4th Malaysia Indonesia Brunei Medical Science Conference

MEDICAL RESEARCH IN THE 'OMICS' ERA

Wed: 23rd July 2008

1530-1730: Registration

Thur: 24th July 2008 (Day 1)

7:30	**Registration**	
8:45	Opening Ceremony Opening Speeches by: **Chairperson of Organizing Committee** **Vice Chancellor of UKM** **Minister of Higher Education**	
9:45	Morning Tea/poster exhibition	
10:15	**Keynote Lecture – Tissue Engineering Technology Promises Regenerative Medical Therapy - Prof Ruszymah (Malaysia)**	
11:15	**Plenary 1 – Islamic Input into the Medical Curriculum: Malaysia, Indonesia and Brunei Darussalam Experience-Prof Omar Hasan Kasule (Brunei)**	
12:00	Lunch Symposium 1 & 2	
13:00	Poster exhibition	
13:45	**Symposium 1 (Metabolic Disease)** **Chair: Assoc. Prof Oteh**	**Symposium 2 (Oncology)** **Chair: Dr Ani Chairani**
	Speaker 1 - Diabetes, what's new? **Dr Haslinda (B)**	Speaker 1 - Nanotechnology in oncology: A new horizon **Dr Haji Muhd Syafiq(B)**
	Speaker 2 - Obesity-from guidelines to practice - **Prof Nor Azmi Kamaruddin(M)**	Speaker 2 - Clinical application of biological markers in breast cancer - **Dr Azrif (M)**
	Speaker 3 - Dominant risk factors related to hypertension - **Prof Dede Kusuma(I)**	Speaker 3 - Targeted therapy in childhood leukemia - **Dr Endang Windiastuti (I)**
14:45	**Free paper 1 (Metabolic Disease)** **Chair: Dr Suehazlyn**	**Free paper 2 (Oncology)** **Chair: Assoc Prof Hamidah**
15:45	Tea/ poster exhibition	
16:00	**Free paper 3 (Minimally invasive surgery and surgical procedure)** **Chair: Assoc Prof Ismail**	**Free paper 4 (Stem cells and genetic approach)** **Chair: Prof Yasmin Anum**
17:00	**COLLABORATION MEETING**	
18:00	Free & easy	

Fri: 25th July 2008 (Day 2)

8:45	**Plenary 2 – Women health – From womb to tomb – Prof Emeritus Dr Nafisah Adeeb (Malaysia)**	
9:30	**Symposium 3 (Women and paediatric health)** **Chair: Dr. Yoga Yuniadi**	**Symposium 4 (Community med & occupational & mental health)** **Chair: Dr. Nurolaini**
	Speaker 1 - The ethical issues surrounding infertility and surrogacy - **Dr Anita Pehin Abdul Aziz (B)**	Speaker 1 - Understanding a Child's Emotional and Social Needs and Obstacles to Quality Care - **Assoc. Prof Aili Hashim (M)**
	Speaker 2 - Profile of Tetralogy Fallot in Indonesia . **Prof. Ganesja Harimurti(I)**	Speaker 2- Study of the knowledge and attitudes of pap smear test in Brunei Darussalam - **Dr Roselina DP Haji Yaakub (B)**
	Speaker 3 - Advances in the management of childhood asthma - **Dr Norzila (M)**	Speaker 3 - Social Security Net on Public Health. - **Dr Dhanasari Vidiawati (I)**
10:30	Morning Tea/poster exhibition	
11:00	**Free paper 5 (Women and paediatric health)** **Chair: Assoc. Prof Nor Azlin**	**Free paper 6 (Community med & occupational & mental health)** **Chair: Dr Zaw Wint**
12:00	Lunch Symposium 3&4	
13:00	Friday Prayer/Poster exhibition	
14:45	**Symposium 5 (Critical care)** **Chair: Dr Anita Pehin Aziz Brunei**	**Symposium 6 (Health profession education & research development)** **Chair: Prof Bastaman Basuki**
	Speaker 1 - Acute kidney injury: Challenges and current management - **Dr Abd Halim(M)**	Speaker 1 - Medical and Health Education in Brunei Darussalam - **Dr Mas Rina Wati (B)**
	Speaker 2 - New approach in management of septic shock -**Dr Ahmad Yazid, RIPAS Hospital (B)**	Speaker 2 - The role of health profession in control of infectious diseases in SEA. **Dr Tjandra Yoga Aditama (I)**
	Speaker 3 - The on-going battle for multi-drugs resistant - **Dr Mardiastuti (I)**	Speaker 3 - Implementation of Case-Mix System: The Asian Experience - **Dr Syed Aljunid**
15:45	**Tea/ poster exhibition**	
16:45	**Free paper 7(Critical care)** **Chair: Dr Mardiastuti**	**Free paper 8(Health profession education & research development)** **Chair: Dr Mas Rina Wati**
20:00	*Conference dinner* Speeches by Deans from **PPUKM,** **Faculty of Medicine Universitas Indonesia,** **Institute of Medicine Universiti Brunei Darussalam,** **UNU-IIGH.**	

Sat: 26th July 2008 (Day 3)

8:45	**Plenary 3 - Evidence based complementary & alternative medicine . Rianto Setiabudi (Indonesia)**		
9.30	**Plenary 4 - Sustainable Global Health; Threats and Challenges - Tan Sri Dato' Dr Mohamed Salleh (UNU-IIGH)**		
10:15	**Special Research Collaboration Presentation Chair: Prof. Noor Hasim Ismail (UKM)**	**Symposium 7 (Minimally invasive surgery & surgical procedure) Chair: Prof Jasmi**	**Symposium 8 (Stem cells and genetic approach) Chair: Prof Fadilah**
	Presenter 1 The Development of Capacity in Research for Avian and Influenza Vaccine and Diagnostic at Universitas Indonesia **(Dr Budiman Bela – Ind)** **Presenter 2** Construction of a Recombinant Plasmid for in Vitro Transcription of H5 Avian Influenza Virus Synthetic RNA **(Dr. Fera Ibrahim - Ind)**	Speaker 1 - Off pump CABG at Harapan Kita Cardiac Hospital - **Dr Maizul Anwar (I)**	Speaker 1 - Updates on the stem cells therapy - **Dr RWM Kaligis** (I)
	Presenter 3 Proven CVD Risks: lessons learned from Indonesia CVD collaboration study What next? **(Prof. Dede Kusmana - Ind)**	Speaker 2 - Preservation of the Cochlear Hair Cells in Cochlear Implantation - **Dato' Prof Lokman** (M)	Speaker 2 - Stem cells in cardiac surgery - is there any role? - **Dr Isham Jaafar** (B)
	Presenter 4 Proven CVD Risks: lessons learned from Malaysia CVD collaboration study What next? **(Ass Prof. Khalib - Mal)**	Speaker 3 - Laparoscopic management of Pancreatic Neuroendocrine Tumors - **Dr Kenneth Kok** (B)	Speaker 3 - Personalized Medicine - **Assoc. Pr Dr Roslan Harun** (M)
11:45	Morning Tea		
12:15	Prize giving/Closing Ceremony		

FREE PAPERS LIST

ORAL PRESENTATIONS 4TH MIB

	THURSDAY 24TH JULY	
1445	**Free paper 1 (Metabolic Disease)**	**Free paper 2 (Oncology)**
	Speaker 1 Decreased Plasma Glucose and LDL Concentration Following Cardiac Rehabilitation **Divyen (B)**	**Speaker 1** Correlation Between VEGF Expression and Clinicopathologic Staging as a Prognostic Factor in Oral Squamous Cell Carcinoma **Diah Rini Handjari (I)**
	Speaker 2 Insulin resistace among sibling of type2 DM. **Dyah Purnamasari (I)**	**Speaker 2** Cervical Cancer burden in Brunei Darussalam **Dr Roselina DP Haji Yaakub (B)**
	Speaker 3 Effects of Obat Assam Urat on Blood Glucose levels in the roden **Dr Madeeha Abdul Samad *et al* (B)**	**Speaker 3** Rt *in situ* pcr expression patterns of retinoblastoma gene in different breast cancer stages **Mohammadreza Zamanian (M)**
	Speaker 4 Sexual dysfunction in type 2 DM patients. **Rudi Putranto (I)**	**Speaker 4** The effects of gamma-tocotrienol (gtt) treatment on protein expression dynamics in hepg2 cancer cell line **Farahani Abd Rahman Sazli (M)**
	Speaker 5 Apoptosis changes in stress-induced premature senescence (sips) model of human skin fibroblasts **Norhazira Abdul Rahim (M)**	**Speaker 5** Antiproliferative properties of *pereskia bleo, pereskia grandifolia* and *polygonum odoratum* against selected cancer cell lines **Asmah Rahmat (M)**
		Speaker 6 Cervix cytomorphological changes in various type of HPV infection. **Lisnawati (I)**
1600	**Free paper 3 (Minimally invasive surgery and surgical procedure)**	**Free paper 4 (Stem cells and genetic approach)**
	Speaker 1 Endoscopic vein harvesting at Harapan Kita Cardiac Hospital **Maizul Anwar (I)**	**Speaker 1** Polymorphism of FSH receptor in Indonesian women undergoing assisted reproduction. **Dwi Anita S (I)**

	Speaker 2. Risk factors and incidence of contrast induced nephropathy following coronary intervention **Yoga Yuniadi (I)**	**Speaker 2** The small interfering RNA a to NS5 target gene suppresses dengue virus growth in human endothelial cells. **Beti Ernawati D (I)**
	Speaker 3 The efficacy of topical mitomycin c in prevention of adhesion formation post endoscopic sinus surgery. A pilot study **Mohd Razif Mohamad Yunus (M)**	**Speaker 3** Identification of host genes involved in the transmission of BSE to rats **Oduola *et al* (B)**
	Speaker 4 Minimally Invasive Surgery: Endoscopic Vein Harvesting For Coronary Artery Bypass Grafting **Ahmad F Musa (M)**	**Speaker 4** High density culture of human lipoaspirate stem cells in chondrogenic medium permit large neo-cartilage formation *in vitro* **Adila a. Hamid (M)**
	SPEAKER 5 Biomechanical study of HUKM designed pedicle screw pull-out strength **N. Azwa (M)**	**Speaker** 5 Host adaptation and interspecies transmission of prion diseases **Oduola *et al* (B)**
		Speaker 6 Depletion of stemness genes expression in initial passage of chorionic villi cells isolated from human term placenta **Mmn Fariha(M)**
	FRIDAY 25TH JULY	
1100	**Free paper 5 (Women and paediatric health)**	**Free paper 6 (Community med & occupational & mental health)**
	Speaker 1 Fetal Programming: The Effect of Maternal Under Nutrition on the Development of the Hypothalamus and Thymus in the Foetus **Siti Rohaiza Ahmad (B)**	**Speaker 1** Time series analysis in Heath Care Planning **Ayub (B)**
	Speaker 2. Contributing factors related to near-miss and maternal death **Didi Danukusumo (I)**	**Speaker 2** Prevalence, Perceptions, Attitudes, Knowledge and Practices on the use of traditional medicine among Bruneians - Results from the interim analysis **DK Nurolaini PHM Kifli (B)**

	Speaker 3. The placental MDA and HSP70 levels in preeclapmtic patients. **Sri Bekti Subakir (I)**	**Speaker 3** Nasal septal deviation and other factors increase the risk of barotitis media among HAHO military jumpers **Hari Haksono (I)**
	Speaker 4 Pre-implantation genetic diagnosis for β-thalassemia by single cell pcr **Noor Wahidah Mohd Nasri (M)**	**Speaker 4** Grief, death anxiety and depression among HIV/AIDS sufferers: a comparsion study between the prisoners and the public **Normah Che Din (M)**
	Speaker 5 Correlation between vitamin D and quadriceps femoris muscle strength in elderly female by **Ikhwan Rinaldi (I)**	**Speaker 5** Speaker 5 Contribute factors related to mental health disorder and the management at Samosir island, North Sumatera, Indonesia. **Kristiana Siste (I)**
		Speaker 6 Quality of Life of Cervical Cancer Pts in Malaysia **Sharifa Ezat Alkaff (M)**
1645	**Free paper 7** **(Critical care & infections)**	**Free paper 8 (Health profession education & research development)**
	Speaker 1 Antibiotic usage in intensive care unit in RSCM, Jakarta. **Zunilda (I)**	**Speaker 1** Prevalence and risk factors of decompression disorders in moroami diver fishermen in Kepulauan Seribu Jakarta **Setyawati Budiningsih (I)**
	Speaker 2 The role of Quorum Sensing in Bacterial infections. **Dr Siti Hanna Muharram (B)**	**Speaker 2.** Program testing: the evaluation of the first three batches of students from the new curriculum. **Diantha Soemantri (I)**
	Speaker 3 The efficacy of palm vitamin e in treatment of osteoarthritis of the knee **Dr Nor Hazla Mohamed Haflah/ Masbah Omar (M)**	**Speaker 3** Interprofessional Education - What's new? **Dr Oduola Abiola (B)**
	Speaker 4 Detection of h5n1 avian influenza a	**Speaker 4** Usage of e-library in Faculty Medicine

	virus by a one-step multiplex reverse transcriptase polymerase chain reaction (RT-PCR) assay **Fera Ibrahim (i)**	of Universitas Indonesia **Dr Boy Sabarguna (I)**
	Speaker 5 Chromagar *candida*, medium for isolation and identification of *candida* species from clinical specimens **Mulyati (I)**	**Speaker 5** Use of simulation in medical education: a cross sectional survey on staff and medical students **Zaw Wint (B)**
		Speaker 6 Application of Structural Equation Modeling (SEM) in Health Research. **Ayub (B)**

FREE PAPERS LIST

POSTER PRESENTATIONS 4TH MIB

NO	PRESENTER	TITLE
	Group 1	
F1G1	ABDUL MURAD MN	LABORATORY EVALUATIONS OF MUCOPOLYSACCHARIDOSES: A CASE REPORT
F1G2	ABDUS SALAM	EFFECTIVENESS OF PROBLEM-BASED LEARNING IN UNDERGRADUATE MEDICAL EDUCATION: A CASE STUDY
F1G3	SHAHIRAH MD RASID	QUALITY OF LIFE AMONG ADULT DIABETES MELLITUS PATIENTS IN UNIVERSITI KEBANGSAAN MALAYSIA MEDICAL CENTRE
F1G4	NORASYIKIN AW	AUTOIMMUNE POLYGLANDULAR TYPE III: A CASE REPORT
F1G5	NORASYIKIN AW	BILATERAL ADRENAL HISTOPLASMOSIS: A CASE REPORT
F1G6	SUBASHINI CT	A RARE CAUSE OF HYPOKALEMIA
F1G7	SITI YAZMIN	A RARE CAUSE OF HYPERTENSION
F1G8	TEOH SEONG LIN	EFFECT OF TOPICAL MOMORDICA CHARANTIA (BITTER GOURD) EXTRACT IN STREPTOZOTOCIN-INDUCED DIABETIC RATS
F1G9	NORMAH CHE DIN	NEUROPSYCHOLOGICAL PROFILES OF EPILEPSY PATIENTS REFERRED FOR PRESURGICAL EVALUATION
F1G10	MUSALMAH M	MODULATION OF GLUCOSE UPTAKE IN L6-MYOUTUBE CELLS BY HYDROGEN PEROXIDE
F1G11	SEIT MEI CHIEN (B)	PREVALENCE OF RISK FACTORS FOR CHRONIC DISEASES AMONG NURSES AND MEDICAL DOCTORS IN R.I.P.A.S HOSPITAL, BRUNEI DARUSSALAM
F1G12	AZALINA ZAINUDDIN	Γ-TOCOTRIENOL MODULATED CELL CYCLE OF PRIMARY HUMAN SKIN FIBROBLAST CELLS
F1G13	YASMIN ANUM	EFFECTS OF GINGER EXTRACT (ZINGIBER OFFICINALE ROSCOE) ON APOPTOTIC PROTEIN EXPRESSION IN HEPATOCARCINOMA INDUCED RATS
F1G14	NUR SYAHRINA R	PRIMARY PERITONEAL CARCINOMA : A CASE REPORT

F1G15	NAGARAJA H S	4', 5', 7-TRIHYDROXYFLAVONE REDUCES CYCLOSPORINE-A INDUCED CHANGES IN LIPID HYDROPEROXIDES AND TOTAL ANTIOXIDANTS IN RATS
F1G16	HO SIEW ENG	KNOWLEDGE ON FEVER MANAGEMENT AMONG NURSES AT HOSPITAL UNIVERSITY KEBANGSAAN MALAYSIA (HUKM)
F1G17	AR HAYATI	DEFINING STATUS OF STEM CELLS-ASSOCIATED GENES IN UMBILICAL CORD MATRIX-DERIVED STEM CELLS AFTER SERIAL-PASSAGE
F1G18	ANIS KARUNIAWATI (I)	ETIOLOGY OF URINARY TRACT INFECTION AND THEIR SUSCEPTIBILITY PATTERN
F1G19	ANIS KARUNIAWATI (I)	QUANTITATIVE EXAMINATION OF MICROBIAL AEROSOL IN DIFFERENT OPERATING THEATERS IN JAKARTA
F1G20	KUNTJORO HARIMURTI (I)	THE USE OF MINI NUTRITIONAL ASSESSMENT AND ITS CORRELATION WITH SERUM ALBUMIN LEVEL IN INDONESIAN HOSPITALIZED ELDERLY PATIENTS (A PRELIMINARY STUDY)
F1G21	KUNTJORO HARIMURTI (I)	THE RELATIONSHIP BETWEEN INITIAL C-REACTIVE PROTEIN LEVELS AND DECREASING OF ALBUMIN LEVELS DURING HOSPITALIZATION IN ELDERLY PATIENT WITH COMMUNITY-ACQUIRED PNEUMONIA
F1G22	BETI ERNAWATI DEWI (I)	SEQUENCE ANALYSIS OF THE ENVELOPE GENES OF DENGUE VIRUSES TYPE 1, 2, AND 3 AND NS-1 GENE OF DENGUE VIRUS TYPE 3 ISOLATED IN JAKARTA
F1G23	FATHIYAH ISBANIAH (I)	EFFECTIVITY OF ECHINACEA PURPUREA IN EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS
F1G24	HENDRI ASTUTY (I)	ACANTHAMOEBA SPP. CASES IN KERATITIS PATIENS IN JAKARTA
F1G25	NATALIA WIDIASIH RAHARJANTI (I)	DURATION OF UNTREATED PSYCHOTIC IN JAKARTA AND BOGOR, INDONESIA
F1G26	PURWITA WL(I)	CORRELATION BETWEEN VITAMIN D CONCENTRATION AND BASIC FUNCTIONAL MOBILITY IN ELDERLY WOMEN

F1G27	DEWI SUKMAWATI (I)	CORRELATION OF GROUP DISCUSSION WITH WRITTEN TEST PERFORMANCE ON PROBLEM-BASED LEARNING: A STUDY IN NEUROPSYCHIATRY MODULE)
F1G28	FEMMY NURUL AKBAR (I)	RISK FACTORS OF ANEMIA IN CHRONIC HEPATITIS C PATIENTS TREATED BY INTERFERON ALPHA AND RIBAVIRIN COMBINATION THERAPY
F1G29	T. MIRAWATI SUDIRO (I)	CLONING AND EXPRESSION OF DENGUE VIRUS TYPE 2 NS-1 PROTEIN FOR DEVELOPMENT OF DIAGNOSTIC OF DENGUE HAEMORRHAGIC FEVER
F1G30	PURNOMO SOEHARSO (I)	DC-SIGN1 (CD209) PROMOTER GENE POLYMORPHISMS IN THE PATHOGENESIS OF DENGUE DISEASES IN INDONESIA
F1G31	RIDHAWATI SJAM (I)	CRYPTOCOCCOSIS AMONG AIDS PATIENTS WITH CENTRAL NERVOUS SYSTEM INVOLVEMENT
F1G32	SUEHAZLYN Z	HYPOGLYCAEMIA UNAWARENESS IN INSULINOMA
F1G33	FARIHAH HS	PLASTINATION, A USEFUL TOOL IN TEACHING GROSS HUMAN ANATOMY IN THE UKM MEDICAL CURRICULUM
F1G34	T NOR RAFEAH	HLA-A, -B, -CW, -DR AND –DQ ALLELLE FREQUENCIES IN SIBLINGS SCREENED FOR ALLOGENEIC STEM CELL TRANSPLANT IN UKM MEDICAL CENTRE
F1G35	FATMA S.A. SAGHIR	MICROARRAY PROFILING OF ENDOMETRIAL CARCINOMA IN MALAYSIAN POPULATION – AN EARLY FINDING.
F1G36	TAN GEOK CHIN	UTILITY OF P53 AND KI-67 IN DISTINGUISHING CERVICAL INTRAEPITHELIAL NEOPLASIA 3 AND SQUAMOUS CELL CARCINOMA OF THE CERVIX
F1G37	T NOR RAFEAH	HLA-A, B, CW, DR AND DQ ALLELLE FREQUENCIES IN POTENTIAL DONORS OF PATIENTS REFERRED FOR ALLOGENEIC STEM CELL TRANSPLANTATION IN UKM MEDICAL CENTRE
F1G38	MJ NURSYAMSYIAH	PROLIFERATIVE ACTIVITY OF *CHANNA STRIATUS* (HARUAN) EXTRACTS ON MESENCHYMAL STEM CELLS
NO	**PRESENTER**	**TITLE**
	GROUP 2	
F2G1	M. ISWADI ISMAIL	EVALUATION OF CALCIUM ION WITHIN LIVE BOER BUCK SPERM USING CONFOCAL LASER SCANNING

