 5 malignant (cancer) spectrum and 18 samples to be LSIL. The Kappa statistic, 0.586; indicates fair to good agreement between both methods.

CONCLUSION :

This study provides an interesting and new approach to cervical cancer screening. Our findings were almost similar to the previous studies. We found cervical cell samples preserved in methanol and stored in room temperature (instead of frozen samples in normal saline in previous studies) could produce similar results. The advantages of FTIR are that it is rapid, inexpensive, automatable, examines cells in their natural state (no fixation or staining required), and it is not limited by the quality of the slide preparation or subjectivity of the examination under microscope. To the best of our knowledge this is the first study of such in Malaysia.

OBS-26

CARDIAC CHANGES AND THEIR REVERSIBILITY IN RATS MYOCARDIUM AFTER LONG- TERM ADMINISTRATION OF METHAMPHETAMINE IN LOW DOSE

Lai CT, Khan J, Al Jahhami K*, Hasnan J*, Islam MN

School of Health Sciences, *Department of Pathology, School of Medical Sciences, Universiti Sains Malaysia, Kampus Kesihatan, 16150 Kubang Kerian, Kelantan

PURPOSE :

Methamphetamine (MA) abuse has been an increasing occurrence in recent years especially among the young generations due to the easy accessibility, availability and widespread manufacturing. Many previous studies reported that MA abuse could result in damage of the cardiovascular system. This study was performed to determine whether the same changes could also occur in low dose.

METHODS :

A total of 15 rats were administered with MA hydrochloride (0.5 mg/kg) daily for a total of 12 weeks along with placebo and control. Five rats were sacrificed without stopping the drug first; while the other 10 were allowed to undergo a withdrawal period of 2 and 4 weeks respectively before sacrifice. The myocardial tissues were collected and examined histologically.

RESULTS :

Microscopically, the administration of methamphetamine even in low dose could generate morphological alteration such as contraction band necrosis, atrophy, degeneration and disarray of myofibers. As the withdrawal period persisted, a series of reversible morphological changes could be observed.

CONCLUSION :

MA causes damage of the myocardium even at low dose. Stopping MA will reverse some of the changes.

OBS-27

A NATURAL OCCURANCE FROM HYDNOPHYTUM FORMICARIUM KILLS MCF-7 BREAST CANCER CELL LINE THROUGH INDUCTION OF APOTOSIS IN CASPASE-7 DEPENDENT MANNER

Hasmah A, Azimahtol HLP, Judit H* Joseph M**

School of Bioscience and Biotechnology, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Bangi 46500, Selangor, Malaysia *Institute of Pharmacognosy, University of Szeged, Hungary **Institute of Medical Microbiology, University of Szeged, Hungary

PURPOSE :

The chemotherapy of breast cancer has substantially improved during recent decades especially using a variety of anticancer drug derived from plant sources. The biodiversity of Malaysian rainforests provide a possible new avenue for anticancer drug from plant resources. *Hydnophytum formicarium* or Jack fruit is a tropical plant from family of Rubiaceae. Previously we have reported that chlroformic extract from *H. formicarium* exert a multidrug resistance-reversing activity on mouse lymphoma cell line.

METHODS :

In this study, the antiproliferative effect of most active fraction from chloroform extract named 3HFD were observed on human breast cancer cell line MCF-7 with IC_{50} of 9 μ g/ml without any effect on non malignant cells. Then we attempt to further elucidate the mode of action of 3HFD. We found that the intrinsic apoptotic pathway was evoked, with the accumulation of cytosolic cytochrome c and processing of the initiator caspase-9. Cleaved products of procaspase-8 were not detected. Next, the executioner caspase-7 was cleaved and activated in response to 3HFD treatment.

RESULTS :

The involvement of caspase-7 activation in apoptosis induction was confirmed by application of caspase inhibitor Ac-DEVD-CHO. Pre-incubation of cells with the inhibitor reversed apoptosis levels and caspase-7 activity in 3HFD-treated cells to untreated levels.

CONCLUSION :

As a conclusion, the natural occurring active agent 3HFD from *H. formicarium* able to reduce the MCF-7 cells volume by inducing apoptosis in caspase-7 dependent manner.

OBS-28

A PILOT STUDY ON SENSITIVITY AND SPECIFICITY OF QUANTIFERON-TB GOLD TEST ON NEWLY DIAGNOSED MYCOBACTERIUM TUBERCULOSIS INFECTION IN KELANTANESE POPULATION

Azreen Syaril A*, Mustaffa M**, Syed Hatim N***

*Department of Internal Medicine, **Department of Immunology, *** Biostatistic Unit, School Of Medical Sciences University Science Malaysia, Health Campus, 16150 Kubang Kerian Kelantan

PURPOSE :

This study was carried out to compare between QuantiFERON-TB GOLD test and sputum culture for the detection of active *Mycobacterium tuberculosis* infection.