		MICROSCOPE (CLSM): A PRELIMINARY STUDY
F2G2	NOR AZLIN MOHAMED ISMAIL	EFFICACY OF MONOTHERAPY INSULIN (INSULATARD) IN GLYCAEMIC CONTROL IN WOMEN WITH DIABETES MELLITUS IN PREGNANCY DURING RAMADAN
F2G3	NOR AZLIN MOHAMED ISMAIL	MATERNAL OBESITY AND PREGNANCY OUTCOMES
F2G4	MARINA MB	UNILATERAL VOCAL CORD PALSY; CAUSES, TREATMENT AND OUTCOME.
F2G5	MAZITA AMI	MANAGEMENT OF MASTOID ABSCESS IN PUSAT PERUBATAN UNIVERSITI KEBANGSAAN MALAYSIA, A TERTIARY REFERRAL CENTRE.
F2G6	MAZITA AMI	THE EFFERENT AUDITORY PATHWAY IN TINNITUS
F2G7	N AZIMAH M	DO WE NEED DIETICIAN IN DIABETIC CARE?
F2G8	TAHEREH SHAFIEIAN	YOUNG CHILD FEEDING PRACTICES AND CHILD NUTRITIONAL STATUS
F2G9	INTAN S	DIAGNOSIS OF TYROSINEMIA TYPE 1: 10 YEARS LATER
F2G10	HANISAH AH	A CASE OF EARLY ONSET OF ARGININOSUCCINIC ACIDURIA
F2G11	PARISA PARSA	KNOWLEDGE, BELIEFS, BARRIERS AND PRACTICES TOWARDS BREAST CANCER SCREENING AMONG WOMEN TEACHERS IN SELANGOR, MALAYSIA.
F2G12	SHAMSUL AZHAR	A CASE-CONTROL STUDY ON THE ASSOCIATION BETWEEN ENVIRONMENTAL FACTORS AND THE OCCURRENCE OF ACUTE LEUKAEMIA AMONG CHILDREN IN KELANG VALLEY: A SPATIAL ANALYSIS
F2G13	TIN TIN SU	ESTIMATION OF DETERMINANTS OF HOUSEHOLD HEALTH EXPENDITURE ON PUBLIC INSTITUTIONS BY CONTROLLING SELF SELECTION OF PROVIDERS
F2G14	MR ELVY SUHANA	INDUCTION OF OSTEOPOROSIS WITH INTRAMUSCULAR INJECTION OF DEXAMETHASONE : A PILOT STUDY.
F2G15	SAADAT PARHIZKAR	COMPARING DIFFERENT INCISION TECHNIQUES FOR OVARIECTOMY OF RATS
F2G16	RADZNIWAN R	BREASTFEEDING PRACTICES AND KNOWLEDGE AMONG MOTHERS IN KLINIK KESIHATAN IBU DAN

		ANAK CHERAS BARU
F2G17	IRENE NOR LIEW (B)	PERCEPTION OF CARE PROVIDERS ON CONVERSION DISORDER IN BRUNEI DARUSSALAM
F2G18	MUHD NAJIB ADIB HJ MUHD NAIBI (B)	INVESTIGATION OF POSTOPERATIVE NAUSEA AND VOMITING INCIDENCE IN BRUNEI
F2G19	ISRAA M.SULAIMAN	THE HISTOLOGICAL, STATISTICAL AND HORMONAL AFFECT ON ADULT UNCOUPLED RATS AND MICE OVARIES WITH FENUGREEK OIL
F2G20	J AHMAD	PROCALCITONIN IN ORTHOPAEDIC IMPLANT INFECTION
F2G21	ZARNI AMRI (I)	VOICE DISORDER AND ASSOCIATION FACTORS AMONG SEVERAL CALL CENTRE WORKERS COMPANY IN JAKARTA
F2G22	ANNA ROZALIYANI (I)	SUSCEPTIBILITY PATTERN OF CANDIDA SPP ISOLATED FROM NEONATES WITH SYSTEMIC CANDIDOSIS AGAINST SOME AZOLE DERIVATIVES
F2G23	I SAGAP	A PROSPECTIVE OBSERVATIONAL STUDY OF PAIN FOLLOWING STAPLED HAEMORRHODOPEXY
F2G24	HARLINA H.SIRAJ	ASSOCIATION BETWEEN MATERNAL HAIR NICOTINE LEVELS AND PREGNANCY OUTCOMES AMONG MALAYSIAN MOTHERS
F2G25	CHEN CD	OBSERVATIONS ON THE SIGNAL FLY, *SCHOLASTES* SP. (LOEW, 1873) (DIPTERA: PLATYSTOMATIDAE) VISITING ANIMAL CARCASSES IN MALAYSIA
F2G26	CHEN CD	LABORATORY STUDY ON THE EFFICACY OF GEL BAITS CONTAINING IMIDACLOPRID AND HYDRAMETHYLNON AGAINST AMERICAN COCKROACH, *PERIPLANETA AMERICANA* (LINNAEUS, 1758)
F2G27	CHEN CD	ANTS (HYMENOPTERA: FORMICIDAE) ASSOCIATED WITH PIG CARCASSES IN MALAYSIA
F2G28	BUDIMAN BELA	DEVELOPMENT OF SANDWICH ENZYME-LINKED IMMUNOSERBENT ASSAY FOR DETECTION OF SARS-COV NUCLEOCAPSID PROTEIN

Special Lectures

TISSUE ENGINEERING TECHNOLOGY PROMISES REGENERATIVE MEDICAL THERAPY

Ruszymah BHI, MD PhD
Department of Physiology and Tissue Engineering Laboratory, Universiti Kebangsaan Malaysia Medical Centre.
E-mail: ruszy@medic.ukm.my

Tissue Engineering applies the principles of engineering and life sciences toward the development of biological substitutes that restore, maintain, or improve tissue or organ function. It empowers scientist to grow tissues and organs in vitro and implant them when the body is unable to prompt into healing itself. It is a part of Regenerative Medicine that one day may fulfill the promise that medicine will be able to regenerate damaged or loss tissues or organs within our living bodies. In our laboratory in Universiti Kebangsaan Malaysia we are working on cartilage, bone, skin, respiratory epithelium and cornea tissues. Currently we are mainly focusing on autologous cell sourcing but also looking into allogenic cell source. We are mainly utilizing unipotent and pluripotent stem cells which are readily available. Cells are implanted into scaffolds to recapitulate the in vivo milieu and allowing cells to influence their own microenvironments. To achieve the goal of tissue reconstruction, scaffolds must meet some specific requirements. We work on scaffold with mechanical strength such as calcium phosphate, polypropylene and titanium. Scaffolds may also be constructed from natural material such as fibrin which we have proved suitable in terms of cell compatibility. We have successfully engineered cartilage, bone, skin, respiratory epithelium and cornea. We have performed preclinical trials and on our way to clinical trials. We hope that one day this technology will improve current treatment and develop new therapies for previously untreatable diseases and conditions.

THE ISLAMIC INPUT IN THE MEDICAL CURRICULUM

Omar Hasan Kasule

Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam

The Islamic Input into the Medical Curriculum (IIMC) has become a reality in several medical schools over the past decade. The Kulliyah of Medicine of International Islamic University Malaysia taught medicine with embedded Islamic values was taught at Kuantan from July 1997 to date. IIMC involved integrating Islamic values and Law in the teaching and practice of medicine. At the Institute of Medicine, Universiti Brunei Darussalam, the Islamic perspective of medicine (Islamic Medicine) has been an integral part of the curriculum since August 2005 until now with IIMC being taught under the theme of Personal and Professional Development (PPD).

IIMC in various forms was adopted by other medical schools at various universities such as the Universiti Sains Islam, Malaysia, Riphah International University Islamabad, Peshawar Medical College, and the 14 schools that are members of FOKI (Forum Kedokteran Islam Indonesia). IIMC is based on 3 assumptions: (a) that Islam has moral values that are universal and, being found in other religions and belief systems, can be taught to and be appreciated equally well by Muslim and non-Muslim students;. (b) a physician must understand Islamic Law relating to medicine, *fiqh tibbi*, in order to practice successfully in a Muslim community whose culture and social norms are shaped by the *shari'at* that is a comprehensive code affecting all aspects of the life of the individual and the community; and (c) a successful physician must be equipped with personal, communication, leadership, and management skills based on Islamic teachings and empirical social and managerial sciences.

IIMC teaches the Islamic epistemological perspective of basic medical sciences so that students can appreciate the signs of the Creator, *ayat al allah*, from the book of empirical scientific observation, *kitaab al kawn*, alongside appreciating the signs of the Creator from the book of revelation, *kitaab al wahy*. IIMC in the clinical phase teaches students to help patients solve practical problems related to ablution, *wudhu*, prayer, *solat*, fasting, *puasa*, pilgrimage, *hajj & umrah*; and what is permitted, *halal*, as medicine, physical activities, nutrition, and other activities of daily living.

IIMC uses the theory of the purposes of the Law, *maqasid al shari'at*, principles of the Law, *qawa'id al shari'at*, specific legal rulings from the Qur'an and sunnat, and comparing with European ethico-legal sources as bases for discussing medical ethico-legal issues such as autonomy, privacy & confidentiality, professionalism, animal and human research, resource allocation, end of life issues, and medical malpractice. Also covered are issues that arise out of modern medical technology such as assisted reproduction, genetic testing, and transplantation. An emphasis is made on a holistic and balanced approach to medicine by reference to Prophetic medicine, *tibb nabawi*, and traditional / complementary medical systems such as *unani, ayurdevic*, and Chinese medicine.

The futuristic vision of IIMC is that Islamic medical practice will in the next 20 years grow and reach or even the exceed the achievements of Islamic banking. The Islamic hospitals and clinics that will be established will need medical professionals trained to practice

medicine according to the Qur'an, sunnat, and the purposes of the Law, *maqasid al shari'at*.

Keywords: Islamic Input into the Medical Curriculum (IIMC), Brunei Darussalam, Malaysia and Indonesia

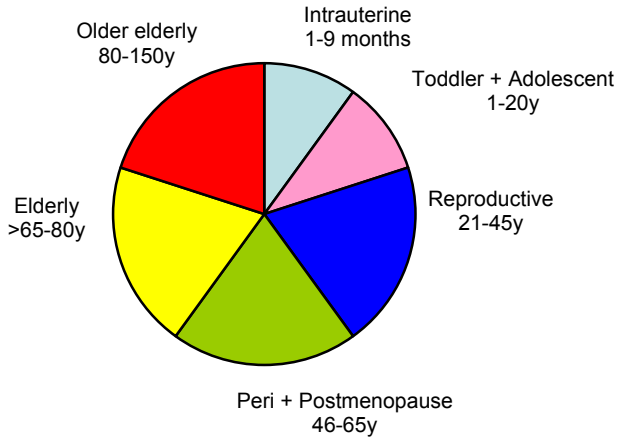
WOMEN'S HEALTH – FROM WOMB TO TOMB

Nafisah Adeeb

Professor and Senior Consultant
Dept of O&G, Medical Faculty, Universiti Kebangsaan Malaysia

Creativity is the master key to life in the 21st century. The fundamental causes of creativity remain unknown but we do know that born with damaged brains or stunted bodies are **NOT** optimally creative. Human beings are the products of two major agents namely NATURE (genetic) and NURTURE (environment). When nurture is suboptimal, the individual pay a life long price.

A Woman's Age Cycle



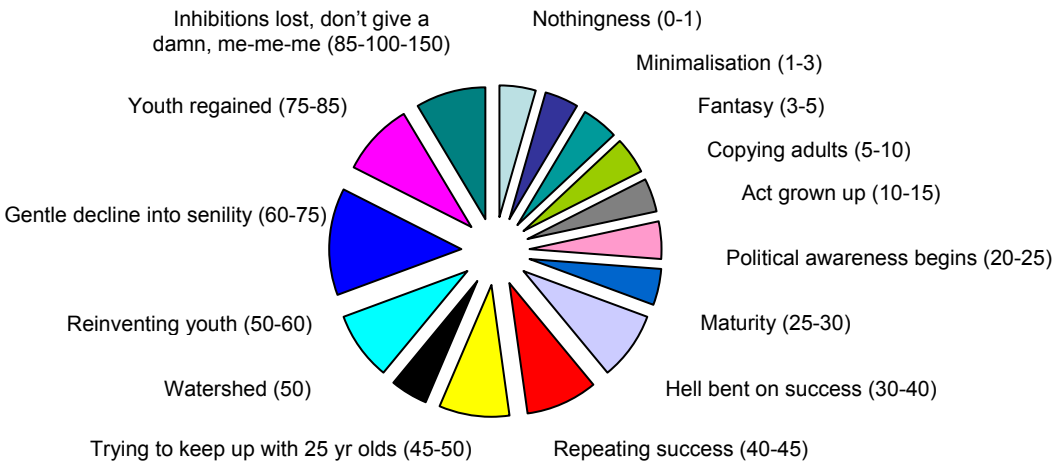
The goal in life is to remain healthy and productive from birth to 90 years possibly to as long as 120 or 150 years old. But the health we enjoy throughout life is markedly determined by the conditions we experience in the wombs i.e. the 40 weeks of gestation initiates the health of various systems to function appropriately extrauterine.

This prenatal programming can determine adult disease patterns of diabetes, hypertension, heart disease, stroke and malignancy. For Women's Health aspects I will concentrate on are:

1. Gestation in the womb
2. Puberty and Adolescent adaptation
3. Reproductive performance e.g. safe motherhood and malignancy
4. The third age with longevity

The priority target of health care providers must be improving both physical and mental quality of life (QOL). Only within a sound body and alert mind can an individual create or imagine limitlessly without borders.

The Creative Life Cycle (yrs)



The Body, Mind and Soul sails along as time flies. Despite the world being a wonderful planet (so far!), human beings inhabiting it are insane about reversing the "Aging" process. Every morning, both men and women wake up heading for yesterday to grow younger i.e. they want to stampede back to the womb to become perpetual fetuses. Immortality is a long shot but some scientists believe one can live forever.

EVIDENCE-BASED COMPLIMENTARY AND ALTERNATIVE MEDICINE

Rianto Setiabudy

Department of Pharmacology, School of Medicine, Universitas Indonesia

Safe and effective use of drugs is one of the most important issues in health care. In recent years various complementary and alternative medicines (CAM) have been extensively marketed and promoted worldwide. The safety and efficacy of most CAM products remain obscured till date, the number of people who consume these products is growing steadily. A survey in 2002 showed that 33% of Americans used some form of CAM in the past 12 months. In the past, consumers purchased CAM products by their own initiative if they believe those products are good to improve their health.

Recently, there is a new trend to include CAM into the conventional medical service in hospitals and private practice of some medical doctors. Obviously this may create problem because the scientific evidence to support the safety and efficacy of these products is scanty or even lacking. According to the regulations prevailing in many countries, the producers of CAM products are not allowed to say their products are effective in the treatment of disease. They may, however, claim the products are effective to support health in whatever aspects they wish, without having to prove it. Then an important question needs to be answered: Is it ethical for medical doctors to prescribe products of uncertain safety and/or efficacy for their patients?

Today it is commonly agreed that the safe and effective treatment should be based on the evidence-based medicine (EBM). By definition, EBM is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. Indeed, EBM is the integration of 3 components: best medical research evidence, clinical expertise, and patient values. Special attention should be given to terms ‘best research evidence’ and ‘patient values’ because they require sound understanding of the scientific principles in clinical research methodology.

Keywords: evidence-based medicine, complementary and alternative medicine

SUSTAINABLE GLOBAL HEALTH : THREATS AND CHALLENGES

MSBM Yasin
UNU- IIGH

There are central questions as how we can achieve sustainable global health in the face of variety of existential threats and challenges today and in the near future, which pose not only a threat to human health and security but with consequences for political and social instability.

Threats to sustainable global health includes issues on poverty and equality, rising vulnerability to natural hazards, to communicable and chronic diseases, clean water and sanitation, uncontrolled urbanization, marginalization of rural population, unsafe workplace and home and questions on finance and investment in health.

The challenges would be to draw a comprehensive framework for joint actions by all stake holders and this will include an integration of basic principles of public health and hygiene with implications for issues on poverty and inequality, rising vulnerability, water and sanitation system, urban and rural health governance, societal and sectoral health awareness, investment and finance and strengthening of knowledge base and awareness.

OBESITY FROM GUIDELINE TO PRACTICE

Nor Azmi Kamaruddin

Endocrine Unit, Department of Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia,
Kuala Lumpur, Malaysia.

Obesity is an affliction of modern day man. All over the world the prevalence of obesity is on the increase. USA being the biggest economy in the world leads the way with two third of its adult population afflicted by the problem. In Malaysia based on the Third National Health Mortality and Morbidity Survey (NHMM III) 2006 up to 44% of adults are either overweight or obese. This in turn will feed into the ever-increasing incidence of diseases such as hypertension (36% of the adult population) and diabetes (15% of those above 30 years old).

A change in paradigm is needed when it comes to the understanding of the pathophysiology of obesity. The interaction between the appetite centres in the hypothalamus, the interplay of the various gut hormones and the emergence of the fat cell as the biggest endocrine organ all points to the fact that obesity is a complex chronic medical disease. Gone are the days when obesity is merely blamed on the wavering of one's willpower and the increasing affluence of one's society. Some even went to the extent of viewing it as an inflammatory condition with its antecedent complications.

The Malaysian CPG for the Management of Obesity 2004 is the first in the region to lower the BMI cut-off levels for overweight and obesity in accordance with the prevalent Asian data. With that the thresholds for initiating pharmacotherapy and surgical interventions were also reduced respectively.

There are several main issues in the implementation of the guidelines. At the community level there is a need to further increase public awareness as well as a need for a concerted effort to empower both governmental as well as non-governmental bodies. While for the everyday clinic patients a multi-disciplinary approach is still lacking in most institutions with individual health caregivers managing obesity in isolation.

Another important shift in paradigm is in terms of managing obesity where weight is not only the paramount concern. Obesity should be assessed and treated in the context of an overall cardio-metabolic risk reduction.

Finally the overall importance of childhood obesity should take centre-stage and a comprehensive approach should be immediately instituted before most of our economic resources are exhausted in trying to combat this modern-day scourge.

DOMINANT RISK FACTORS RELATED TO HYPERTENSION IN INDONESIA

Dede Kusmana[1,2]

[1]*Department Cardiology, Faculty of Medicine, Universitas Indonesia*
[2]*Indonesian National Cardiovascular Center, Jakarta*

Background:
According to the Global Risk as reported by WHF, Indonesia being part of Asia Pacific countries will suffer from increasing high blood pressure, obesity, diabetic and smoking. Prevalence of hypertension (BP > 140/90 mmHg) was still high as reported from urban population survey (Jakarta) in 1988, 1993, and 2000, as well as in the rural areas 2000-2003 (Bogor – West Jawa). The prevalence of untreated hypertension was still high ranging from 69.5 % - 86.5 % compared to 15% - 21% in the USA. A 13-years cohort study in Jakarta showed increased blood pressure may increase the risk for hypertension. Based on these findings, medical treatment was not enough to overcome the problem.
In rural and urban studies it showed that age, low education level, low socioeconomic class, and low level of workload increased the risk for hypertension.

Materials and Methods:
We carried out a population survey in December 2007 to January 2008 at three sub-districts in Jakarta using the same protocol of previous studies to identify prevalence and dominant risk factors related to hypertension.

Results:
One thousand and ninety five subjects (91.3 %) completed the study. The prevalence of hypertension in males and females was 26.8 % and 27.3 %, smoking was 3.6% and 36.8%, hypercholesterolemia was 15.3% and 13.9%, hyperglycaemia was 9.9% and 9.8%, obesity was 32% and 20% respectively. The most dominant increasing risk factors for hypertension were age 45 years or more, obesity (BMI more than 27 kg/$m^{2)}$, and diabetes mellitus.

Conclusion:
In conclusion, the prevalence of hypertension and untreated hypertension was high. The most dominant increasing risk factors were age of 45 years or more, obesity, and diabetes mellitus. Intervention for controlling weight gain, obesity, and diabetes mellitus should be part of community intervention in addition to medical treatment.

Keywords: hypertension, prevalence, dominant risk factors, Indonesia

NANOTECHNOLOGY IN ONCOLOGY

Dr. Muhammad Syafiq Abdullah

Oncology Unit, *Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital, Gadong, Brunei Darussalam*

Cancer is one of the most common and feared killer in developed world as well as emerging in developing countries. Significant progress has been made in recent decades but majority of cancer are still incurable. Prevention and early detection in the preinvasive stage provide the best chance of disease cure. Once diagnosed, management will involve modalities, which include surgery, radiation and drugs. These are often associated with significant toxicities to the normal tissues. With the better understanding of the underlying molecular biology of the disease, the shift of treatment has largely focused on developing multifunctional-targeted therapies.

Nanotechnology is such technology that has made significant progress and promises new approaches for earlier detection and diagnosis of early molecular events in the development of cancer. It may also help to develop ways to eradicate cancer cells without harming healthy, neighboring cells. Many researches have been carried out in the tissue culture and animal model and have shown promising results. Clinical trials will have to be performed before these could be utilized in human. Nanotechnology has provided another real possibility of realizing the “Magic Bullet” in the fight against cancer.

Keywords: Nanotechnology, cancer, targeted therapies.

THE CLINICAL APPLICATION OF BIOLOGICAL MARKERS IN BREAST CANCER

Dr Muhammad Azrif

Dept. of Oncology, PPUKM

Currently, the oncologist decides on the appropriate treatment for the patient's cancer based mainly on histology, stage, performance status and co-morbidity. Additional information is available in breast cancer where knowledge of estrogen/progesterone receptor status and HER-2 *neu* receptor status has been used to good effect in reducing the risk of recurrence and improve survival in the adjuvant setting.