METHOD :

Twenty four suspected active tuberculosis infected patients enrolled in this pilot cross sectional study and each patient was required to provide sputum and 5 mls of blood. The T-cells from the patient's serum were stimulated in-vitro with antigens specific for *M tuberculosis* (ESAT -6 and CFP-10). Hence, interferon gamma, (a cytokine that is released during tuberculosis infection) was detected after the in-vitro stimulation and using the QuantiFERON-TB GOLD kit, the level was quantified via ELISA method. It was analyzed using a computer software provided by the Cellestis (Manufacturer of QuantiFERON-TB GOLD test). Sputum samples were obtained from similar patients and cultured for *M tuberculosis*.

RESULT :

QuantiFERON-TB GOLD assay is 94.7 % sensitive and 80% specific, positive and negative predicitive values of 94% and 80%. While the likelihood ratios were 4.73 for positive cases and 16.7 for negative cases for *M tuberculosis* infection. Our study suggests that QuantiFERON-TB GOLD assay is a useful diagnostic kit for diagnosis of active tuberculosis infection in our country which is endemic for *M tuberculosis* infection and in which most of the population had been vaccinated with BCG.

CONCLUSION :

This study provides evidence that QuantiFERON-TB GOLD assay is a rapid diagnostic tool kit in diagnosing new tuberculosis cases. It serves as a useful supporting diagnostic instrument to the clinician for fast and accurate result.

OBS-29

THE CYTOTOXICITY EFFECT OF HYDROXYAPATITE ON HUMAN OSTEOBLAST PROLIFERATION IN-VITRO

Lau HY*, Samsudin AR, Sosroseno W**, Salim R***

***School of Medical Sciences, **School of Dental Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan**

PURPOSE :

Hydroxyapatite (HA) is known as a ceramic material which is widely used for orthopaedic and dental implants. Previous reports have shown that HA augments bone formation both in vitro and in vivo. The objective of this study is to determine whether HA induces human osteoblast cell proliferation higher than untreated osteoblast and further study will be conducted to study the effect of coated HA on human osteoblast in-vitro.

METHOD :

The viable osteoblast cell were count and place in the microplate at 5×10^4 cells per well. Hydroxyapatite bead of various weight, 1mg to 5mg were place in the well and incubated for 4, 24, 48, 72 and 120 hours. The measurement of viable cells colorimetrically were using MTT (3-[4,5-dimethyl-2-thiazolyl]-2,5-diphenyl tetrazolium bromide) assay

RESULT :

The results shows the concentration of 2mg and incubation period of 24 hours give the highest percent of cell viability at 140% compared to other settings. This result will be an optimum settings for the study of Interleukin-18-coated HA on human osteoblast proliferation.

CONCLUSIONS :

The reported results provide some examples of how artificial materials can modify the functions of the cells. Therefore, in a testing protocol for medical devices, the effects on cell functions have to be analyzed, by means of established lines or primary cultures, according to the function to be explored and the clinical application the device is intended for. The evaluation of cell/biomaterial interactions through cell culture methods can be correlated to the data derived from histological, microbiological and blood testing, in order to get a detailed picture of the biological performance of the material. The comparison of in vitro data with in vivo findings leads to clarify what is occurring around an implanted material. This study will be the basis for biocompatibility of Interleukin-18-coated hydroxyapatite on proliferation of human osteoblast in-vitro.

OBS-30

THE POSSIBLE ASSOCIATION OF SINGLE NUCLEOTIDE POLYMORPHISM (SNP) AT 153,104 OF RB1 GENE WITH LATERALITY AND STAGING OF RETINOBLASTOMA : A PRELIMINARY REPORT

Nur Shafawati AR, Hoh BP*, Hanani AY*, Liza Sharmini AT**, Zilfalil BA *

School of Health Sciences; Universiti Sains Malaysia, 16150 Kubang Kerian, Kota Bharu, Kelantan. *Human Genome Center and **Department of Ophthalmology, School of Medical Science, Universiti Sains Malaysia, 16150 Kubang Kerian, Kota Bharu, Kelantan.

PURPOSE :

To determine the associate of A to G single nucleotide polymorphism (SNP) in exon 19 of Rb1 gene with laterality and staging of retinoblastoma. This SNP was found exclusively among Asians.

METHODOLOGY :

Seven (8 eyes) confirmed cases of retinoblastoma based on either clinically or histologically were included in this preliminary study. The intial clinical presentation, which include laterality and staging were obtained. The staging was based on Reese-Ellsworth and TNM classification. 5cc of venous blood were obtained. DNA was extracted using QIAamp DNA Blood Mini kit (Qiagen®, USA). PCR amplification of the exon 19 of Rb1 gene was performed and the PCR amplicon was digested with *Tsp5091* restriction enzyme for rapid genotyping of the Rb1 SNP and followed with gel electrophoresis.

RESULT :

6 cases were unilateral; only one case of bilateral involvement was included in this preliminary report. There was no statistically significant association between laterality and A> G SNP at 153,104 of Rb1 gene ($p=0.43$). There was also no significant association between this exclusive SNP with both RE and TNM classification ($p=0.58$).