This is an exciting time for oncology with the advent of targeted therapy in colorectal, breast, head and neck and lung cancer which have been shown to improve outcomes. However, cost remains a limiting factor as the price of the new drugs puts it out of reach of many patients. Much more work in defining targets is required to make better use of these new therapies. In addition, there has been an explosion in research to define prognostic and predictive markers in breast cancer. Much of this work has been done in neo-adjuvant treatment of breast cancer. However, many of these biomarkers need further validation before they can be used routinely in the clinic.

MOLECULAR TARGETED THERAPY IN CHILDHOOD LEUKEMIA

Endang Windiastuti

Department of Child Health, Faculty of Medicine, Universitas Indonesia.

The specific challenge for targeted therapy drug development in leukemia is the inherent heterogeneity of acute myeloid leukemia (AML) and acute lymphoblastic leukemia (ALL).
Several new targeted therapies may contribute to a further improvement of treatment results in childhood and adolescent ALL. The best example at the moment is the *BCR/ABL* fusion product leading to abnormal ABL tyrosine kinase activity. Imatinib (STI-571) is an effective inhibitor of this kinase and is an important option for facilitating induction of complete remission in children with recurrent or refractory disease.
Other potential therapeutic target is aberrant transcriptional regulation in leukemia can enhance cellular proliferation and convey a survival advantage to leukemic cells. The use of the retinoic acid ATRA in acute promyelocytic leukemia (APL) which is characterized by the chimeric transcription factor PML/RAR is a model for transcriptional targeting.
Aberrant activation of signal transduction pathway which may arise from gene mutation or deletion are proving a source of potential therapeutic target, this approach is exemplified by the activating mutations described in the FMS-like receptor tyrosine kinase 3 (FLT3).
The targeting of downstream component of an aberrantly activated signaling pathway is exemplified by the targeting gamma secretase in the NOTCH signaling pathway. Aberration in this pathway have been specifically identified in T lineage leukemia.
Monoclonal antibody directed against CD33 surface antigen is also effective in patient with relapse disease but further studies in combination with standard induction therapy for children AML are warranted.

Keywords: lymphoblastic leukemia, myeloid leukemia, molecular target

ETHICAL ISSUES SURROUNDING INFERTILITY

Anita B Z Abdul Aziz

Institute of Medicine, Universiti Brunei Darussalam, Jln Tungku Link, Rimba BE1410, Brunei Darussalam.

The evolvement of fertility treatments that allow men and women who would naturally be infertile to have children has brought with it some serious ethical issues. A large extent is consequent to advances in IVF technology. Besides encountering familiar issues of medical ethics, some is particular to reproductive medicine. Topics that are regularly under discussion include the right to treatment, the moral status of the pre-embryo, the acceptability of *in-vitro* fertilization (IVF) procedure, concerns relating to gamete and embryo donation and surrogacy, sex selection, fetal reduction and experiments on human pre-embryos.

Most discussion of medical ethics attempt to include the principles of respecting the autonomy of the patient and the concepts of beneficence and justice. In addition, consideration of the patients' cultural and religious sensitivities should be taken into account. In particular, in Islam, due consideration must be taken into the requirements of *Shari'ah*. For example, gamete donation and surrogacy are *haram.* This paper attempts to identify the issues for consideration when responding to the ethical issues that often come up in infertility practice.

Keywords: Ethical issue, IVF, Infertility, Brunei Darussalam

PROFILE OF TETRALOGY OF FALLOT

Ganesja M Harimurti

Department of Cardiology and Vascular Medicine Faculty of Medicine
University Indonesia
National Cardiovascular Center Harapan Kita Jakarta

Background:
The classic form of Tetralogy of Fallot (ToF) consisted of 4 anomalies, ventricular septal defect (VSD), pulmonary stenosis, overriding aorta, and right ventricular hypertrophy. There are four subgroups of Tetralogy of Fallot (ToF), ToF, pulmonary stenosis, ToF common atrioventricular canal, ToF, absent pulmonary valve syndrome, and ToF, pulmonary atretia. In this study we would like to describe the profile of the ToF patients in our hospital, the type of surgery and the outcome.

Methods:
A number of ToF patients which has been operated in National Cardiovascular Harapan Kita Jakarta in the period from January 2007 until end of January 2008 were evaluated.

Results:
There were 84 (47.7%) male and 92 (52.3%) female, with median age 51.65mo (24.39-96.96mo). Body weight at birth were 3008.49 $\pm$ 557.24g (2000-4700g) and 15,826.36 $\pm$ 12,599.92g (2700-67000g) at the time of surgical correction. In 172 (97.7%) cases the VSD were sub aortic, 4 (2.3%) were sub arterial doubly committed. Infundibular stenosis were found in 137 (77.8%), combination of valvar and infundibular were in 24 (13.6%) cases. There were 15 (8.5%) cases with ToF, pulmonary atretia. Absent pulmonary valve syndrome was found in one case. Small PA branch were found in 62 (48.4%) cases, anomaly of coronary arteries in 12 (6.8%) cases. In one case the position of the heart was dextrocardia, PDA were found in 36 (20.5%), ASD in 11 (6.3%), PFO in 23 (13.1%), MAPCA's in 31(17.6%). In that case there was interrupted of IVC. Primary correction were performed in 140 (79.5%) cases, Blalock Taussig shunt in 27 (15.3%), Rastelly procedure were performed in 3 (1.70%) cases in patients with ToF, pulmonary atretia. Unifocalization of MAPCAs were performed in 1 (0.56%), bilateral cavo-pulmonary shunt in 2 (1.13%), and one and a half ventricle repair in one 1 (0.56%). Nine (5.1%) died, 4 with primary correction and 5 with BT shunt.

Conclusion:
ToF similarly distributed in gender. The most of case with VSD were sub aortic. Primary correction found in most of all cases.

Keywords: Tetralogy of Fallot, profile, infundibular stenosis, surgery

UNDERSTANDING A CHILD'S EMOTIONAL AND SOCIAL NEEDS AND OBSTACLES TO QUALITY CARE

A Hashim, SK Pillai, A Anuar and N Idris

University Malaya, Malaysia

There have been considerable changes in family life over the last decade. Amongst the changes includes family composition, shifts in the male-female roles and responsibilities. This shift could be attributed to the increase affluence in the society which places a greater emphasise on children to do well in their growing up years. Many health care professionals would have felt these changes as the consequence is a rise in numbers of children presenting with at times severe behavioural and emotional difficulties. It is very likely that the child is "talked" to comply with the parents' requests, but their needs and voices are not heard.

For decades researchers have frequently focussed on how parents behaviours, styles, thinking and their past experience have its impact on the children's social and emotional development, It has been significantly found parent's difficulties contribute or aggravates to a child's behavioural or emotional difficulties.

The early years of a child's life are crucial for their cognitive, social and emotional development. It is important to take every step necessary to ensure that children grow up in environments where their needs are met. In many homes, there is absence of social and emotional development or it is not practised. Many adults feel that provision of basic physical needs is adequate enough for their child's development. Parents are often "absent" or some make their presence felt by the constant nagging, criticism and demands. This will have consequences on the attachment (bond) between the child and the parent, which is an important biological function that enhances proximity and helps protect children from predators and danger. It is also thought to be a necessity for the survival of the child, and impacts on the child's ability to learn social norms and connect with others.

The cost to the society when less than optimal development occurs is enormous and far-reaching. These children are at an increased risk for compromised health and safety, and learning and developmental delays. There are also long term effects on the health care, and education systems. These children present with disrespectful, argumentative towards authority figures, lack motivation, have severe attentional problems and unable to bond with the parents, teachers of their peers. Some are already engaging in risky behaviours e.g. running away from home, expelled from schools, sexualised behaviours and self-harm behaviours at an early age. They are difficult in therapy and therapy is made worst by the blame game from both camps. Problems continue throughout their life span, these include difficulties with peers and colleagues, poor self-esteem, tendency towards using aggression, and antisocial behaviour.

It would be a major error if the mental health professionals focus only on the child, **without working** with the parental figure. The essence of Parenting is about **forming and nurturing strong connections between parents and their children**. With all the challenges around us, we need to step up our efforts as parents to treat our children with

kindness, respect and dignity, and to model in our interactions with them the way we'd like them to interact with us and others.

KNOWLEDGE AND ATTITUDES RELATED TO PAP SMEAR SCREENING AMONG STUDENTS IN UNIVERSITI BRUNEI DARUSSALAM: PRELIMINARY STUDY

Lin Naing[1], Dk Nurolaini PHM Kifli[1], Hajah Roselina DP Haji Yaakub[2]

Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam[1], Obstetric and Gynaecology Dept, RIPAS Hospital[2].

Background: For the success of the Pap smear screening programme, knowledge and attitudes related to Pap smear screening in the community is crucial. The study explores the knowledge and attitudes related to Pap smear screening among students in Universiti Brunei Darussalam (UBD).

Method: A cross-sectional study was conducted among students in the Institute of Medicine (IM), Faculty of Sciences (FoS), and Sultan Haji Hassanal Bolkiah Institute of Education (SHBIE) in May, 2008. All students from courses of which lecturers agreed to participate were included. Consents were obtained from all these students. A self-administered pre-tested questionnaire including 27 knowledge items and 14 attitude items was used to collect the data. Descriptive statistics were used to describe the level of knowledge and attitudes.

Results: A total of 185 students participated in the study including 71 year 1, 52 year 2, 62 year 3 students. Majority was 18-24 years old (97.8%), female (65.9%), Malay (63.8%), single (96.8%) and from Brunei-Muara (68.6%). Respondents reported that they heard about Pap smear from Magazine (35.1%), friends (32.4%) and television (31.4%). Common problems in knowledge was in understanding of purpose of Pap smear screening (85.9%), symptoms of cervical cancer (80.5%), vaccination for cervical cancer (78.4%), recommended frequency of Pap smear (76.2%), HPV infection (76.2%), and risk factor of cervical cancer (72.4%). The respondents agree or feel neutral with "Pap smear should be done by female doctor or nurses" (85.7%), "traditional medicine is helpful for cervical cancer" (76.9%), "Pap smear instruments are scary" (76.2%), “Pap smear procedure could loss the virginity” (71.3%), and “cervical cancer as genetically-linked disease” (68.3%).

Conclusion: Although the sample may not represent all UBD students, this preliminary study clearly indicates that these young adults are not adequately informed about the Pap smear screening. We recommend conducting similar study in general community so that necessary intervention could be done if indicated.

Keywords: Pap smear test, knowledge, attitude, UBD students, cervical cancer.

SOCIAL SECURITY NET HEALTH SECTOR TO OVERCOME MONETARY AND ECONOMIC CRISIS IMPACT ON HEALTH: AN INDONESIAN EXPERIENCES

Dhanasari Vidiawati, Bastaman Basuki
Department of Community Medicine, Faculty of Medicine, Universitas Indonesa

Background:
This paper presents the Indonesia experiences to overcome the monetary and economic impact on health and to raise the status to the poor families resulted by economic crisis in Indonesia since 1997.

Materials and Methods:
Among others, Social Security Net - Health Sector (SSNHS) Programme and Family Health nutrition has been conducted
The SSNHS Program could be implemented in the entire Indonesia and were very beneficial. However, it was too much stressing on curative efforts, problem in selecting poor family due to difference indicator of poor family from several institutions, and not accurate data collection.

Results:
Village Health Integrated Services (Posyandu) was the highest health facility that provided report, while the lowest was village midwives or *Bidan di Desa* (BDD). Health service facility, in general, reported every year ranged of 80% to 95%. In general, reaching for poor families, holders of Health Cards (HC) or *Kartu Sehat (KS)* was good, ranging about 92% yearly. The percentage of poor families attending health facility was ranging between 51% to 54%. However, at the end of the program there was a decline of poor families utilizing health facilities.
Health service provided by BDD was more utilized for consultation ante natal care (ANC) instead by the poor family's mother. Moreover, since midwifery service for poor family was free of charge, there was a tendency that poor families were reluctant to exercise family planning.
Inappropriate and late arrival of funds to health service providers, as well as too tight utilization fund was felt as inflexible by the service providers. The BDD felt that the fee for birth delivery was too small. In addition several big hospitals had to cover the operational costs of SSNHS using their funds. Hospital care requires indeed bigger funds or expenses compared to other basic health services costs.
SSNHS Programme according to perception of the Indonesian decision makers, plan makers and SSNHS executors from central government, provincial, district/municipal, sub-district, and village level. The organizers and health service providers judged that through SSNHS Program improvement of public health quality, reference system, family planning participants, nutrition and Posyandu's revitalization, and cross sector cooperation can be achieved.

Conclusion:
In conclusion, SSNHS Programmes were considered beneficial besides some limitation in the implementation, however, the program for the poor family should be continued especially to overcome the impact of present increasing oil price.

Keywords: social security net, health sector, economic crisis, health, Indonesia

ACUTE KIDNEY INJURY: CHALLENGES AND CURRENT MANAGEMENT.

Abdul Halim bin Abdul Gafor

Nephrology unit,Department of Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia

Acute kidney injury (AKI) occurs in 5- 25 % of patients admitted to ICU. It comprises 77% of referrals to our unit from the high dependency wards. These patients have longer hospital-stay and worse prognosis compared to patients without AKI. Although AKI is common, there are no proper uniform criteria for diagnosis and standardized management of AKI in critically ill patients. Furthermore, there is no sensitive biomarker to diagnose early AKI as there are many pitfalls of using serum creatinine. Because of these limitations, many patients will be referred late and loss the opportunity for early intervention. The introduction of RIFLE criteria may help the clinician to diagnose AKI but it has its limitations. The introduction on new biomarkers like serum Cystatin –C, plasma and urine NGAL may help us to diagnose early AKI but they are still at experimental phase. Many patients with AKI have severe sepsis and involvement of other organs. Peritoneal dialysis is not suitable in critically ill patients as it can interfere with the patients' ventilation and we are unable to control the ultrafiltration rate. Haemodialysis is still commonly used to treat AKI in this region. Daily haemodialysis may be better than alternate day haemodialysis. Unfortunately, most patients are too ill and unstable to be treated with conventional haemodialysis. Continuous renal replacement therapy (CRRT) has gain its popularity in treating these patients. There are many methods of CRRT using either convective, dialysis or both techniques, for example CVVH, CVVHDF and HVHF. There were some evidences to say that higher dose CRRT (HVHF) may be beneficial in septic patients. Besides that slow low efficiency dialysis (SLED) may have important role in treating AKI in unstable patients. Unfortunately, CRRT is expensive and not all centres can afford it.

RECENT ADVANCES IN SEPSIS

Over the past 10 years we have made progress in the way we manage patient admitted to the hospital with serious infection. Before, we use to think that infection will no longer be a worldwide problem with the advent of antibiotics and improved social status. However with the emergence of multi resistance organisms, it seems that infection still play a role in the health status of the population.

Certain terminology has emerged in order to help us define the problem. For example, bacteraemia, sepsis, systemic inflammatory response, severe sepsis and septic shock. These help us to categorize the degree of infection severity and from that we have come up with a specific response to treat these patients so that they have an improved chance of survival.

The surviving sepsis guideline was launched in Europe in 2004 and updated in 2008 (1). This guideline is based on researches over the years on patients with serious infection. It is hoped that with the guideline, the survival rate from severe infection will improve. The guideline has been criticized in the past as trying to promote a certain drug. But, if we look at the guideline, it is not so much about promoting a certain drug but more of developing a system of managing these patients with our current available resources.

Some of the things that we have learnt are:

1. Antibiotics usage – the importance of giving the right antibiotics is more relevant for patients with severe sepsis and septic shock. Giving the right antibiotics is associated with increase survival (4, 5). Sometimes it is necessary to start with broad spectrum antibiotics coverage if the organism is unknown followed by downgrading to appropriate antibiotics once the culture results are back. This process is called de-escalation of treatment.
2. Antibiotics timing – studies have also shown that the delay in giving antibiotics will reduce survival (2,3) Some have advocated giving appropriate antibiotics as a matter of urgency, in that it should be given before the admission into the intensive care (e.g. in the emergency department or the wards).
3. Early resusucitation – studies by rivers et al showed improved survival in those patients with septic shock who were adequately resuscitated in the emergency department prior to intensive care unit transfer (6). The resuscitation end points were CVP, mean arterial pressure, urine output, and central venous oxygen saturation.
4. Glucose control – it is now generally accepted that hyperglycaemia is associated with increased mortality in intensive care patients (7,8,9). In trying to achieve good glycaemic control the incidence of hypoglycaemia in intesive care patients will increase. Currently we are still unsure of what constitute an acceptable glucose range for these patients but for sure persistent hyper and hypoglycaemia are harmful.

All the above facts are based on researches done over the past 5 to 10 years. It just goes to show that the time frame from getting research information into practice is not a matter of days or months. What ever research that is on going today may be put into clinical practice in 5 to 10 years time.

Based on the clinical evidence we know so far, we have come up with a standard set of practice that should be followed when we encounter a specific clinical condition. It is hoped

that by following this set of practice we will improve patient outcome. This set of practice is more popularly known as a “bundle”. In sepsis we have what is known as the “sepsis bundle”.

For the sepsis bundle, there is a set of practice that needs to be followed within six hours of diagnosis of sepsis and another 24 hours later. Not surprisingly the initial bundle is known as the “6 hour septic bundle” (10).

So, some of the current clinical research is to determine if the use of a septic bundle makes a difference in outcome. Other question that we are currently trying to answer through research in sepsis includes –

1. Questions with regards to newer modes of treatments-
    a. Using immunoglobulin in treatment of severe sepsis – no conclusive evidence. There are questions as to the type of immunoglobulin to be used, which group of septic patient to use it on and how to use it (whether as a prophylaxis or as actual treatment) (16)
    b. Using haemofiltration – one of the question that has been answered is that using a higher ultrafiltration rate improves survival in septic patient with renal failure (11,12). We are not sure the optimum timing of starting filtration. Should we start before renal failure occurs or shall we leave it until the very last minute? Will there be new blood-filtration catridges in the future? Currently there has been research on animals with regards to the use of a newer filter that is capable in limiting the amount of inflammatory mediators in the body.
    c. Does the sepsis bundle work? The current stand is that it does as shown in one study (15). Unfortunately there is also another data which showed poor compliance amongst various hospitals in adhering to the six hour sepsis bundle (14)
2. Questions with regards to the diagnosis of sepsis –
    a. There are a lot of articles with regards to the use of pro-calcitonin and C-reactive protein levels in blood for diagnosing sepsis. It is now believed that pro-calcitonin may have the advantage because of the speed of its response and possibly by being more specific.
3. Questions with regards to the ability in predicting outcome –
    a. There are many markers suggested as a marker for poor outcome. Some of them are level of hypoglycaemia on presentation, lactate levels, presence of renal vasoconstriction at day one of admission and level of the broad spectrum protease inhibitor, inter alpha inhibitor.

It will take another few more years to answer some of these question and another 5 to 10 years to actually put our findings into clinical practice. But the main thing is that in order to progress, we should never be complacent with our achievements.

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THE ON-GOING BATTLE AGAINST MULTI-DRUGS RESISTANT PATHOGENS

Mardiastuti H Wahid and Yulia Rosa Saharman

Department of Microbiology, Faculty of Medicine, Universitas Indonesia

The mortality and morbidity rate of infections caused by MRSA and multi-drug resistant Gram-negative bacteria are increasing over time. Methicillin-resistant Staphylococcus aureus (MRSA) and other Gram-negative bacteria are playing an important role in causing hospital infections, especially in Intensive Care Unit (ICU)/High Care Unit (HCU). This is due to the fact that most of these micro organisms are multi-drug resistant pathogens. A retrospective study conducted in ICU and HCU of a referral hospital in Jakarta from 2003-2007, showed that the predominant pathogens isolated from these units were *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Acinetobacter anitratus*, *Enterobacter aerogenes* and *Staphylococcus aureus*. *Acinetobacter anitratus* was found to be the most common pathogen in 2005-2007 (24%, 25%, and 27% respectively). The percentages of Methicillin-resistant *Staphylococcus aureus* within 5 years were fluctuated. Methicillin-resistant *Staphylococcus aureus was* also resistant against quinolones, macrolides, trimethoprim sulfamethoxazole, gentamycin and chloramphenicol. In the other hand, the Gram-negative bacteria were resistant against some antibiotics, such as beta-lactams antibiotics (penicillin, 3rd generation cephalosporin) and trimethoprim sulfamethoxazole.
The antibiotic profiles of each micro organism from year to year were almost the same. To combat the infection and therapeutic problems, a strategy should be developed to eradicate these micro organisms and prevent them spreading from health personnel-patient, patient-patient, and patient/health personnel-environment. This effort must include personal hand hygiene, aseptic and antiseptic technique practices, investigation of infection sources, and antibiotic prescription restriction policy.
The development of antibiotic guidance on the use of antibiotics and the availability of antibiotic resistance profiles are strongly recommended. By knowing the antibiotic resistance profiles, physicians will be able to choose appropriate drug to treat the critical-ill patients

Keywords: multi-drug resistant**,** ICU, MRSA, Gram-negative- bacteria, antibiotics profiles

HEALTH PROFESSIONALS AND COMMUNICABLE DISEASE CONTROL

Tjandra Yoga Aditama

Faculty of Medicine,Universitas Indonesia

Background:
Communicable diseases continue to be one of the most important public health problems in our part of the world. About half of the deaths in some countries are attributable to infectious causes. Our region suffers disproportionately from the burden of infectious diseases, dominated by HIV/AIDS, TB and malaria, while age-old diseases such as leprosy, soil helminthiasis and lymphatic filariasis continue to become a public health problem. Disease such as dengue is not only expanding geographically, but is also becoming more pathogenic. In addition, new and emerging diseases such as severe acute respiratory syndrome (SARS) and now avian influenza are a cause for national and international concern and even the threat of a pandemic situation.
The prevention and control of communicable diseases represent a significant challenge to those providing health-care services. The control of communicable diseases depends on a healthy environment, medical intervention (immunization, treatment etc.) and health workers trained in early diagnosis and treatment. Some countries are facing shortage and mal-distribution of health workforce especially at the community level. Many solutions have been proposed to tackle the crisis of health workforce including increased production of doctors and nurses, increasing incentives and a better work environment.
We all know that many health problems can be prevented with effective health promotion and disease prevention. These primary interventions can be carried out by both health care professionals and laypersons. In recent years, political commitment, participation of academic institutions and networking are all contributing to the emerging success. Partnerships among diverse organizations and health professionals working in various organization in a country –as well as internationally - to tackle communicable diseases are expanding and this cooperative trend must be sustained.
Disease eradication and elimination programmes can achieve considerable success even without the interventions of vaccines or medicines if behavioural change can be assured. There is now compelling evidence that social mobilization by professional health personnels is a powerful means of bringing about behavioural change.
Communicable diseases control could be achived by an integratrive approach of health profesionals management system. In this matter, there is an increasing need of public–private partnerships to solve public health problems.