CONCLUSION :

There was no significant association between laterality and staging with SNP at nucleotide 153,104 of the Rb1 gene based on our preliminary report. Perhaps, larger sample size will provide us with more conclusive evidence of the possible association of this SNP with retinoblastoma.

OBS-31

PAP SMEAR COVERAGE IN MALAYSIA, AN 11 YEAR STUDY FROM 1993 TO 2003 – IS THE SCREENING STRATEGY EFFECTIVE?

Nor Hayati O, Halimah Y, Mymoon A***, Majdah M***, Narimah A*****

Department of Pathology, School Of Medical Sciences, University Science Malaysia, 16150 Kubang Kerian Kelantan. **Department of Pathology, Hospital Kuala Lumpur, *Family Health Development Division, Ministry of Health Malaysia.**

PURPOSE :

Pap smear screening in Malaysia started in the early 70s. The aim of this study is to determine In an 11-year period from 1993 to 2003, a total of 3,329,388 pap smears were done in various states of Malaysia.

METHODS :

A review of the records of the pap smear performed in various states in Malaysia was documented.

RESULTS :

There is an increasing trend of the number of pap smears taken over the years; however the number of smears for all states did not reach 400,000 per each year. The peak age of the women who had the pap smears done on them was consistently in the region of 30-39 years (between 33 to 39%) of age. The peak age of cervical cancer in Malaysia in the 2002 and 2003 National Cancer Registry was 60-69 years of age. Pap smear coverage among this age group over the 11 year period was between 0.8 to 2.9%. There is an increasing trend of positive pick-up rate (ranging from Low Grade Surface Epithelial Lesion to overt malignancy) from 0.11% in 1994 to 1.1% in 2003. This is still low compared to the prevalence of cervical cancer. The highest abnormality seen consistently from 2000 to 2003 was LSIL (29-43.3%) and the pick-rate for cancer ranged from 2.3 to 7.29%) in the same period. When analysed according to age group, the positive cancer cases were seen in none below 20 years, 0.4% between 20-29 years, 1.4% between 30-39 years, 1.5% between 40-49 years, 1.7% between 50-59 years, 1.0% between 60-65 years and 0.8% above 65 of age. These findings are not parallel to the prevalence of this cancer according to the age group.

CONCLUSION :

This study speculates that the strategy of pap smear screening in the country is not strategic. In the majority of smears seen in all states, except for the state of Kedah and Sarawak, the percentage of unsatisfactory smears was below the acceptable level of 5%.

OBS-32

PRODUCTION OF HIGH QUALITY POLYCLONAL ANTIBODY TO HPV 18 E6 PROTEIN

Venugopal B, Shaharum S.*, Nor Hayati O.

School of Medical Sciences, *School of Health Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan

PURPOSE :

Human Papillomaviruses (HPVs), a large family of small double stranded DNA viruses infects squamous epithelia of skin including anal and perianal area and mucous epithelia of larynx and genital tract. HPV infection has been implicated in the etiology of cervical cancer and more than 90% of cervical cancers contain HPV DNA. HPV 16 and 18, represent 58% and 12% in prevalence of cervical cancer, respectively. The viral DNA which integrates into the genome of cancer cells is truncated to various degrees. However, E6 and E7 open reading frame are consistently retained and expressed as mRNA or protein. E6 complexed with E6AP targets the p53 tumor suppressor protein for proteasome degradation.

METHODS :

The hydrophobic region of the HPV 18 E6 protein was determined using protein analysis software. Truncated region of HPV 18 E6 gene which consists of 135bp was amplified by PCR and sub-cloned into intermediate cloning vector pCR TOPO 2.1. The amplified gene was further sub-cloned into modified pET16b expression vector and the orientation was confirmed via sequencing. The recombinant plasmid was then transformed into *E. coli* strain BL-21 (DE3) and expressed as suggested by the manufacturer. Further confirmation of the targeted protein was then carried out via Western Blotting using α -Histag monoclonal antibody. The protein was then subjected to Immuno-Metal Affinity Chromatography (IMAC) for purification. The purified protein was then extensively dialyzed. Polyclonal antiserum was produced by repeated immunization of two female New Zealand White rabbits.

RESULTS :

The HPV 18 E6 truncated protein was seen to migrate anomalously at approximately 15 KDa in combined 12.5/15% gradient SDS-PAGE. The theoretical size of normal HPV-18 E6 protein was 18KDa and the respective truncated region theoretically having a size of 5 kDa. The anomalous migration may be due to the unusual electrophoretic behavior of the protein. The serum that has been collected from the rabbit showed positive reactivity against bacterially expressed recombinant protein as well as the human cervical cancer cell line (HeLa cells), and none was detected in normal cell (293T).

CONCLUSION :

This result confirms the produce antibody is specific and can be use as a HPV18 E6 protein detection agent by western blotting or immunohistochemistry.