Conclusion:
Communicable diseases control could be achived by an integratrive approach of health profesionals management system. In this matter, there is an increasing need of public–private partnerships to solve public health problems.

Keywords: communicable dsease, control, health professional

CASE-MIX SYSTEM: THE MALAYSIAN EXPERIENCE

Syed Mohamed Aljunid MD, PhD, FAMM

Professor of Health Economics/Senior Research Fellow
United Nations University-International Institute For Global Health

Case-mix system appeared into Malaysian health care scenario back in 1997 through an IRPA funded top-down research project. Researchers from Universiti Kebangsaan Malaysia, University Malaya, Universiti Sains Malaysia and Ministry of Health Malaysia jointly conducted a nation-wide study involving fourteen public and teaching hospitals. In 2002, Hospital UKM (HUKM) became the first hospital in Malaysia to officially set-up a case-mix unit and implement case-mix system with the objectives of improving quality of care and managing its resources efficiently. International Refined DRGs (IR-DRGs) was adopted after it was proven able to handle in-patient data from Malaysian hospitals with high level of accuracy and reliability. Intermediate software was developed to link the Hospital Information System and IR-DRG grouper in order to minimise errors and the human resource requirements for data entry. At the early stage of implementation, the case-mix team in HUKM focused on capacity building to improve the critical mass of health care workers trained in case-mix system in the country. Regular workshops, seminars and conferences were carried out by the case-mix team attended by doctors, consultants, nurses, managers and other health care workers. Efforts were made at the earlier stage to improve quality of minimum data set required for case-mix system. ICD-10 was used for diagnostic coding while the major procedures were classified using ICD-9-CM.

With continuous support from HUKM management, two years after its formation, the case-mix unit began to work on developing cost-weights using Malaysian own data set. This is to ensure that the case-mix system can be utilised for prospective payment and budgeting mechanisms under the proposed National Health Financing Scheme. Initially the team worked on three groups of diseases: Cardiovascular Diseases, Orthopedic Cases and Neuro-sugical Cases. The work is gradually extended to include all other cases in the hospital. After nearly two years of intensive work, HUKM case-mix team successfully developed Clinical Cost Modeling (CCM) software. CCM software can readily be used in all Malaysian hospitals to conduct costing analysis. The software requires minimum set of routinely collected hospital data. The software combines step-down costing, activity-based costing and case-mix costing approach using parameters based on research data from various types of hospitals in Malaysia. This ensures that the costing information produced by the software is accurate and stable.

Case-mix system has been extended beyond public hospitals in Malaysia. HUKM case-mix team and UNU-IIGH is currently assisting Indonesia and Mongolia to implement case-mix system. In Indonesia, Department of Health and Social Insurance Scheme for the Poor has adopted the customized system for provider payment mechanism in 850 public hospitals in the whole country. INA-DRG, the case-mix system was developed and implemented in Indonesia Health Care system under the guidance of case-mix experts from HUKM and UNU-IIGH. In Mongolia, HUKM and UNU-IIGH team is being funded by Asian Development Bank to provide the technical support to train health managers and clinicians to initiate case-mix system in the country. The case-mix system will be used as budgeting tool for public hospitals in Mongolia. Three other countries, Nepal, Yemen and Iran have

shown interest to learn the experience of implementing case-mix system from Malaysia.

International Training Centre for Case-Mix and Clinical Coding (ITCC) was established in HUKM in March 2008. ITCC with the support of UNU-IIGH is currently carrying out training programme for health personnel from Ministry of Health Malaysia. The staff will be involved in running the case-mix system which will be launched in Malaysian public hospital later this year.

In conclusions, case-mix system has been well accepted by health managers and policy makers in Malaysia and other developing countries in the region. It is hope that with proper planning and implementation, the objectives of case-mix system in improving quality and efficiency of health care delivery will be achieved in Malaysia and other developing countries in the future.

OFF-PUMP CORONARY ARTERY BYPASS

Maizul Anwar, Dudy Hanafy, Arinto Bono Adji, Tri Wisesa Soetisna, Tarmizi Hakim

National Cardiovascular Center "Harapan Kita" Hospital, Jakarta, Indonesia.

Background:
National Cardiovascular Center Harapan Kita Hospital, Jakarta conducted
off-pump coronary artery bypass surgery and conventional CABG. The aim of this study was to compare outcome in patients who underwent off-pump coronary artery bypass surgery with conventional CABG.

Materials and Methods:
Patient and operative data were collected retrospectively during January 2006 until December 2006 in National Cardiovascular Center Harapan Kita Hospital, Jakarta.

Results:
There were 94 off-pump coronary artery bypass surgery patients and 294 patients underwent conventional CABG by using CPB. OPCAB and conventional CABG patients were similarly distributed in term of pre-operative risk factors and pre-operative clinical status of patients. Pre-operative ejection fraction OPCAB patients were 60.5± 16 and conventional CABG were 56 ± 25 (P = 0.03). The OPCAB patients received 2.3 graft vs conventional CABG were 3.5 (P = 0.001). Postoperatively none of OPCAB patients were used IABP compared to conventional CABG patients were used in 21 patients (P = 0.002). The OPCAB patients required less blood transfusion compare to conventional CABG (52 vs 230, P = 0.01), and mortality in conventional CABG were 12, while among OPCAB patients there were no death (p = 0.000).

Conclusion:
Compared to conventional CABG, off-pump coronary artery bypass surgery patients had better pre operative haemodynamics than CABG patients, less blood transfusion and postoperative IABP. The Mortality was lower in OPCAB.

Keywords: OPCAB, conventional CABG, complication, mortality

PRESERVATION OF RESIDUAL HEARING WITH COCHLEAR IMPLANTATION IN CHILDREN

Lokman Saim, Mahamad Almyzan Awang
Department of Otorhinolaryngology, Universiti Kebangsaan Malaysia

Objective: To assess the preservation of residual hearing in children recipients of Nucleus 24 Contour and Nucleus Contour Advanced cochlear implant.
Study Design: Retrospective review.
Setting: Tertiary academic referral centre.
Patients: Nine children recipients for conventional cochlear implantation who had been implanted for more than two years were selected primarily on basis of their availability for the study. The longest duration after implantation was 7 years. All were implanted with either the Nucleus 24 Contour or Nucleus 24 Contour Advance. The surgeries were performed with the soft surgery technique for cochlear implantation.
Main outcome measures: The preoperative hearing threshold levels were obtained from case notes. Pure tone air conduction thresholds were used to monitor postoperative HTLs. In all cases the thresholds were determined by play audiometry. The preoperative and postoperative HTLs were compared to determine the presence or absence of residual hearing post-implantation.
Results: Six of the nine children (66%) had retained measurable hearing after 2 to 7 years of cochlear implantation. In the 6 children with preservation of residual hearing, Although the mean HTLs were increased postoperatively, but the increased in thresholds were minimal (4dB, 7dB, 6dB and 5dB at frequencies 250, 500, 1000 and 2000 Hz respectively)
Conclusion: Residual hearing can be preserved in children after implantation with Nucleus 24 Contour and Nucleus 24 Contour Advance cochlear implants. Sixty six percent of patients had retained measurable residual hearing after2 to 7 years of cochlear implantation indicating long term stability of the residual hearing. The soft surgery technique with small cochleostomy hole should be practiced during insertion of these perimodiolar electrode arrays to increase chances of preservation of residual hearing. Residual hearing combined with electrical stimulation via cochlear implant can provide additional benefits in terms of speech recognition and sound quality for conventional candidates of coclear implant.

Keywords: cochlear implant, electroacoustic stimulation

LAPAROSCOPIC MANAGEMENT OF PANCREATIC NEUROENDOCRINE TUMOURS

Kenneth Kok

Department of General Surgery, Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital, Gadong, Brunei Darussalam

Neuroendocrine pancreatic tumour (NPT) may be either functioning (or associated with a specific clinical syndrome due to hormonal overproduction) or non-functioning. Incidence is about 0.4 per 100,000 populations. Non-functioning tumour form 30-40%, followed by gastrinomas. All NPT other than insulinomas are malignant in over 50% of cases and treatment must be directed at both tumour growth and hormonal excess.

Pancreatic insulinomas, albeit rare, are the most common functioning neuroendocrine tumors of the pancreas, and also one of the most commonly reported pancreatic pathologies for which laparoscopic resection is adopted. Fifty to seventy percent are sited either in the body or in the tail of the pancreas, and they are benign in over 90% of cases. Pancreatic insulinoma typically single, benign (80 -90%), and small (< 2 cm) is the most suitable for laparoscopic resection.

Characterized by slow growth, and surgical removal provides the best treatment. Open pancreatic surgery for endocrine tumors is known to be associated with a high morbidity rate (15 – 45%).

Laparoscopic treatment of insulinomas is feasible and safe, with results similar to those of open resection. Careful preoperative workup and experienced laparoscopic ultrasound (LUS) exploration are mandatory. Tumors preferably should be benign and solitary. Tumors located too deep in the parenchyma of the head are not amenable to laparoscopic enucleation. Distal pancreatectomy with splenic preservation should be used in cases of lesions in close proximity to main pancreatic ducts resulting from LUS evaluation. Laparoscopic distal pancreatectomy and enucleation were shown to be feasible and safe.

Keywords: Pancreatic Neuroendocrine tumours, Laproscopic treatment, Pancreatic Insulinomas, Brunei

UPDATE IN STEM – CELL THERAPY

RWM Kaligis

Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Indonesia, and National Cardiovascular Center Harapan Kita, Jakarta
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Background:
Heart disease remains a leading cause of morbidity and mortality despite continuing advances in various treatment options. With best medical therapy, there is still a significant subset of patients who become refractory or respond suboptimally. Stem-cell therapy offers a promise in this regard, especially in light of recent advances in the understanding of stem-cell biology and transplantation. Experimental and clinical studies have shown that stem-cell therapy may regenerate damaged myocardium in acute myocardial infarction and also in chronic ischemic cardiomyopathy. Some researches suggest that the mechanism underlying the improvement is fusion or transdifferentation into cardiomyocyte or vascular cell lineages. Others have proposed that transient cell retention may be sufficient to promote functional effects, example, by release of paracrine mediators. Clinical experiences also suggest that stem-cell therapy can be safely performed, if the right cell type is used in the right clinical setting. A variety of stem and progenitor cell populations could be used for cardiac repair. Each cell type has its own profile of advantages, limitations and practicability issues in specific clinical settings. Unfortunately, studies comparing the regenerative capacity of distinct cell populations are scarce. The method of cell delivery is also an important factor for successful engraftment. Sufficient numbers of cells should be delivered into the myocardium of interest and to achieve maximum retention of cells within that area. The most common approach for cell delivery is surgical, but now there are more endovascular cell delivery methods used by the clinicians because they are less invasive. There is no study yet comparing the efficacy and safety of these various delivery methods. Most clinical trials reported to date are small, mostly uncontrolled. Although there are some negative results, many other researchers report that stem-cell therapy might work. Unfortunately all the trials use functional or surrogate end points, like LVEF, myocardial perfusion, or exercise capacity to show its efficacy. There has been no large clinical outcome trial done to show the clinical benefits.

Conclusion:
The exact mechanism of action, cell type, methods of delivery and methods of assessing efficacy remain major challenges in this field.

Keywords: stem cell, therapy, challenges

PERSONALIZED MEDICINE

Roslan Harun MD, FRCP, PhD

Senior Fellow, UKM Medical Molecular Biology Institute (UMBI)
Consultant Respiratory Physician, Department of Medicine, UKM Medical Centre

In 2003, the Human Genome Project was completed but the genes and the elements that control them are yet to be completely identified. The sequencing of the human genome leads to development of new powerful tools to identify specific genes that caused common diseases. This genome-based medicine, frequently called personalized medicine, is the future of healthcare and has the potential to help clinicians making individualized risk predictions and treatment decisions. It involves identifying variations in genes, gene expression, proteins, and metabolites that allows accurate predictions to be made about a person's susceptibility of developing disease, the course of disease, drug response and treatment prognosis. Genomic and personalized medicine aims to tackle more complex diseases, such as cancer, heart disease, asthma and diabetes. These polygenic diseases are better understood using a whole-genome approach personalized medicine focuses strongly on wellness and disease prevention. In order for personalized medicine to be used effectively, precise diagnostic tests and targeted therapies need to be developed. The hope for the future is that through personalized medicine, doctors and patients will be able to make better-informed choices about treatment.

POTENTIAL CVD SOLUTIONS: LESSONS LEARNED FROM MALINDO CVD COLLOBORATION STUDY

Khalib Abdul Latiff[1], Dede Kusmana[2], Bastaman Basuki[2], Khairul Hazdi Yusof[1]

[1] Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia [2] Wisma Jantung Harapan, Faculty of Medicine, University of Indonesia

Background:
Our Malindo collaborative studies have clearly demonstrated that hypertension is prevalence in this region. Although it varies according to certain common lifestyles, demographic and individual biomarkers, but generally, it increases with age. This progression has inevitablely predisposed its victim from all forms of cardiovascular complications such as stroke, myocardial infarction, heart failure, kidney damages, blindness, and others hypertension-related fatality. The objective of this collaboration is to find out some possible and acceptable community remedies that can be proposed and implemented in both countries.

Materials and Methods:
The existing cross-sectional studies on CVD of both countries were used. We used various mathematical and non-mathematical models to identify the best and the most appropriate time for both preventive and control strategies to be introduced to the patients or community. We hope we can pin point the most appropriate target age for any intervention introduced, and shall be highlighted some of the most acceptable methods that could be easily adopted by both physician and community in order to sustain community compliance towards hypertension management.

Results:
Along age chain, we have identified few locus where community interventions could be introduced aggressively. Experience from some of community intervention that were being carried out, we noticed that those methods were quite popular and attractive. We belief more potential solutions could be proposed considering of the diverse target groups within this area.

Conclusion:
We hope some of the lessons learned from this collaborative could be used to strengthen the existing community intervention. Over time, a more appropriate, practical, acceptable and sustainable action can be established and later on incorporated into our community-based CVD control program.

Keywords: Collaborative study, hypertension, community intervention, Malindo CVD, control strategy

PROVEN CVD RISKS: LESSON LEARNED FROM INDONESIA, WHAT NEXT?

Dede Kusmana[1,2]

[1]*Department Cardiology, Faculty of Medicine, Universitas Indonesia*
[2]*Indonesian National Cardiovascular Center, Jakarta*

Several population studies had been done in rural as well as rural areas of Indonesia. Smoking, hypertension, obesity, diabetes and physical inactivity were the proven risk factors.
Based on 13 years historical cohort studies (1988 - 2001) several risk factors were significantly correlated with cardiovascular diseases (CVD). Smoking was 36.7 % among males and 3.6% among females which similar with the report of Writing Committee, Asia Pacific Cohort Studies Collaboration (2006).
The latest studied from December 2007 to January 2008 showed the same results. Smoking, hypertension, diabetes were still the most proven CVD risk. Hypertension, obesity and diabetic as a cardio-metabolic disorders became the most common cardiovascular problem in the community.
Lesson learned from our studies, among others, conducting a population study needed a lot of funds and manpower. We were facing some problems in conducting collaboration study. In additional, dealing with government official was not easy.
Indonesia, Malaysia and Brunei have the same culture and races. Economic situation in Indonesia as well as Asean countries in the last ten years was down, and the incoming years most likely will be difficult. However, we have to overcome metabolic disorder for our community. We have to conduct collaboration study in this region.
Indonesia and Malaysia Collaborator research (MALINDO) on hypertension already started, and MALINDOBRU as next joint research between three countries which focus on the same proven CVD. Indonesia have already collected blood samples taken for genetic evaluation Clinical and genetic evidence derived from one of this population is likely to be implemented for the other population Malaysia and Brunei Darussalam will follow the same study so in the near future the most proven CVD will be managed not only in population level but also on genetics.

Keywords: hypertension, smoking, diabetic, collaboration, Indonesia, Malaysia

CONSTRUCTION OF A RECOMBINANT PLASMID FOR IN VITRO TRANSCRIPTION OF H5 AVIAN INFLUENZA VIRUS SYNTHETIC RNA

Fera Ibrahim,[1,2] Budiman Bela,[1,2] Sofie Meilany,[1] Sylvia Tri Widyaningtyas[1]

[1]*Department of Microbiology, Faculty of Medicine, Universitas Indonesia*
[2]*Institute of Human Virology and Cancer Biology of Universitas Indonesia*

Background:
The detection of viral RNA by conventional or real-time reverse-transcriptase polymerase chain reaction (RT-PCR) remains the method of choice for the initial diagnosis of influenza A (H5N1). The avability of sample for positive control, however, can become a problem in the implementation of RT-PCR for diagnosis of avian influenza (AI) infection. Positive control specimens from infected individuals are limited, while the use of viral particles obtained by culture is not a practical option since culture of H5N1 virus is considered as a potentially dangerous procedure so that it has to be performed in a labour intensive and costly BSL 3 facility. The objective of this current work was to clone the H5 AIV fragment encoding the target gene in a plasmid vector that enable in vitro transcription of the cloned DNA fragment.

Methods:
The study was carried out in July 2007 – June 2008. A 124 bp of H5 Fragment was amplified by RT-PCR technique using RNA extracted from chicken isolate of H5N1 AIV as a template. The resulting RT-PCR product was then inserted into pBluescript KS-, a plasmid that possess the T7/T3 RNA polymerase promotors. The identity of the inserted DNA and its orientation were respectively confirmed by DNA restriction analysis and PCR. Synthetic RNA fragment was produced by *in vitro* transcription of the cloned DNA using T7 RNA polymerase enzyme and was subsequently subjected to DNA destruction by Rnase free DNase. The RNA product was verified by PCR and RT-PCR techniques for DNA and RNA detection.

Results:
A plasmid clone containing an insertion of the 124 bp of H5 AIV gene fragment was obtained. PCR analysis and DNA restriction analysis showed that the H5 AIV fragment gene was successfully inserted in the appropriate orientation for transcription of negative strand RNA by T7 RNA polymerase. PCR and RT-PCR results of *in vitro* transcription product showed that H5 AIV synthetic RNA fragment was successfully produced and the template DNA was successfully eliminated.

Conclusion:
A recombinant plasmid was successfully constructed and used for production of positive control synthetic H5N1 AIV RNA by in vitro transcription. Condition for elimination of the template DNA was achieved.
Keywords: H5 Avian Influenza, synthetic RNA, recombinant plasmid, in vitro transcription

THE DEVELOPMENT OF CAPACITY IN RESEARCH FOR AVIAN AND INFLUENZA VACCINE AND DIAGNOSTIC AT UNIVERSITAS INDONESIA

Budiman Bela, Fera Ibrahim

Department of Microbiology Faculty of Medicine Universitas Indonesia/
The Institute of Human Virology and Cancer Biology of the Universitas Indonesia

Background:
The use of H5N1 isolates for research is controlled by the Indonesian government in order to protect the country proprietary right over the viral isolates. Despite the noble intention that drives the practice of this regulation, the effort to protect the viral isolates is not yet coupled with continuous support by the Indonesian government to maximize the utilization of Indonesian universities in control of H5N1 transmission. Due to the slow progress in obtaining permission from the Indonesian authorities to utilize the Indonesian viral isolates, the Universitas Indonesia scientists apply a strategy to initiate avian influenza research in development of diagnostic system and vaccine.

Methods:
The study was carried out in July 2007 – June 2008. The research activity is initiated by synthesis of DNA fragments bearing the avian influenza genes that encode the Hemagglutinin, Neuraminidase and matrix proteins, using information obtained from the NCBI Influenza Virus Sequence Database. The synthetic DNA fragments were cloned in cloning vectors (plasmids) for amplification in *E. coli* and sequencing was employed to confirm the accuracy of the synthetic cassettes.

Results:
Plasmid constructs bearing the synthetic DNA fragments encoding the Haemaglutinin (HA), Neuraminidase (NA) and Matrix (M) proteins of H5N1 avian influenza virus were obtained. The result of nucleotide sequencing of the plasmid constructs, however, revealed the presence of undesirable mutations in the synthetic DNA fragments.

Conclusion:
Scientists from the Universitas Indonesia have initiated an effort to increase the country capacity in Avian Influenza research. The DNA fragments obtained from the initial work required corrections of the undesirable mutations prior to being used in future studies for development of Avian Influenza vaccines and diagnostics.

Keywords: avian influenza virus, research capacity, diagnostic system, cloning, hemagglutinin, neuraminidase

Oral Free Papers

DECREASED PLASMA GLUCOSE AND LDL CONCENTRATIONS FOLLOWING CARDIAC REHABILITATION

Divyen-Menon[1], Fredericks S.[1], Luqman N.[2], Sulaziha A.[2]

[1] Institute of Medicine, Universiti Brunei Darussalam, Jalan Tungku Link, Gadong, BE 1410, Brunei Darussalam, [2] Cardiac Rehabilitation Centre, Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital, Gadong, Brunei Darussalam.

Background:
Cardiac rehabilitation programmes are an established part of patient care following acute myocardial infarction (AMI), revascularisation and transplantation. Dyslipidaemia is believed to contribute to cardiac risk, and blood lipid concentrations are considered prognostic post AMI.

Methods:
Fasting concentrations of plasma glucose and lipids (HDL-cholesterol, LDL-cholesterol, total cholesterol and triglycerides) were compared (pre and post rehabilitation) for 44-participants enrolled on the programme (2007). Median values were compared using Wilcoxon signed-rank test.

Results:
There was a significant decrease in fasting plasma glucose, LDL and total cholesterol concentrations, but no difference in plasma HDL and triglycerides concentrations between before and after the programme. Pre-rehab concentrations of LDL and total cholesterol were within the reference range.

	Pre	Post	*P*
	Median (Min, Max)	Median (Min, Max)	
Glucose	6.30 (4.20, 10.60)	5.70 (3.41, 8.40)	<0.001
LDL	2.67 (1.32, 6.10)	2.30 (1.10, 6.03)	0.022
HDL	0.98 (0.60, 1.93)	0.99 (0.50, 2.10)	0.337
Triglycerides	1.16 (0.16, 3.28)	1.16 (0.38, 2.95)	0.800
Total Cholesterol	4.34 (2.69, 8.40)	3.83 (2.90, 7.88)	0.048

Conclusions:
Consistent with previous studies, HDL and triglycerides did not appear to change following a five-week programme. However a post-programme decrease in plasma glucose, LDL and total cholesterol was demonstrated. More importantly we observed that the majority of participants had undergone major changes in lifestyle and diet. This may ultimately be a stronger indicator of the successes of any rehab-programme rather than blood biochemistry taken in isolation.

KEYWORDS: CARDIAC REHABILITATION, AMI, CHOLESTEROL, LDL, HDL

INSULIN RESISTANCE AMONG SIBLINGS OF TYPE 2 DIABETIC PATIENT (PRELIMINARY STUDY)

Dyah Purnamasari, Sidartawan Soegondo, Maryantoro Oemardi, Iwang Gumiwang[2]

Department of Internal Medicine, Cipto Mangunkusumo Hospital/University of Indonesia, Jakarta

Background:
There are two hypothesis in terms of pathogenesis of diabetes mellitus, B cell failure and insulin resistance. Since genetic factor has an important role in the pathogenesis of diabetes, insulin resistance may influenced by genetic factor. There is no prevalence data about insulin resistance and metabolic profile among siblings of type 2 diabetic patient in Indonesia. The objectives of this study were to obtain prevalence data about insulin resistance among siblings of type 2 diabetic patient and metabolic profile (lipid profile, body mass index, waist circumference, uric acid level), blood pressure and their distribution among siblings of type 2 diabetic patient.

Methods:
This is a preliminary cross sectional study which was carried out in February - September 2005 among 30 siblings of type 2 diabetic patients who come to endocrinology polyclinic Cipto Mangunkusumo Hospital. We collect medical history and perform physical examination and laboratory examination including fasting insulin, fasting glucose, triglyceride, HDL cholesterol and uric acid concentration of those siblings. Insulin resistance is determined by 75th percentile of HOMA-IR.

Results:
Cut-off value of HOMA-IR in this study is 2,04. The frequency of insulin resistance among siblings of type 2 diabetic patient is in the range of 0-75% (mean 26,67%). All insulin resistance subject have central obesity and as many 75% of them have body mass index > 25 kg/m2. The most frequent component is central obesity (56,7%). The frequency of hypertension, HDL hypocholesterol, hypertriglyceridemia and hyperglycemia are 46,7; 26,6; 26,6 and 20% respectively.

Conclusion:
The frequency of insulin resistance among siblings of type 2 diabetic patient is 26,67%. The most frequent component is central obesity.

Key words: insulin resistance, siblings of type 2 diabetic patient

IS "OBAT ASAM URAT FLU TULANG AND CIKUNGUYA" DIABETOGENIC IN THE MALE?

Madeeha Abdul Samad[1], Dk Nurolaini Hj Muhd Kifli[1], Pemasari U Telisinghe[2] & Oduola O Abiola[1]

[1]Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam; [2] Pathology Laboratories, RIPAS Hospital, Brunei Darussalam
oduolaabiola@yahoo.co.uk

'Obat Asam Urat Flu Tulang and Cikunguya' (obat asam) is an herbal preparation which is readily available and is widely used in the ASEAN region. Like most herbal preparations it is available without prescription. It is also highly sought after by the working adult male population in particular in the region. Its manufacturers claim that it is effective in the treatment of rheumatism, flu, fever and muscle and loin pain and, contains Piper Ningrum – 30%, Ginseng Extract – 30%, Zingiberis Rhizoma – 30% and 'other ingredient' – 10%. While contemporary literature attest to the safety of ginseng and rhizome that of piper ningrum could not be established. Furthermore, the safety of the 10% 'other ingredient' cannot be verified: its identity is not even revealed. Research into the safety of this herbal remedy is therefore crucial for the health of the citizens and residents of Brunei Darussalam and those of the ASEAN region in general. We have therefore decided to investigate the pathological consequences of obat asam consumption by administering it to adult male and female Swiss albino rats (wt/kg body weight) as recommended for humans by the producers. Thus 4 groups of Swiss albino rats consisting of:1) female treated group (n=7); 2) female control group (n=8); 3) male treated group (n=9); 4) male control (n=10). In view of the relatively higher incidence of diabetes mellitus in the region, our initial step was to investigate its effect on glucose metabolism by measuring the blood glucose level approximately 3 hours after they finished the day's ration of obat asam in aerated rat chow at 4 weeks of administration. Our results show a 27% increase in blood glucose in the treated male group over the corresponding male control and the two female groups. ANOVA using SPSS shows this to be significant ($p<0.01$). There is no difference between the two female groups and the male controls. Our results suggest that obat asam may have a gender delineated diabetogenic effect; further experiments will be carried out to attempt to understand its mechanism(s) of action.

Key words: "obat asam urat flu tulang and cikunguya", pathology, diabetogenic effect

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SEXUAL DYSFUNCTION IN TYPE 2 DIABETES MELLITUS PATIENTS

Rudi Putranto, P. Soewondo, E. Mudjaddid

Department of Internal Medicine, Faculty of Medicine Universitas Indonesia/ Cipto Mangunkusumo Hospital, Jakarta, Indonesia

Background:
Diabetes is known to cause multiple medical, psychological, and sexual dysfunctions. Sexual dysfunction refers to the persistent impairment of the normal patterns of sexual interest or response. The objectives of this study are to 1) study the prevalence of sexual dysfunction in men and women with type 2 diabetes; and 2) describe how descriptive variables, psychological variables, diabetic complications, glucose control and sexual dysfunction relate in patients with type 2 diabetes.

Methods:
This cross-sectional study was carried out in January-April 2004. Patients have sexual dysfunction if they answer yes for the question on number 21 of the Beck Depression Inventory (1. I am less interested in sex than I used to be, or 2. I am much less interested in sex now, or 3. I have lost interest in sex completely). We examined of glucose control using HbA1c.

Results:
During the course of study, we consecutively studied 80 patients. The subjects of this study consisted of 32 (40%) males, 48 (60%) females. Number and proportion of sexual dysfunction was 33 (41.3%). Prevalence of sexual dysfunction was a total of 60.6%, of women and 39.4%, of men with type 2 diabetes who reported sexual dysfunction (p = 0.926). There was association between depression and sexual dysfunction (p 0.018). There was no difference in sexual dysfunction in patients with complications of diabetes compared to those without complications (p = 0.698). We did not find any difference in glucose control (HbA1c) between patients with sexual dysfunction compared to those without sexual dysfunction (8.21 ± 2.14 and 8.43 ± 2.49) (p=0.295).

Conclusions:
The proportion of sexual dysfunction in patients with type 2 diabetes was 41.3%. Both women and men with diabetes are at increased risk for sexual dysfunction. This study suggests that for patients with type 2 diabetes, sexual dysfunction is related to somatic and psychological factors, whereas psychological factors (depression) are more predominant.

Keywords: sexual dysfunction, diabetes mellitus

APOPTOSIS CHANGES IN STRESS-INDUCED PREMATURE SENESCENCE (SIPS) MODEL OF HUMAN SKIN FIBROBLASTS

Norhazira Abdul Rahim[1], Suzana Makpol[1], Chua Kien Hui[2], Yasmin Anum Mohd Yusof[1], Gapor Md.Top[3], Wan Zurinah Wan Ngah[1]

[1]Department Of Biochemistry, and [2]Department Of Physiology, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia and [3]Department Of Chemistry, Malaysian Palm Oil Board, Kuala Lumpur, Malaysia

Background:
Normal human skin fibroblasts have a limited life span *in vitro* and undergo irreversible growth arrest after a number of serial passages in culture. This phenomenon is called replicative senescence or widely known as *in vitro* aging. Early passage of human diploid fibroblasts (HDFs) undergo irreversible growth arrest after exposed to various sublethal stresses including hydrogen peroxide (H_2O_2). Stress-induced premature senescence (SIPS) model is *in vitro* model of cellular aging.

Materials and Methods:
In this study, apoptosis changes was determined in SIPS model. Skin HDFs were exposed to 20 uM H_2O_2 for 2 weeks to induce premature senescence. Cells were divided into different treatment groups; control (without treatment at passage 11 - young cells), treatment with gamma tocotrienol (GTT), treatment with H_2O_2, treatment with GTT prior to H_2O_2 treatment, and positive control (without treatment at passage 30 – replicative senescent cells). Cells were then evaluated for apoptosis by measuring Annexin V labeled with fluorescein isothiocyanate (FITC) on a single-cell basis by flow cytometry (BD FACSCalibur flow cytometer).

Results:
Our results showed that early apoptotic changes was increased in both stress-induced premature senescence cells and in replicative senescent cells (28%). Majority of young cells and cells that were treated with GTT showed little apoptotic changes (10%). However, cells the were treated with both GTT and H_2O_2 showed higher percentage of apoptotic cells.

Conclusion:
Thus, our data suggest that apoptotic process is activated in H_2O_2-induced premature senescence and replicative senescent. This work provides *in vitro* evidence that apoptosis changes in SIPS model is similar with replicative senescent of skin HDFs.

Keywords: apoptosis, aging, gamma- tocotrienol and fibroblast cells.

CORRELATION BETWEEN VEGF EXPRESSION AND CLINICOPATHOLOGIC STAGING AS A PROGNOSTIC FACTOR IN ORAL SQUAMOUS CELL CARCINOMA

Diah Rini Handjari,[1] Agus Sutarman[2]

[1]*Department of Anatomical Pathology Faculty of Medicine Universitas Indonesia/ Cipto Mangunkusumo Hospital*
[2]*Department of Surgery Faculty of Medicine University of Indonesia/Cipto Mangunkusumo Hospital*

Background:
The aim of this study was to discover the correlation between VEGF expression and clinicopathologic staging in patients with oral squamous cell carcinoma in sub-department of surgical oncology of Cipto Mangunkusumo Hospital, Jakarta. Furthermore, we also want to elaborate whether VEGF expression could be used as prognostic factor.

Methods: This was a prospective cohort study of 30 subjects diagnosed as having oral squamous cell carcinoma and presented at our institution during January 2006-December 2007. Immunohistochemistry staining with VEGF antibody was performed at all tumor specimens collected. VEGF expression was analyzed as a semi-quantitative data and was compared and correlated to the clinicopathologic prognostic factor and survival rate.

Results:
All specimens expressed VEGF. Bivariate analysis between VEGF expression and clinical staging revealed a significant statistical correlation (p=0.002 & coefficient 0.265), while its correlation with tumor differentiation showed no significant correlation (p=0.101 and coefficient 0.114). The log-rank test result between VEGF expression and clinical staging was significant to survival rate (p=0.008 and p=0.000, respectively); however, tumor differentiation was not (p=0.203). According to cox regression multivariate analysis, only clinical staging has significant correlation to the survival rate (p=0.003; HR=5.215; 95% CI 1.73-15.714), but VEGF expression was insignificant (p=0.118; HR=3.868; 95% CI 0.710-21.080).

Conclusion:
We concluded that clinical staging, VEGF expression and histological grading influenced survival. However, statistically, only clinical staging had significant correlation to overall survival.

Keywords: VEGF, survival, oral squamous cell carcinoma.

RT *IN SITU* PCR EXPRESSION PATTERNS OF RETINOBLASTOMA GENE IN DIFFERENT BREAST CANCER STAGES

Mohammadreza Zamanian[1], Patimah Ismail[1]

[1]Molecular and cell biology lab, Department of Biomedical Sciences, Faculty of Medicine and Health sciences, UPM, 43400 Serdang, Selangor DE, Malaysia

Backgrounds:
An important step in breast cancer diagnosis and treatment is precise clinical staging of the disease in which lymph node involvement is a major determinant. So far, many studies have focused on diagnosis of breast malignancies as well as their tumoral stages through specific molecular markers. In this regard, determining the activity of some important genes in cancer evolution and progression can be helpful. Retinoblastoma (Rb) as a tumor suppressor gene is mostly interactive in cell cycle regulation and division. It has been shown that Rb gene inactivation has a great impact on cancer development, particularly on breast malignancies. Therefore, probable differences in Rb gene expression in various stages of breast cancer can help into diagnosis between benign and malignant breast tissues, as well as to differentiate tumoral stages. This study focused on determining any possible differences in Rb gene expression in various breast cancer stages.

Material and Methods:
In the present study we have used Reversed Transcriptase *in situ* Polymerase Chain Reaction (RT *in situ* PCR) in order to determine Rb mRNA expressions in 17 human breast samples which were pathologically divided into four groups including benign breast lesions, lymph node negative, lymph node positive and metastatic breast cancers.
Results:
Rb mRNA expression was dominantly present among human benign breast lesions compared to malignant lesions. In addition, evaluation of Rb mRNA among malignant lesions showed less abundance in the higher stages of breast cancer.
Conclusion:
RT *in situ* PCR as a qualitative method is able to localize mRNA gene expression in human breast lesions. In addition, mRNA expression levels are obviously different in benign tissues compared to malignant ones. Further evaluation is necessary by quantitative methods such as microarray analysis.

Keywords: Breast cancer, *in situ* PCR, Retinoblastoma, cancer stages

THE EFFECTS OF GAMMA-TOCOTRIENOL (GTT) TREATMENT ON PROTEIN EXPRESSION DYNAMICS IN HEPG2 CANCER CELL LINE

Farahani Abd Rahman Sazli[1], Zakiah Jubri @ Mohd Zufri[1], Saiful Anuar Karsani[2], Mariati Abdul Rahman[3], Wan Zurinah Wan Ngah[1]

[1]Department of Biochemistry, Faculty of Medicine, Universiti Kebangsaan Malaysia, [2]Institute of Biological Sciences, Faculty of Science, University of Malaya, [3]Department of Clinical Oral Biology, Faculty of Dentistry, Universiti Kebangsaan Malaysia.

Background:
Gamma-tocotrienol (GTT) has been shown to exhibit significant antitumor activity in a variety of tumor cells. Previous findings in our own lab have demonstrated that GTT exerts antiproliferative effects on the liver cancer cell line (HepG2) with an IC_{50} value of 170μM.

Materials and Methods:
Here, we describe the use of two dimensional gel electrophoresis (2DE) to characterize changes in protein expression dynamics within HepG2 cell lines following treatment with GTT. With this approach we aim to identify the possible molecular mechanisms involved in GTT's antitumor activity.

Results:
In our preliminary analysis of the resulting 2DE profiles, at least 20 protein spots were found to be differentially expressed in cells treated with GTT. We are in the process of confirming this observation by extending the analysis to a larger sample size.

Conclusion:
By studying the effects of GTT treatment on protein expression dynamics within the HepG2 cell line, the underlying mechanisms involved may be elucidated. This will provide an insight into the antitumor activity of GTT and eventually develop a greater understanding of cancer as a whole.

Keywords: Proteomics - 2-DE - GTT - Hepatocellular Carcinoma - HepG2

ANTIPROLIFERATIVE PROPERTIES OF *PERESKIA BLEO, PERESKIA GRANDIFOLIA* AND *POLYGONUM ODORATUM* AGAINST SELECTED CANCER CELL LINES

Asmah Rahmat[1], Hafzan Yusoff[1], Fauziah Othman[2], Normah Hashim[1] and Mohd Fadzelly Abu Bakar[1]

[1]Department of Nutrition and Dietetic, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400, UPM, Serdang, Selangor, Malaysia
[2]Department of Anatomy, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400, UPM, Serdang, Selangor, Malaysia

Background:
Malaysia is one of the Asian countries which is endowed with highly diverse biological resources. Indeed, quite high percentage of flora available in this country is believed to have medicinal properties. Although a few species such as “Kacip Fatimah”, ‘Tongkat Ali” and ‘Misai Kucing”, have undergone intensive scientific research, but many more need thorough investigation. This study was conducted to determine the antiproliferative properties of ethanol leaf extracts of *Pereskia bleo* (jarum tujuh bilah; with orange flower)*, Pereskia grandifolia* (jarum tujuh bilah; with purple flower) and *Polygonum odoratum* (kesom) against selected cancer cell lines (Caov-3, HeLa, HepG2 and MDA-MB-231).

Materials and Methods:
The MDA-MB 231 (non-hormone dependent breast cancer cell), HepG2 (liver cancer cell), Caov-3 (ovarian cancer cell), HeLa (cervical cancer cell) and normal Chang liver cell line were grown in RPMI 1640 cultures medium, supplemented with 10% fetal bovine serum and 1 % penicillin-streptomycin at 37°C under 5% CO_2 in a humidified atmosphere. The viability of cells was determined by staining with trypan blue. MTT assay was used to determine the antiproliferative properties of the ethanolic extracts of the leaves against these cell lines.

Results:
The results showed that the proliferation of HeLa and Caov-3 were effectively inhibited by the extracts, ranging from 66 – 98 µg/ml. No cytotoxic effect was observed in MDA-MB-231, HepG2 and normal Chang liver cell lines.

Conclusion:
In conclusion, all plant extracts demonstrated promising antiproliferative properties which could be attributed to their phytochemical contents.

Keywords: Antiproliferative, *Pereskia bleo, Pereskia grandifolia, Polygonum odoratum,* cell lines

CERVICAL CYTOMORPHOLOGICAL CHANGES IN VARIOUS HPV TYPE IN JAKARTA: PRELIMINARY STUDY

Lisnawati, Budiningsih Siregar
Department Of Anatomical Pathology, Faculty Of Medicine, University Of Indonesia

Background:
Precancerous and cancer lesion were related with infection of high risk HPV. The aim of this study is to discover cervical cytomorphological changes in various HPV type.

Methods:
This study is part of See and Treat Program in Indonesia 2004-2006. Screening was carried out in at least 80% of women who met inclusion criteria in the study area. Pap smear and diagnosis was done using The Bethesda System. The exfoliated cells were centrifuged. The supernatant was frozen and stored in a -20°C freezer and shipped on dry ice to the Department of Pathology, Leiden University Medical Center, The Netherlands where HPV typing was done using Line Probe Assay (LiPA) methods. Further cytomorphologic examination was performed in cases with HPV-positive and abnormal Pap smear and histopathology.

Results:
One hundred and twenty-two out of 880 cases were found positive for HPV of various type: HPV type 52 (13.9%), type 16 (10.6%) and type 39 (8.2%) and 22 cases with unidentified HPV type. One-hundred and eleven out of 220 cases were found negative during Pap smear. Precancerous cases, cytology or biopsy, showed infection of high risk HPV. Biopsy result showed 1 case of NIS I was infected by HPV type 52; only one of four cases of NIS II were infected by HPV type 35, and 3 other cases showed negative result. One case of NIS III was positive for both HPV type 18 and 6. While in 5 cases of carcinoma, infection of HPV type 16 was found in one case of CIS with microinvasion, HPV type 52 and 18 was found in 2 cases of non-keratinized squamous cell carcinoma. HPV type 39 was found in 1 case of SSC and 1 case of mixed SSC and adenocarcinoma. Cell features varied, covering enlarged nuclei, hyperchromatin and perinuclear halo, depending on the degree of dysplasia.

Conclusion:
There was no specific pattern of distribution of HPV type for each histological type of cancer. Not all cases of HPV-positive underwent changes of cervical epithelia in Pap smear examination. Larger sample is needed to elucidate the association of certain HPV infection and histological type.

Keywords: cytomorphologic, cervical cancer, HPV typing.

ENDOSCOPIC VEIN HARVESTING, INITIAL EXPERIENCE IN NATIONAL CARDIOVASCULAR CENTER HARAPAN KITA, JAKARTA

Maizul Anwar, Dudy Hanafy, Arinto Bono Adji, Tri Wisesa Soetisna

National Cardiovascular Center Harapan Kita Hospital, Jakarta, Indonesia

Background:
The saphenous vein is an important conduit for coronary artery bypass grafting. Wound complications from open method vein harvesting occur often. Endoscopic vein harvesting (EVH) with smaller cutaneous incisions have been shown to decrease postoperative discomfort like wound complications, incisional pain, prolonged convalescence, and improve healing. We describe our first experience.

Methods:
Endoscopic vein harvesting (EVH) technique involving carbon dioxide insufflation was used to harvest the saphenous vein for coronary artery bypass grafting in 35 patients. We count our total harvest time and examine wounds for complications daily, also pain and postoperative mobility were quantified.

Results:
Our initial experience has rapidly progressed to a consistent total harvest time of 60 minutes from initially 120 minutes. In our first 15 cases there were 2 times that we dissected the vein and in the other 3 cases haematoma occurred in which one case that we had to reopen the wound in order to evacuate the blood clot. No other complications occurred in the next 20 patients. There were no severe pain and other wound complications. We observed that our patients have earlier mobility and less pain.

Conclusion:
With a sufficient amount learning time endoscopic harvesting of the saphenous vein by insufflation techniques is safe, effective, and atraumatic to the conduit. Discomfort is minimized and earlier mobilization.

Keywords: endoscopic vein harvesting, complications.

RISK FACTORS AND INCIDENCE OF CONTRAST INDUCED NEPHROPATHY FOLLOWING CORONARY INTERVENTION

Yoga Yuniadi, Nurul R. Ningrum

Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Indonesia, and National Cardiovascular Center Harapan Kita, Jakarta

Background:
Contrast induced nephropathy (CIN) is one of important complication of contrast media administration. Its incidence and risk factors among Indonesian patients undergoing coronary intervention has not been reported yet.

Methods:
CIN was defined as increasing of serum creatinine by 0.5 mg/dl or more in the third day following contrast media exposure. The study was conducted at National Cardiovascular Center Harapan Kita (NCCHK) in Jakarta as a top cardiology referral and teaching hospital in Indonesia during period of March to May 2006,

Results:
Of 312 patients undergoing coronary intervention, 25% developed CIN. Patient-related risk factors comprised of hypertension, diabetes mellitus, NYHA class, proteinuria, serum creatinine > 1.5 mg/dl and ejection fraction ≤ 35%. Contrast-related risk factors comprised of contrast media volume > 300 ml, contrast media type. However, multivariate analysis demonstrated that only hypertension {Hazard ratio (HR) = 2.89; 95% confidence interval (CI) = 1.78 to 4.71], diabetes mellitus (HR = 3.09; p = 95% CI 1.89 to 5.06), ejection fraction (EF) ≤ 35% (HR = 2.92; 95% CI = 1.72 to 4.96), total contrast volume > 300 ml (HR = 7.73; 95% CI = 3.09 to 19.37) and proteinuria (HR = 14.96; 95% CI = 3.45 to 64.86) were independent risk factors for CIN.

Conclusion:
CIN developed in 25% of patients undergoing coronary intervention. The independent risk factors of CIN included hypertension, diabetes mellitus, EF ≤ 35%, contrast volume > 300 ml and proteinuria.

Keywords: contrast induced nephropathy, coronary intervention

THE EFFICACY OF TOPICAL MITOMYCIN C IN PREVENTION OF ADHESION FORMATION POST ENDOSCOPIC SINUS SURGERY. A PILOT STUDY

M Razif M.Y , B S Gendeh

Department of Otorhinolaryngology Head and Neck Surgery , Faculty of Medicine, Universiti Kebangsaan Malaysia.

Background:
Functional endoscopic sinus surgery (FESS) is a fully accepted technique for treating chronic sinus disease. However, despite the efficacy of FESS, recurrent symptoms developed in 7.6% to 38% of the patients, which required revision surgery. The recurrence of symptoms after FESS is often due to synechiae and ostia stenosis in the nasal cavity. These postoperative changes cause obstruction of the middle meatus and can lead to reduction of ventilation and drainage of mucus from the paranasal sinuses. Topical MMC is effective as an adjuvant treatment post ESS to prevent adhesion formation which will improve the outcome of the surgery.

Materials and Methods:
This is a randomized, controlled study which involved patients who underwent elective endoscopic sinus surgery in The Otorhinolaryngology Department Universitit Kebangsaan Malaysia from June 2005 until March 2006. At the completion of the procedure, a cotton pledget saturated with 1 ml of 0.5 mg/ml MMC was placed for 5 minutes in the right or left middle meatus and a similar saline-soaked pledget is placed on the opposite side post ESS as control. Endoscopic examination were performed to look for synachiea formation 1 week , 1 month and 3 month post ESS.

Results:
10 patients (20 sides of nose) were involved in the study. A total of 4 adhesions were identified in 3 out of 10 operated patients. All adhesions occurred within 2 months of the procedure. 1 patient (10%) had bilateral adhesion and 2 patients (20%) had unilateral adhesion. One (25%) of 4 adhesions was “severe” and this adhesion occurred on the control side in the bilateral case. The rest of the adhesions (75%) were minimal. Only one adhesion (10%) occurred on side treated with topical MMC.

Conclusion:
This pilot study shows the topical MMC can safely be used on sinonasal mucosa to delay healing and may reduce the incidence of adhesion formation post ESS. Hence, this will reduce the recurrence rate of rhinosinusitis.

Keywords: endoscopic sinus surgery , mitomycin c , adhesion.

MINIMALLY INVASIVE SURGERY: ENDOSCOPIC VEIN HARVESTING FOR CORONARY ARTERY BYPASS GRAFTING

Ahmad F Musa[1], Ezani M Taib[2], Sabariah A Rahman[3]

[1]Department of Clinical SciencesSchool of Medicine and Health Sciences, Monash University, Malaysia, [2]Department of Cardiothoracic Surgery, National Heart Institute, Kuala Lumpur, [3]Clinical Laboratory Sciences, Faculty of Medicine and Health Sciences Universiti Putra Malaysia.

Background:
A prospective randomized trial comparing outcomes associated with saphenous vein harvested using an endoscopic technique versus a traditional longitudinal incision. We also compare the histologic characteristics and quality of saphenous veins using scanning electron microscopy (SEM) and immunohistochemical studies

Materials and Methods:
One hundred and thirty five patients scheduled for elective coronary artery bypass grafting were prospectively randomized to have vein harvested using either an endoscopic (n=64) or conventional technique (n=71). Both groups were similar with regard to age, sex, race, NYHA functional class, preoperative risk stratification and risks for wound complication. The outcomes of interest were leg wound infection, pain, post-operative mobility and patients' satisfaction. Blinded histological assessment was done where cross-sectional specimens were submitted for Haematoxylin-Eosin, Elastic Van Gieson and Masson's Trichrome staining. Immunohistochemical studies involved Platelet Endothelial Cell Adhesion Molecule-1 (PECAM-1 or CD31), CD34, von Willebrand Factor and Vascular Cell Adhesion Molecule-1 (VCAM-1). We also examined in a blinded fashion of vein segments using scanning electron microscopy (SEM JEOL 6400).

Results:
In our relatively homogenous populations, leg wound complications were noted to be significantly reduced in the endoscopic group ($p<0.05$). Pain perception by the patients was much less for the endoscopic group ($p<0.05$) with increased mobility ($p<0.05$) and were more satisfied with the procedure ($p<0.05$). Histological, immunohistochemical and SEM analyses revealed no statistically significant difference in the blinded scores of the structures evaluated between endoscopically or conventionally harvested saphenous veins.

Conclusion:
Minimally invasive harvest of the saphenous vein via endoscopic method proves to be superior than the conventional method. The histologic, immunohistochemical and SEM analyses showed that endoscopic saphenous vein harvesting does not appear to traumatize the vessel integrity any more than open technique.

Keywords: endoscopic saphenous vein harvesting, coronary artery bypass surgery, histological assessment, immunohistochemical study, vascular integrity

BIOMECHANICAL STUDY OF HUKM DESIGNED PEDICLE SCREW PULL-OUT STRENGTH.

N. Azwa, A. Sabarul, M. Razak.

Department of Orthopaedic, Faculty of Medicine, Universiti Kebangsaan Malaysia, 53100, Kuala Lumpur, Malaysia

Background:
The financial burden in managing spinal related problem in Malaysia has triggered for a local prototype screw. Biomechanical analysis, done on polyurethane block and cadaver to assess the pull-out strength of two types of screws. This study compared pull out strength and stiffness between newly design HUKM pedicle screw with the standard commonly used screw. In addition, to quantify the reduction of pull-out strength of this screw once have been removed and reinserted back.

Materials and Methods:
Polyurethane block and human cadaveric spine were instrumented with HUKM and MONARCH^{TM} Spinal system screws, tested according to the diameter of 4mm, 5mm and 6mm range of the screw. Axial pull-out performed at 5mm/min and recorded at 0.02seconds until failure. Student's *t*-test analyzed standard and after removal and reinsertion pull-out strength. Paired *t*-test analyzed stiffness from mean of three readings. Percentage of reduction strength were calculated based on differences between maximum holding powers prior to pull-out.

Results:
No significant difference between HUKM and MONARCH^{TM} screws in the polyurethane block ($p>0.05$) on standard pull-out loads. However, there was significant difference in cadaveric bone, where MONARCH^{TM} screw outperformed the HUKM screw. Nonetheless, the stiffness is practically the same between two materials tested upon. Additionally, reduction strength across the materials in HUKM screw was practically consistent ranging from 14 to 18%.

Conclusion:
HUKM screws offer comparable strength, without losing stiffness and behaved with similar performance to the commonly used screw. Furthermore, it has predictable outcome in reduction strength once removal and reinserted back. Another valuable armamentarium to the Malaysia spinal implant is added especially in non compromised bone group i.e. non osteoporotic.

Keywords: Pedicle screw, cadaver, pull-out

POLYMORPHISM OF FSH RECEPTOR IN INDONESIAN WOMEN UNDERGOING ASSISTED REPRODUCTION

Dwi Anita Suryandari

Department of Medical Biology, Faculty of Medicine Universitas Indonesia

Background:
It has been known that the response to FSH stimulation varies broadly among women undergoing assisted reproduction. The variations of response range from no response/ extremely low response to one leading to hyper stimulation syndrome. Recently two polymorphism of the FSH receptor gene have been identified in position 307 (alanin or threonin) and position 680 (serin or asparagin). The polymorphisms of FSHR have been known so far where the sensitivity of FSHR is determined by the allelic combination involved. Previous study indicated that the FSHR genotype is one of the critical factors for ovarian response to FSH stimulation. The aim of this study were to analyze: a). frequency distribution of two FSH receptor polymorphism in Indonesian women undergoing assisted reproduction. b). correlation the observe FSHR genotype and the response to exogenous FSH for super ovulation induction.

Methods:
Polymorphism of FSHR gene in 117 Indonesian women undergoing assisted reproduction in Bunda Hospital, Jakarta in January – September 2005. The polymorphism were analyzed by PCR-RFLP (position 307) and PCR-SSCP (position 680) and visualization by agarose 2%.

Results:
The distribution of FSHR polymorphism in position 307 and 680 differed significantly in Indonesian women undergoing ICSI programme. The FSH receptor polymorphism combination SS was associated with higher basal FSH levels and the amount of exogenous FSH was needed to induce super ovulation compared SN and NN variants.

Conclusion:
This study indicated that the polymorphism of FSHR gene in position 680 can determine FSH dose to stimulate super ovulation beside age and FSH level.

Key words: FSHR, polymorphism, IVF

THE SMALL INTERFERING RNA TO NS5 TARGET GENE SUPPRESSES DENGUE VIRUS GROWTH IN HUMAN ENDOTHELIAL CELLS

Beti Ernawati Dewi,[1,3] Hitomi Kinoshita,[3] Shingo Inoue,[3] Tomohiko Takasaki,[2] Futoshi Hasebe,[3] Ichiro Kurane,[2] Kouichi Morita[3]

[1] *Department of Microbiology, Medical Faculty, Universitas Indonesia*
[2] *Laboratory of Vector-Borne Viruses, Department of Virology 1, National Institute of Infectious Diseases, Japan*
[3] *Department of Virology, Institute of Tropical Medicine, University of Nagasaki, Japan*

Background:
Dengue hemorrhagic fever is public health concern in tropical and subtropical areas of the world with lack of approved vaccines and antiviral. Since there is no specific treatment for dengue infection, we therefore developed a method that can be approval therapeutic strategies that act through alternate mechanisms such as small interfering RNA (siRNA)

Methods:
The study was carried out in April 2007 – Mart 2008. We developed siRNA targeting to NS-5 region of dengue 2 virus (siRNA-NS5) and pipette-type MicroPorator to deliver the siRNA directly to cytoplasm. The suppression of dengue 2 virus (DV-2) was determined by real time RT-PCR, plaque assay and flow cytometry.

Results:
Specific and marked reduction of viral replication was observed after treated with siRNA-NS5. Our data showed for the first time and provide evidence that siRNA-NS5 can be used to selectively block dengue 2 viral gene expression and hence viral replication in human endothelial cells

Conclusion: The development of siRNA-NS5 can be promising alternative approaches toward the control of dengue virus infection in future.

Keywords: small interfering RNA, NS-5 region, dengue virus

AN INVESTIGATION OF THE GENETIC BASIS OF BOVINE SPONGIFORM ENCEPHALOPATHY

Oduola Abiola[1], Conrad Iyegbe[2] and Steve Whatley[2]

[1]Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam; [2]Department of Neuroscience Institute of Psychiatry; King's College, London, UK

The prion gene (*Prnp*) was first identified as been the genetic determinant of prion disease susceptibility. However, further investigations into the genetic basis of prion diseases have established that factors other than the *Prnp* locus may contribute substantially to the determination of incubation time (Bruce et al, 1994; Kingsbury et al, 1983). More recent work has indeed extended such observations to a variety of murine genetic backgrounds. However, formal attempts to characterise these genetic factors have only highlighted the low level of consistency between the studies. It remains unclear the extent to which the variation in candidates identified is due to methodological differences between previous approaches or if this reflects genuine differences between traits. We have therefore employed an approach to identifying genetic factors underlying BSE incubation periods as a model for prion disorders. Brain homogenate from terminal stages of cattle with BSE was transmitted centrally to recombinant inbred (RI) strains of mice (BXD) and F2 mice which share a common ancestry (C57BL x DBA/2J). Web-based QTL software was used to identify a panel of quantitative genetic loci that contribute to BSE genetic susceptibility. This is a novel approach to investigating the genetic basis of prion disease susceptibility and data is presented in graphical and numeric forms. We hope to build on this by identifying other specific genes that may foster susceptibility to prions disease.

Keywords: BSE, prion disorder, quantitative genetic loci, genetic susceptibility.

HIGH DENSITY CULTURE OF HUMAN LIPOASPIRATE STEM CELLS IN CHONDROGENIC MEDIUM PERMIT LARGE NEO-CARTILAGE FORMATION *IN VITRO*

Adila A. Hamid[1], Ruszymah BH Idrus[1,2], Aminuddin B. Saim[2,3], Somasundaram Sathappan[4], Chua Kien Hui[1,2]

[1] Department of Physiology, UKM Medical Centre, Universiti Kebangsaan Malaysia , [2] Tissue Engineering Laboratory, UKM Medical Centre, Universiti Kebangsaan Malaysia, [3] Ear, Nose & Throat Consultant Clinic, Ampang Puteri Specialist Hospital, Malaysia, [4] Subang Jaya Medical Centre, Selangor, Malaysia.

Background:
Constructing an expandable and large neo-cartilage for cartilage injuries treatment is always challenging when using stem cell source. The aim of this study is to validate if high density culture of human lipoaspirate stem cells promotes large neo-cartilage formation using fibrin.

Materials and Methods:
Human lipoaspirate stem cells (HLSC) were isolated and cultured until passage 5. Cultured cells were then trypsinized and resuspended into 2 types of media; conventional medium or chondrogenic medium with high density culture of 1.0×10^5 cells/cm^2 in culture flasks for 3 weeks. Total RNA from cultures at first, second and third week were extracted with TRI-Reagent. The expression level of chondrogenic genes were measured by quantitative RT-PCR. The specificity of the reactions was verified by melting curve analysis and gel electrophoresis. For *in vitro* construct formation, cells at the end of third week were mixed with 500µl of human plasma and 30µl of 1M $CaCl_2$. Constructs in both media groups were then fixed and evaluated by H&E staining.

Results:
Cells cultured in chondrogenic medium formed aggregates after 24 hours incubation and maintained until the end of third weeks. No cell aggregate was observed in conventional medium. Throughout the culture period, collagen type II was expressed only in chondrogenic medium group. SOX9, COMP and ACP genes were all highly expressed in chondrogenic medium group at the first week compared to conventional medium. However, collagen type I, collagen type XI, collagen type X, Elastin and LINK genes did not showed significant variation in expression level when compared between groups. Constructs can be formed easily with fibrin either using cultured cells from chondrogenic or conventional medium with variable size.The H&E histological sections showed homogenous distribution of cells in the construct.

Conclusion:
High density culture in chondrogenic medium is a feasible method of scaling up the size of neo-cartilage formation.

Keywords: lipoaspirate stem cells, neo-cartilage, high density culture, *in vitro*

HOST ADAPTATION AND INTERSPECIES TRANSMISSION OF PRION DISORDERS

Oduola Abiola[1], Conrad Iyegbe[2] and Steve Whatley[2]

[1]Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam; [2] Department of Neuroscience, Institute of Psychiatry King's College London, De' Crespigny Park, London SE5 8AF UK
oduolaabiola@yahoo.co.uk

Prion disorders are a group of progressive neurodegenerative diseases of humans and animals. They are characterised by clinical symptomatology, neuropathology and inter – and, intra – specie transmissibility. Members include bovine spongiform encephalopathy (BSE) in cattle, scrapie in sheep and goat, transmissible mink encephalopathy (TME) of mink, chronic wasting disease of elk and deer, feline spongiform encephalopathy of cats and Creutzfeldt Jakobs disease (CJD) and its new variants in man. They can be genetic, sporadic or infectious in nature and, involve a common pathogenic mechanism, whereby PrP^{c}, a normal cellular protein abundantly expressed within the CNS, takes on an abnormal conformation. The neuropathological hallmark of these diseases is the presence of PrP^{sc} containing amyloid plaques in the brain of the victim. Interspecies transmission is characterised by a longer incubation period which is believed to be caused by a process of host adaptation. Once infection takes hold in the new host, subsequent transmissions with the species become very short. In our opinion, this process is central to interspecies transmission of prions and warrants further characterisation. We therefore decided to investigate the biological correlates of this phenomenon by central transmission of BSE to C57BL/6J mice. Our results show a significant difference in the incubation periods both male and female in the primary transmission of BSE to mice. However, this difference disappears on crossing the species barrier. In addition, in a panel of C57BL/6J mice with mutation in the alpha synuclein gene, the gender difference in incubation periods was reversed. This suggests that the species barrier as a mechanism of adaptation which involves gender related biological substrates most likely sex related hormones acting in concert directly or indirectly on the alpha synuclein gene. These results are of relevance to understanding the biology of neurodegenerative diseases with gender related epidemiology and may form the basis of developing a biologically based treatment regime.

Keywords: BSE, prions, transmission, incubation periods, species barrier

Acknowledgement: This work was supported by the MRC, UK

DEPLETION OF STEMNESS GENES EXPRESSION IN INITIAL PASSAGE OF CHORIONIC VILLI CELLS ISOLATED FROM HUMAN TERM PLACENTA

MMN Fariha[1], KH Chua[2], GC Tan[1], AE Tan[3] and AR Hayati[1]

[1]Department of Pathology, [2]Department of Physiology and [3]Department of Obstetrics & Gynecology, UKM Medical Centre, Universiti Kebangsaan Malaysia

Background:
Recent studies claimed the capability of chorionic villi stem cells to undergo multilineage differentiation. However, the stem cells properties of these cells in serial-passage remain a question mark, particularly in the mRNA expression analysis. Therefore, this study was to further characterize the stemness gene expression profile of cells isolated from chorionic villi.

Materials and Methods:
Chorionic villi cells isolated from human term placenta were continuously cultured until passage 5 in an equal volume mix of Ham's F12 medium and Dulbecco's Modified Eagle Medium, supplemented with 10%FBS, 1% Glutamax, 1% Vitamin C and 1% Antibiotic antimycotic. Total RNA extracted from passage 1, 3 and 5 cells proceeded for quantitative real time RT-PCR to assess the mRNA expression level of the following genes; oct-4, sox-2, FGF-4, Rex-1, TERT, Nanog3, Nestin, FZD9, ABCG2 and BST-1. RT-PCR reaction was performed with 100-200ng of total RNA, 5uM of each primer and SYBR Green as indicator in Bio-Rad iCycler instrument. The reaction kinetic of each primer set and protocol was verified with melting profile and further confirmed with agarose gel electrophoresis. Expression level of each gene was then normalized to GAPDH.

Results:
The analysed data indicate that almost all the stemness gene showed decreasing in their mRNA expression notably from P1 compared to P3. This could be resulted from in appropriate culture medium to preserve the stem cell phenotype. However, the stemness genes expression remained until passage 5.

Conclusion:
These showed chorionic villi stem cells can be serially-passage and retained some multilineage potential.]

Keywords: Stemness gene, placenta, chorionic villi, qPCR, serial-passage

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FETAL PROGRAMMING: THE EFFECT OF MATERNAL UNDER NUTRITION ON THE DEVELOPMENT OF THE HYPOTHALAMUS AND THYMUS IN THE FETUS.

Ahmad SR[1] and Brameld J[2]

Institute of Medicine, Universiti Brunei Darussalam[1]; School of Bioscience, Division of Nutritional Science, University of Nottingham[2]

Fetal programming is defined as the effect of the condition in the womb on the development imprint of the fetus in the adult life. During pre-natal life, there is critical period of development during which any alteration in the uterine environment may affect the development of the tissues or organs of the fetus. The aim of the study was to determine the effect of diet restriction on pregnant ewes, by measuring the levels of protein and DNA of the hypothalamus and thymus in the offspring. The 30 groups of ewes were under nourished between 30 days to 70 days; 55 days to 95 days; 85 days to 115 days of gestation. A group of normally nourished ewes was used as a control. When the offspring were born, the animals were euthanized and the hypothalamus and thymus of the offspring were removed for analysis. Two experimental assays were carried out; a fluorescent assay to quantify the amount of DNA in the tissue and the Lowry assay for protein quantification. The results showed that maternal under nutrition reduced the level of protein and DNA of the hypothalamus in the group of ewes who were malnourished during days 85 to 115 of gestation. However, diet restriction between days 30 to 70 of gestation didn't shows any changes in DNA and protein levels in the hypothalamus. The thymus, showed no significant changes in DNA and protein upon diet restriction. It can be concluded that diet restriction during pregnancy does have an impact on the development of the hypothalamus. The thymus development was not affected when using DNA and protein to assess changes. In humans, the hypothalamus and thymus have important functions such as appetite control and maintenance of the immune system. Therefore, the need for an understanding into the mechanisms involved in fetal programming is essential if we are to dissect out the disease states which affect these and other organs.

Keywords: Fetal Programming, Maternal Undernutrition, hypothalamus, thymus.

SEVERAL CONTRIBUTING FACTORS RELATED TO MATERNAL NEAR-MISS AND DEATH AT SELECTED REFERRAL HOSPITALS IN JAKARTA AND TANGERANG

Gulardi Hanifa Wiknjosastro,[1] Bastaman Basuki,[2] Didi Danukusumo[1]

[1]*Department of Obstetrics and Gynaecology, Faculty of Medicine, Universitas Indonesia*
[2]*Department of Community Medicine, Faculty of Medicine, Universitas Indonesia*

Background:
Previous studies revealed that the maternal near-miss and maternal death contributing factors were medical and non-medical factors. Even though Jakarta is a metropolitan city and relatively has appropriate number of maternal health facilities, but near miss and maternal death was frequently occurred. This study aimed to identify the medical and non-medical contributing factors related to maternal near miss and death.

Methods:
All near miss and death cases which occurred during the study period (February to December 2007) were included for this study at selected five referral hospitals. This study utilized the modified existing tools "Beyond the Numbers; a guide to review maternal deaths and complications to make pregnancy safer." Near miss subject was interviewed on the second day after emergency situation was over, and for death cases data was collected from the husband and/or her closed relative. Additional data was taken from hospital medical records.

Results:
There were 30 deaths and 232 near miss cases. Postpartum haemorrhage and preeclampsia/eclampsia were the main causes of maternal deaths in this study.
Half of contributing factors of maternal deaths related to inappropriate care by the first providers mainly midwives and traditional birth attendances. In most of the referral cases emergency treatment have been conducted in the hospitals but in some cases delayed emergency treatment. Some paramedics in participating hospitals complained of shortage of personals and availability of emergency medicines, and asked additional training in quality care. At the end of study most of the hospitals conduct weekly audit in deaths and near miss cases to eliminate obstacles in emergency obstetric management.
Conclusion: Human resources, infrastructure, management, standard of emergency obstetric inappropriate, late referral of maternal death cases, inappropriate haemorrhage and (pre-) eclampsia management were more likely to be contributing factors for maternal near miss and death.

Key words: maternal near-miss, maternal death, contributing factors

PLACENTAL MDA AND HSP70 LEVELS IN PRE-ECLAMPTIC PATIENTS

Sri Bekti Subakir,[1] Dewi Irawati Soeria Santosa,[1] Arleni[2]

[1]Department of Physiology Faculty of Medicine, Universitas Indonesia
[2]Makmal Immuno-endocrinology Faculty of Medicine, Universitas Indonesia

Background:
Pre-eclampsia is a disease in pregnancy characterized by hypertension and proteinuria. Pre-eclampsia and eclampsia are the most causes of maternal and foetal mortality and morbidity in Indonesia. Placental and systemic oxidative stress caused endothelial cell dysfunction and injury. HSP 70 is essential for cellular recovery, survival and maintenance of homeostasis. The purpose of this study was to compare the MDA, a marker for oxidative stress and HSP 70 production in placental of severe pre-eclampsia, mild pre-eclampsia and normal pregnancy.

Methods:
Placenta were obtained from patients after delivery in Budi Kemulyaan Maternity Hospital Jakarta in October 2007 – Mart 2008. Sample were selected randomly from normotensive pregnancies (n=10), while from severe preeclampsia (n=10) and mild pre-eclampsia (n= 10) the sample were selected conveniently. Placenta was cultured using RPMI and 20% FBS, and the supernatant were collected at day 3. MDA was measured using spectrophotometer and the absorbent was read at 530 nm. HSP 70 was measured using enzyme-linked immunosorbent assay. The laboratory examination was done in Makmal Immuno-endocrinology and Department of Physiology Faculty of Medicine, Universitas Indonesia.

Results:
MDA concentration was not significantly ($p > 0,05$) higher in patients with severe pre-eclampsia (7.13±5.36 nmol/ml) than patient with mild pre-eclampsia (4.82±2.47 nmol/ml) and in the normotensive pregnancies (4.57±2.40 nmol/ml). HSP 70 concentration in patients with mild pre-eclampsia (10.15±12.39 nmol/ml) was higher ($p > 0,05$) than patient with severe pre-eclampsia (3.77+3.08 nmol/ml) and normotensive pregnancies (3.76±4.85 nmol/ml), but the differences was not significant ($p > 0,05$).

Conclusion:
This study showed that placental level of MDA and HSP 70 in pre-eclampsia was higher than control but the difference was not significant. However, increasing of HSP70 in mild pre-eclamptic showed a high response to stress oxidative and the response abated in severe pre-eclamptic patients.

Keywords: MDA, HSP 70, hypertension, placenta, pre-eclampsia

PRE-IMPLANTATION GENETIC DIAGNOSIS FOR β-THALASSEMIA BY SINGLE CELL PCR

Noor Wahidah Mohd Nasri,[a] A Rahman A Jamal,[b] , Nurshaireen Chue Abdullah,[c] Zainul Rashid Mohd Razi,[c] and Norfilza M Mokhtar,[a,b].

[a] Department of Physiology, Faculty of Medicine, Universiti Kebangsaan Malaysia, [b]UKM Medical Molecular Biology Institute and [c]Department of Obstetrics and Gynaecology, Hospital Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Background:
Pre-implantation genetic diagnosis (PGD) of monogenic autosomal hereditary disorder following *in vitro* fertilisation technique usually involves the removal of one or two blastomere from preimplantation embryos. However, the amount of genomic deoxyribonucleic acid (DNA) from a single blastomere is insufficient. Hence, the whole genome amplification (WGA) method is performed prior to amplify the gene of interests before analysis of DNA material through polymerase chain reaction (PCR).

Materials and Methods:
In the present study, we report that WGA from a single blastomere extracted from unwanted pre-implantation human embryos (obtained from 10 infertile couples) could positively yield microgram quantities of amplified DNA allowing PCR analysis for Codon 17 and Codon 26 of β-globin gene that cause β thalassemia disorder. We developed a rapid and highly specific technique of single cell PCR to amplify specific region on β-globin gene for Codon 17 (AAG→TAG) and Codon 26 (GAG→AAG) by using single cell PCR.

Results:
This research showed that about 249 bp of amplicon for Codon 17 and about 200 bp of amplicon for Codon 26 were successfully amplified. No mutations were found. All analyzed embryos could not be transferred back to patients since the embryos used as samples were wasted embryos.

Conclusion:
Compared to other approaches for prenatal diagnosis, PGD is rapid and suitable for a non invasive clinical tool to identify genetic diagnosis in order to reduce selective miscarriages and moral dilemmas. We opine that DNA extraction and amplification can be successfully performed by using single cell PCR to diagnose genetic disease before pregnancy.

Keywords: Genetic, β-thalassemia, polymerase chain reaction, pre-implantation embryo

CORRELATION BETWEEN SERUM VITAMIN D (25(OH)D) CONCENTRATION AND FEMORAL QUADRICEPS MUSCLE STRENGTH OF ELDERLY WOMEN IN NURSING HOME IN JAKARTA

Ikhwan Rinaldi,[1] Siti Setiati, [1] Maryantoro Oemardi, [1] Wanarani Aries,[2] Tirza Z. Tamin[2]

[1]Department of Internal Medicine, Faculty of Medicine Universitas Indonesia
[2]Department of Medical Rehabilitation, Faculty of Medicine Universitas Indonesia

Background:
The increase of elderly people in Indonesia with a higher proportion of women impact on the increase of the health problem, especially the falls. One of the falls risk factor that could be intervened is femoral quadriceps weakness. More commonly vitamin D deficiency may also occur. Some previous studies on the correlation between falls and vitamin D deficiency showed no significant results and it remains controversial. The aim of the study was to investigate correlation between serum vitamin D (25(OH)D) concentration and femoral quadriceps muscle strength.

Methods:
This study was a cross sectional correlative study and conducted at three nursing home in Jakarta and one nursing home in Bekasi in January 2005. The subjects were women aged 60 years or above. Those selected study subjects underwent the femoral quadriceps muscle strength examination with cybex dynamometer on speed of 150^0/second, twice (three repetition with a rest time of 30 second), and 25 (OH)D concentration was measured by ELISA.

Results:
Out of 67 subjects met the requirement criteria for this study. Five subjects were discharge when femoral quadriceps muscle strength examinations were performed. The mean age was 71.1 (SD 7.2) years old while the mean serum vitamin D concentration was 68.2 (SD 21.6) nmol/l. Vitamin D deficiency (≤ 50 nmol/l) was found in 22.6% of subjects. It was also found that median (minimum-maximum) femoral quadriceps muscle strength was 40.00 (11-116) Nm. Approximately, 82.3% of subjects had muscle weakness overall, three was a correlation between serum 25 (OH)D concentration and femoral quadriceps muscle strength (r=0.327); p=0.009).

Conclusion:
This study revealed that the serum 25(OH)D concentration of Indonesian elderly women was correlated with femoral quadriceps muscle strength. The proportion of elderly women with muscle weakness was higher than the normal ones. The group with higher age showed a higher proportion of muscle weakness. Most of subjects have normal serum vitamin D concentration.

Keywords: elderly women, femoral quadriceps weakness, vitamin D deficiency, correlation.

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TIME-SERIES ANALYSIS IN HEALTH CARE PLANNING

Naing L[1]

Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam[1]

A planning is not adequate by using current situation-analysis. It should be based on forecasting of the future. For instance, a plan for the next 3 years should be based on the forecasting data for the next 3 years period. Therefore, more realistic, proactive, and scientific planning approach could be achieved. It is relevant to a wide range of planning: from a small departmental planning to the national health planning. Time-series statistical analysis, a tool for forecasting is rarely used in health care planning. The presentation highlights the application of SPSS, interpretation, and limitations of the analysis using a case study.

Keywords: health care planning, time-series analysis

PREVALANCE, PERCEPTIONS, ATTITUDES, KNOWLEDGE AND PRACTICES ON THE USE OF TRADITIONAL MEDICINE AMONG BRUNEIAN - RESULTS FROM THE INTERIM ANALYSIS

Dk Nurolaini Pg Haji Muhd Kifli[1], Wint Z[1], Lim L Y

[1] Institute of Medicine, Universiti Brunei Darussalam, Jalan Tungku Link, Gadong, BE 1410, Brunei Darussalam, [2] Outpatient Pharmacy, Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital, Gadong, Brunei Darussalam

Backgroud:
The usage of traditional medicine (TM) has become very popular especially in the Asian region; however data is not available for Brunei. The aim of the study is to determine the prevalence of TM use in Brunei Darussalam, the factors influencing TM use, to study perceptions, attitudes and practices of the general population towards TM. The study also aims to compare the usage of TM with that of western medicines, to address cost implications and to support future studies.

Methods:
The study was piloted in 2006 – 2007 with 250 samples using a pre-tested questionnaire which was designed by the researchers. Data collection for this study began in October 2007 with a questionnaire interview survey modified from the pilot study. A research assistant was trained to collect the data from the general public attending out patient clinics in Brunei including the remote areas. Samples were collected randomly. Informed consent was obtained from all the participants. The interim analysis was carried out on 1757 responses collected from Brunei Muara, Tutong and Temburong district as of April 2008. The SPSS package was used for data entry and analysis.

Results:
The proportion of Bruneians who have used some form of TM during their lifetime was 59%. Use of TM is equal in proportion among Chinese and Malay ethnicities. Use of TM was highest in the 56 years and above age group, $p<0.01$. It was higher amongst female respondents compared to males $p<0.001$. Sixty four percent of the respondents indicated that TM was safe. Seventy seven percent of respondents answered that TM is easily available. Majority of TM users (70.7%) used local herbs and 65% used TM for general health and vitality. Forty three percent of users of prescribed medicines (common cold remedies, antipyretics and antibiotics) reported using TM as well. Seventy two percent of respondents did not report their use of TM to their doctors. Ninety four percent of the respondents claimed that there were no adverse effects accompanying use of TM. Eighty two percent of TM users spend less than BND 50 on TM every month.

Conclusions:
We concluded from this study that there is a high prevalence of TM use in Brunei despite the free health care system provided in the country. This can be due to their use as maintenance of health rather than for treatment of illness. TM is also easily available and perceived to be safe because it had been used for generations and of natural sources despite their limited scientific evidence. Therefore, medical and health care workers should not ignore this perceptions and patients' education is utmost important.

Keywords: Traditional Medicines, Malay Local herbs, Traditional Chinese Medicines, perceptions, Brunei Darussalam.

NASAL SEPTAL DEVIATION AND OTHER FACTORS INCREASE THE RISK OF BAROTITIS MEDIA IN HIGH ALTITUDE HIGH OPENING TRAINING

Yanuar T. Sastranegara,[1,2] Bastaman Basuki,[2] Herman Mulijadi,[1] Hari Haksono[1]

[1]*Indonesian Center for Aviation Medicine and Health*
[2]*Faculty of Medicine, Universitas Indonesia*

Background:
Barotitis media (BM) frequently occurred in High Altitude High Opening (HAHO) training simulation as a result from quick pressure changed. The aim of this study was to investigate nasal septal deviation and other risk factors that increase the risk of BM.

Methods:
This experimental study was conducted at Indonesian Center for Aviation Medicine and Health (Lakespra Saryanto) during May – July 2007 involving Indonesian Armed Forces (TNI) training HAHO. Medical examinations were performed before and after training. An otolaryngologist confirmed diagnosis of BM. Cox regression analysis using STATA 9.0 program was performed to identify dominant risk factors for BM.

Results;
A number of 177 subjects participated this study. We found 56.5% had BM after training. Septal deviation was found in 28.8% of the subjects and it moderately increased the risk of BM by 23% than normal septum [adjusted relative risk (RRa) = 1.23; 95% confidence interval (CI) = 0.95 – 1.60; p=0.123]. Those who has been smoking for 1-3 years than never smoking subjects had 70% increased risk to be BM (RRa = 1.68; 95% CI = 1.17 – 2.42). Those who had been working for 5 years or longer than 5 years or less had 50% increased risk to be BM. In addition, trainees had 40% higher risk than subject with special qualification (RRa = 1.40;
95% CI = 0.99 – 1.97; p = 0.051).

Conclusion:
Special caution to those who had septal deviation, longer working period, smoking for 1-3 years, and trainee to minimize the risk of BM.

Key words: barotitis media, septal deviation, HAHO training simulation.

GRIEF, DEATH ANXIETY AND DEPRESSION AMONG HIV/AIDS SUFFERERS: A COMPARSION STUDY BETWEEN THE PRISONERS AND THE PUBLIC

Normah Che Din, Zulia Khamis & Ng Lai Oon

Health Psychology Unit, Faculty of Allied Health Sciences, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia

Background:
HIV/AIDS prevalence is on the rise in Malaysia with higher rates among the prisoners compared to the public sufferers. The main routes of infection are through drug injection (90.21%), prostitution (0.87%), heterosexual relationships (0.55%) and bisexual relationships (0.16%). The HIV/AIDS victims faced not only physical illness resulting from the weakening of the immune system in their body but also from psychological illness such as anxiety of death, depression and grief.

Materials and Methods:
A sample of 101 prisoners from the Kajang Prison and a sample of 56 public persons from Bakti Kasih who suffer from HIV/AIDS took part in the study. Tests administered include the Templar Death Anxiety Scale, Beck Depression Inventory, Inventory of Complicated Grief, the Coping Scale for Adult, the ENRICHED Social Support Inventory, and the socio-demographic data.

Results:
The results showed that among the HIV/AIDS subjects the prisoners were more depressed as compared to the public ($p < 0.05$) and have higher level of death anxiety and grief even though they have similar coping strategies and received similar level of social support. Grief was associated with unproductive coping strategies and negative association with social support and other positive coping strategies. Death anxiety correlated positively with unproductive coping but had no significant relationship with social support and other positive coping strategies. Depression showed positive relationship with unproductive coping and negative correlation with social support and other positive coping strategies. Duration of suffering from HIV/AIDS did not affect the level of grief, death anxiety and depression. Both male and female subjects with HIV/AIDS have similar level of grief, death anxiety and depression.

Conclusion:
In conclusion, good social support and positive coping strategies will reduce death anxiety, grief and depression in people living with HIV/AIDS.

Keywords: HIV/AIDS, Grief, Death anxiety, Depression, Coping

CONTRIBUTING FACTORS RELATED TO MENTAL HEALTH DISORDER AT SAMOSIR ISAND, NORTH SUMATERA, INDONESIA

Kristiana Siste, Irawati Ismail M

Department of Psychiatry, Faculty of Medicine Universitas Indonesia

Background:
Isolated Samosir island in North Sumatera, Indonesia has 134.950 people. They have traditional life with cultural nuance. When their family members have mental health disorder or symptoms, they feel ashame because their neighbour will isolate them from enviroment activities. Most of people who have mental health disorder are rare to ask medical treatment. Starting 2006, started psychiatrist service in hospital. The objective of this study was to assess the contribute factors related to mental health disorder and the management in reducing symptoms.

Methods:
This cross-sectional study with consecutive referral sample subjects in a hospital in Samosir Island in November 2007 until March 2008. Every subjects which fulfilled the inclusive and exclusive criteria will be interviewed and assessed by Positive and Negative Syndrome Scale (PANSS), Hamilton Rating Scale for Depression, Mini ICD-10 and questioner to assess the contribution factors. The evaluation will be repeated one month after treatment.

Results:
A numbers 50 subjects out 600 patients participated this study. The subjects consisted of depression (71.4%), schizophrenia (20.4%), panic disorder (6.1%), Schizoafective (2.0%). Most of the subjects (53.1%) had low education, and 95.5% lived with nuclear family. Subjeyts whi faced with stigmatization in their enviroment was 24.5%, 69.4% subjects had good compliance, and 63.3% patients had improvement in their symptoms after one month treatment. A number of 53.1% patients had support from their family for the treatment. Subjects with schizophrenia had the biggest stigmatization than others disoders. Compliance and support from the family was more likely correlated with improvement of the symptoms. However, stigmatization was not correlated with the improvement of the symptoms.

Conclusion:
Compliance and family support was lowering the symptoms, and stigmatization was not correlated with the improvement of the symptoms.

Keywords: mental health disorder, cultural, family, medical staff, contributed factors.

QUALITY OF LIFE AMONG PREINVASIVE & INVASIVE CERVICAL CANCER IN MALAYSIA

Sharifa Ezat WP [1], Fuad Ismail [1], Aniza Ismail[1], Seri Suniza S[1], Ahmad Zailani Hatta MD[1], Sharifah Noor Akmal, Paul Ng[1] , Syed Mohamed Aljunid[1], Murali Ganesalingam[2], Deepak Rebentisch [2], Mymoon Alias [3], Majdah Mohd[3] , Rushdan Mohd Noor [4]

[1] University Kebangsaan Malaysia,[2] Hospital Kuala Lumpur, [3]Ministry of Health Malaysia, [4]Hospital Alor Star, Kedah.

Introduction:
Cervical cancers are the second highest incidence of female cancers in Malaysia, With the latest incidence rate of 19.7/100,000 in female population, the cost of chronic management has a high impact on nation's health cost and patient's quality of life.

Methodology:
Respondents were sampled from participating Gynecology-Oncology outpatient and in patient's centers from tertiary public hospitals and HUKM. Respondents were interviewed using the SF36 QOL questionnaires. The domains of QOL i.e. Physical Composite Scores (PCS), Mental Composite Scores (MCS) and Quality Adjusted Life Years (QALY) were calculated based on adjusted life years of cervical cancer patients.

Results:
From a total of 530 patients, only 396 (response rate74.72%) participated in the study. Respondents came form Kuala Lumpur Hospital (34.34%), Hospital Tuanku Jaafar Seremban (22.47%), Alor Star Hospital (19.7%), Hospital UKM (16.41%), Hospital Tuanku Fauziah, Kangar (5.05%) and Hospital Tengku Ampuan Afzan Kuantan (2.02%). Mean age of respondents were 53.3 ± 11.21 years, educated till secondary level (39.39%), Malays (44.19%) and mean marriage duration 27.73 ± 12.12 years. By category of cervical disease, in the pre-invasive stages, CIN 1 was highest in percentage of cases (8.08%), followed by CIN 3 (7.83%), CIN 2 (6.57%) and ASCUS (5.05%). This is followed with stage 1 cervical cancer (31.06%), stage 2 (28.26%), stage 3 (7.32%) and stage 4 cancer (5.81%). PCS mean rank scores are highest among the pre-invasive and stage 1 cervical cancer ($F=4.357$; $p<0.0001$). MCS were not significantly different amongst respondents by age or stage of cervical diseases ($F= 1.393$; $p=0.206$). QALY was negatively correlated with declining scores for age at $r= -0.522$ ($p<0.0001$). QALY scores were highest among pre-invasive stages and stage 1 cervical cancers ($F=9.917$; $p<0.0001$).

Conclusion:
Cervical diseases posed a substantial cause in decreasing QOL and QALY with increasing age and disease severity. This disability can be reduced with early screening and intervention to manage disease progression. Thus methods to reduce disease burden e.g. through Pap smears and possible future vaccinations will play a role to improve QOL among at risk women before developing late stages of disease.

Keywords: Cervical cancer, QALY, Quality of life, Physical Composite scores, Mental Composite Scores.

ANTIBIOTIC USAGE IN INTENSIVE CARE UNIT OF A UNIVERSITY HOSPITAL IN JAKARTA, INDONESIA

Irawan,[1] Zunilda D. Sadikin,[2] Armen Muchtar,[2] Indro Mulyono[3]

[1]*Kalimantan Timur Distric Health Office*
[2]*Department of Pharmacology, Faculty of Medicine Universitas Indonesia*
[3]*Intensive Care Unit, Cipto Mangunkusumo Hospital*

Background:
Hospital Drug by Law adopted by the Cipto Mangunkusumo Hospital since September 2007 requires appropriate use of medicine, while antibiotics is the most frequently misused drug all over the world. Intensive care unit (ICU) is one of the hospital unit where antibiotics are used extensively. The objective of the study was to see the appropriateness of antibiotic usage in ICU of a university hospital.

Methods:
All patients admitted to and/or received antibiotic in the ICU of Cipto Mangunkusumo Hospital in 1 June 2006 to 30 May 2007 is studied retrospectively. The medical records were retrieved to see the appropriateness in terms of indications, dosages, duration, choices of AB and the presence of contraindication as well as potential drug interaction. Appropriateness in indication was judged using data from the antibiotic susceptibility tests (AST). Clinical outcomes were analyzed to see the treatment effectiveness

Results:
Only 490 medical records out of 642 patients that could be retrieved during the study period. From these 490 patients, 156 were using ventilator. AB were given to all of the patients and 37.7% were given for prophylaxis in surgical patients. Only 12% (59 out of 490) patients received AB as empirical treatment and 27 out of 59 were followed by AST. Combination of AB was given to 40.4% patients. Most of the surgical prophylaxis were used in prolonged duration (46.5%). The most frequently used AB is ceftriaxon (28.9%) including those that used empirically, and often this AB were changed to another AB without any information on the reason. Most of the AB used were included in the Hospital's formularium. In 26 (5.3%) patients, there were inappropriate usage regarding with contraindication.

Conclusions:
Although many AB prophylaxis are used in prolonged duration and AB combination usage is rather high, overall appropriateness of AB usage in this hospital could not be judged because AB prophylaxis guidelines available is an outdated one.

Keywords: hospital drug by law, formularium, antibiotic

THE ROLE OF QUORUM SENSING IN BACTERIAL INFECTIONS

Siti Hanna Muharram[1], Alan Cockayne[2], Paul Williams[2]

[1] Institute of Medicine, Universiti Brunei Darussalam; [2]Institute of Infection, Immunity and Inflammation, University of Nottingham.

With the emergence of multiple antibiotic resistant bacteria, novel approaches are needed to discover new antimicrobial targets. Quorum sensing (QS) is a bacterial cell-to-cell signalling system that was first described in the marine photobacterium, *Vibrio fischeri* (Nealson *et al*, 1970). This signaling system is a mechanism whereby bacterial communities can communicate based on their population density to regulate their gene expression. Quorum sensing bacteria produce and release chemical signals called autoinducers (AIs) that accumulate as population density increases. As it reaches the threshold concentration, it determines the switching on or off of certain genes. Gram negative bacteria produce homoserine lactones while Gram-positives produce peptides as their signaling molecules. Another type of QS signalling system is the LuxS system. LuxS is the protein responsible for the synthesis of the Autoinducer-2 (AI-2) molecule in the QS system of the Vibrio spp., of *V. harveyi* and *V*. *fischeri.* Studies have revealed that the *luxS* gene is present in over thirty bacterial species, both Gram-negative and Gram-positive bacteria, indicating that the production and use of the signals may be widespread in the bacterial kingdom. Some of the bacterial species are *Escherichia coli*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus*. This bacterial communication system is important in the regulation of the bacterial virulence. For example, it can control the production of toxins in *Staphylococcus aureus*. These systems are now recognised as novel targets with potential of controlling infections by attenuating virulence through blockade of QS. As the idea is that when the communication is blocked, the bacteria would not be able to produce their virulence factors.

Keywords: Quorum sensing, Gram negative bacteria, Gram positive bacteria, bacterial communications.

THE EFFICACY OF PALM VITAMIN E IN TREATMENT OF OSTEOARTHRITIS OF THE KNEE

Nor Hazla Mohamed Haflah[1], Suhail Abdullah[1], Abdul Gapor Mat Top[2], Kamsiah Jaarin[1], Masbah Omar[1]

[1] *Department of Orthopaedics & Traumatology, UKM Medical Centre*
[2] *Malaysian Palm Oil Board*

Background:
Osteoarthritis of the knee causes pain and limitation in walking. Although several studies have explored the actions of vitamin E in relation to osteoarthritis, this is the first that utilizes vitamin E from palm oil and also the first that compares vitamin E with glucosamine sulphate. The aim of this study is to assess the efficacy of oral palm vitamin E in reducing symptoms in patients with osteoarthritis of the knee compared to oral glucosamine sulphate.

Materials and Methods:
Seventy-nine patients were recruited in this prospective, randomized, double-blind study. Patients were allocated to receive either oral glucosamine sulphate or oral palm vitamin E. Symptoms were assessed using the WOMAC osteoarthritis index, visual analogue scale (VAS) and Global Status Scale.

Results:
Sixty-four patients completed the trial (vitamin E n=33, glucosamine sulpahte n=31). After 6 months of treatment, both groups showed improvement in WOMAC scale. Vitamin E and glucosamine group had a mean reduction of 30.272 ($p<0.05$) and 45.822 ($p<0.05$), respectively. There was no significant difference in WOMAC scale between the 2 groups. Similarly both groups showed significant reduction in the VAS score during standing and walking. The mean standing VAS score for vitamin E and glucosamine groups were 1.75 ($p<0.05$) and 2.645 ($p<0.05$) respectively. The mean walking VAS score for vitamin E and glucosamine group were 2.545 ($p<0.05$) and 3.596 ($p<0.05$). No difference was found between both groups.

Conclusion:
Both oral palm vitamin E and glucosamine sulphate were equally effective in reducing symptoms of patients with osteoarthritis of the knee.

Keywords: Palm, vitamin E, osteoarthritis, knee, glucosamine

DETECTION OF H5N1 AVIAN INFLUENZA A VIRUS BY A ONE STEP MULTIPLEX RT-PCR ASSAY

Fera Ibrahim,[1,2] Budiman Bela,[1,2] Aroem Naroeni,[2] Sylvia Tri Widyaningtyas[2]

[1]*Department of Microbiology, Medical Faculty, Universitas Indonesia*
[2]*Institute of Human Virology and Cancer Biology of Universitas Indonesia*

Background:
Sensitive and specific detection assays for early diagnosis of Avian influenza virus (AIV) infection are an important key to reduce mortality rate. The best method existing for the initial diagnosis of influenza A (H5N1) is viral RNA detection by conventional or real-time reverse-transcriptase polymerase chain reaction. The development of a PCR-based assay that simultaneously amplifies multiple molecular targets in one reaction was performed to improve current diagnostics and to aid containment of the virus and lower the threat of an influenza pandemic. The objective of this research was to develop a method that could simultaneously detect H5N1 AIV and other influenza viruses in one reaction by a one step multiplex RT-PCR system.

Methods:
The study was carried out in July 2007 – June 2008. Several sets of primers targeted to H5, N1, and M sequences were designed based on multiple sequence alignment of Indonesian H5N1 isolates from human and chicken and other influenza A viruses with H1-16 and N1-9 antigens. Each of the primer sets were initially optimized for condition that allow amplification of the target regions. Based on the optimized condition of each primer sets, a one-step multiplex reverse-transcription PCR assay was then optimized to obtain conditions that result in amplification of the target regions in H5, N1 and M genes to detect the presence of H5N1 avian influenza A virus and non H5N1 influenza A virus. The specificity of the assay to detect H5N1 virus was shown by testing sub-types of influenza A virus and respiratory related bacterial pathogens

Results:
One step multiplex RT-PCR using primers targeted to H5, N1 and M was developed and optimized. The test was specific for influenza virus type A and could detect H5N1 and differentiate this virus from H3N2 or H1N1. The assay developed from this study indicates that the primer sets for amplification of the H5 and N1 genes are specific for the H5N1 influenza virus.

Conclusion:
A one step multiplex RT-PCR assay that could specifically detect H5N1 AIV was obtained. This assay would be highly useful as a diagnostic tool to help identify and control influenza epidemics. The performance of the assay with regard to H5N1 will be further evaluated.

Keywords: H5N1 avian influenza virus, one step multiplex RT-PCR, early diagnosis

CHROMAGAR *CANDIDA*, MEDIUM FOR ISOLATION AND IDENTIFICATION OF *CANDIDA* SPECIES FROM CLINICAL SPECIMENS

Mulyati, Ridhawati, Rawina Winita, Retno Wahyuningsih

Department of Parasitology, Faculty of Medicine Universitas Indonesia

Background:
The medium widely use for isolation of *Candida* species from clinical specimens is sabouraud dextrose agar, but this medium is only for the identification of genus *Candida.* Recently some of *Candida* sp become resistance to anti fungal agent and may lead to failure of treatment. Therefore, identification to species level is needed to overcome this problem. One of the method have been developed is CHROMagar *Candida,* a commercialized media which is ready to use and species specific. The aim of the study was to identify the *Candida* species directly from clinical specimens using CHROMagar *Candida.*

Methods:
The study was carried out at the Department of Parasitology Faculty of Medicine Universitas Indonesia during 2007. A total of 807 cultures of *Candida* were isolated from sputum, bronchial secret, pleural effusion, oral cavity swab and stool from hospitals in Jakarta and its surrounding. The specimens were identified by CHROMagar *Candida.* The identification conducted based on the color of the colonies.

Results:
Out of 807 isolates, 593 (73.5%) were a single colony consists of *C. albicans* 475(80,1%), *C. tropicalis* 90 (15,2%), *C. parapsilosis* 18 (3%), *C. glabrata* 5 (0,8%), *C. krusei* 2 (0,3%), *C. guilliermondii* 2 (0,3%), *Geotrichum* 1 (0.2%) and 143 (17,7%) isolates are mixed colonies consisted of *C. albicans* dan *C. tropicalis* 121(84,6%), *C. albicans* and *C. parapsilosis* 19 (13,3%), *C.albicans, C.tropicalis* and *C.parapsilosis* 3 (2,1%). The rest of 71 (8.8%) isolates could not be identified by this method.

Conclusion:
CHROMagar *Candida,* is an effective media and specific for *Candida.* This medium is able to identify more than one species in one clinical specimen.

Keywords: CHROMagar *Candida*, specific identification, *Candida* species

DECOMPRESSION SICKNESS AMONG FISHERMAN MOROAMI DIVERS IN JAKARTA

Chichi wahab,[1] setyawati budiningsih,[2] muhammad guritno[3]

[1] *Mintohardjo Hospital, Indonesia Navy*
[2] *Department of Community Medicine, Faculty of Medicine Universitas Indonesia*
[3] *Indonesian Navy Health Office*

Background:
Indonesia is an archipelago with many traditional divers, however research on decompression sickness (DCS) has not yet elaborated. The aim of the study was to identify the prevalence of DCS and factors related to it.

Methods:
The study was conducted in October-November 2007 among fisherman Moroami divers in Seribu Island Jakarta. Anamnesis and physical examination was taken before and three times after diving. Subject was diagnosed as having DCS if experienced one of these symptom or sign: myalgia, muscle pain, skin rash, ankle weakness, bowel movement & bladder dysfunction, visual disturbances, headache, vertigo, dyspnoe, chest pain, convulsion, unconsciousness, nausea and vomiting.
Results:
Among 123 potential divers, five were having upper respiratory infection, so only 117 divers participated in this study. Final model analysis showed that regulator, valsava when having ear pain, ascending speed to surface, and lack of training were risk factors to obtain DCS. Divers whose ascending speed more than 9 m per minutes had two times risk to get DCS (adjusted ratio = 2.2; 95% CI : 1.11 – 3.56). Having DCS before diving, increased risk 20% (95% CI= 0.86-1.68; p=0,285).

Conclusion:
Beside knowledge to use regulator correctly and valsava, fisherman Moroami divers need to be trained to ascend speed to sea level surface less than 9 m per minute.

Key words: decompression sickness, ascending speed, regulator, valsava.

PROGRESS TESTING: THE EVALUATION OF THE FIRST THREE BATCHES OF STUDENTS FROM THE NEW CURRICULUM

Diantha Soemantri

Department of Medical Education, Faculty of Medicine Universitas Indonesia

Background:
Progress test is a tool to examine knowledge the students gain from year to year. The Faculty of Medicine of Universitas Indonesia has implemented a new curriculum for three years. Therefore, this study is aimed to examine and monitor the knowledge gain and retention among students.

Methods:
The test consisted of 150 multiple choice questions (MCQ) compiled from 16 integrated medical sciences modules. An examination blueprint was developed according to the distribution of modules. Several selection criteria were applied for the purpose of selecting questions for the test. The progress test was scheduled to be followed by all FMUI students from year 1 to 3 in January 2008. The test's scores were calculated using computer software. Furthermore, the mean scores of the test were analyzed using one-way ANOVA test.

Results:
Out of 638 students, 585 students (91.6%) sit the examination. The second year students performed better than the first year, although it was not statistically significant ($p = .279$). The same also applied to the comparison of second and third year students' scores ($p = .077$). The significant difference was found in the scores of the third year students when compared with that of the first year ($p = .000$).

Conclusion:
The test scores suggested some improvements in students' knowledge from year to year. The progress test is able to capture and demonstrate students' achievement. Routine administration of this test should enable the measurement of students gain and retention of knowledge, specifically in the new curriculum where boundaries of knowledge are removed.

Key words: progress test, assessment, innovative curriculum, knowledge gain

INTERPROFESSIONAL EDUCATION OF STUDENTS IN HIGHER EDUCATION: WHAT IS NEW?

Oduola Abiola[1]

[1]*Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam*

The concept of interprofessional education has recently started to gain what appears to be resurgence in attention. In some cases and depending on who you are speaking with, it is almost packaged like a new phenomenon. In others not totally as new however, 'it is in a form in which it has never happened and would offer the best value for money'. But is it really new? 'There is no new thing under heaven' says the Christian Holy Scriptures the Bible. In this conceptual paper, I will be examining the various forms of interprofessional education and their applications within the purview of medical and general higher education. I will propose a model of interprofessional education and demonstrate its effectiveness. I will also be arguing that this proposed model of interprofessional education is able to enhance the employability of its users which confers an added advantage and its utmost suitability for application in the Higher Education of the prevailing knowledge based economic world order.

Keywords: Interprofessional education, applications, knowledge-based economy.

THE USAGE OF E-LIBRARY IN THE FACULTY OF MEDICINE UNIVERSITAS INDONESIA

Boy S. Sabarguna

Faculty of Medicine Universitas Indonesia

Background:
E-library must be trend of education support, but usage is not so good and the problem must be know opinion and hope of student that use E-Library. The aim of the study was to know the usage of e-library and to know the opinion and hope of student and management.

Methods:
This study was carried out in Faculty of Medicine Universitas Indonesia in January-December 2006, using quantitative and qualitative method, by 3 steps design in post test only without control. Samples were students who used e-library and official of library, vendor and information manager. Analysis by percentage in quantitative and interpretation and association for qualitative.

Results:
The usage of e-library in 2006 was only 14% of all student because usage of e-library is too protected and less attention, need manual, socialization training and coordination, and not together with internet. Need improvement of all management in library.

Conclusion:
The usage of e-library still low and must be improved by management of system and all over library management.

Keywords: E-library, usage, opinion, hope

USE OF SIMULATION IN CLINICAL SKILLS TEACHING

Zaw WINT[1], Dk Nurolaini Pg Haji Muhd Kifli[1] , Anita Aziz[1]

[1] *Institute of Medicine, Universiti Brunei Darussalam, Jalan Tungku Link, Gadong, BE 1410, Brunei Darussalam*

Use of simulation has been widely accepted and proven to be effective in medical education particularly in the communication and clinical skills teaching area. Simulated patients, conventional manikins, scenario based and electronically operated simulator models are among different types of simulations used in medical education at present. Simulated patients trained to deliver a programmed or prewritten patient scenarios, are commonly used particularly in training of communication skills to medical students.

The Institute of Medicine, Universiti Brunei Darussalam inaugurated the first intake of medical students in the Year 2005. To date there are 9 partner medical schools worldwide transferring the students to date. The questionnaire survey is designed to conduct among Year 1 to Year 3 medical students at the Institute of Medicine, Universiti Brunei Darussalam from April to May 2008. The study aims to investigate how well faculty-identified learning needs of the undergraduate medical student in clinical skills area were met by using simulation and similar methods in medical education. It also investigates the student's perception on benefits of using simulation in various areas in patient care teaching namely communication and clinical skills. The spectrum of opinion and perception of medical students during their spiral learning of 3 years period in the medical school is identified.

Keywords: Simulation, Simulated Patients, Role Play Scenarios, Communication and Clinical Skills.

APPLICATION OF STRUCTURAL EQUATION MODELING (SEM) IN HEALTH RESEARCH

Naing L[1]

Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam[1]

Structural equation modeling (SEM) can be applied to develop risk factor modeling in health research or any relationship modeling. It could be from simple models or complex structured models. It could involve both measured and unmeasured variables. Unmeasured variables are useful for abstract or construct terms which couldn't be measured directly. It could involve both correlation (covariance) and linear regression in one model. This valuable modeling technique is rarely used in health research field. The presentation highlights the application of a SEM software (AMOS), interpretation, usefulness and limitations of the SEM modeling using a case study.

Keywords: AMOS, health research, structural equation modeling

Poster Free Papers

Group1

LABORATORY EVALUATIONS OF MUCOPOLYSACCHARIDOSES: A CASE REPORT

Abdul Murad MN [1], Bador KM [1] ,Zabedah Y [2]

[1]Departments of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur. [2] Institute of Medical Research, Kuala Lumpur

A 5 years old Malay boy who presented with cardiac abnormalities and skeletal deformities was investigated for possible diagnosis of Mucopolysaccharidoses (MPS). Urine specimen was sent to the Institute Medical Research, Kuala Lumpur for diagnostic work-up of MPS of which involved initial quantitative screening for glycosaminoglycan (GAGs), using dimethylmethylene blue technique, followed by semi-quantitative analysis (high resolution electrophoresis;HRE). Results revealed a positive screening test (GAGs > 13 g/mol/creatinine) and presence of heparan sulfate and dermatan sulfate by HRE which was suggestive of MPS I or II. However, a definitive enzyme test to measure α-L-iduronidase (MPS I) and Iduronate-2-sulfatase (MPS II) were not done due to unavailability. Nevertheless, the patient is currently being treated for MPS. MPS are a group of recessively inherited disorders due to enzyme deficiencies in the catabolism of GAGs. This patient presented with typical signs of MPS with skeletal deformities and cardiac abnormalities.. Laboratory investigations are crucial for final diagnosis; an algorithm for the investigation of MPS will be presented.

Keywords: Inborn error, mucopolysaccharidoses, laboratory evaluations

EFFECTIVENESS OF PROBLEM-BASED LEARNING IN UNDERGRADUATE MEDICAL EDUCATION: A CASE STUDY

Abdus Salam

Department of Medical Education, Faculty of Medicine, Universiti Kebangsaan Malaysia

Background:
Problem-based learning (PBL) is used in many universities all over the world and its popularity continues to grow. Faculty of Medicine, Universiti Kebangsaan Malaysia (UKM) has implemented problem-based curriculum in 2005. Effectiveness of PBL depends on the design of problem and facilitation skills. The objective of this study is to identify the students' perception of tutors' facilitation skills in PBL of UKM.

Materials and Methods:
It was a cross-sectional study carried out on a group of semester-1 medical students of UKM during conduction of all 3 PBL packages under human genetic module in the month of November 2007. The group consisted of 12 students. At the end of each PBL, students evaluate their tutor by responding to an evaluation form that contains different attributes of facilitation. The students' group leader collects and submits these forms to the academic office which ultimately goes to the PBL committee. Sometimes these evaluation forms are sent to the respective tutor. As such the author got the evaluation forms of all these packages which were then analysed.

Results:
This study revealed, 92% to 100% students were in the opinion that the tutor understood the PBL process, encouraged them to participate actively in group discussions, kept the group in focus, gave them feedback and maintained a supportive atmosphere during conduction of all 3 PBL packages.

Conclusion:
Characteristic of an effective tutor that students look for in a problem-based curriculum is that the tutor should act as facilitator rather than educator. Findings of this study conclude that characteristics of effective PBL are maintained in UKM. However, this study reflects only evaluation of a single tutor by a single group of students. Further large scale studies can reveal more definitive information.

Keywords: Effectiveness, Problem-Based Learning, Facilitation Skills

QUALITY OF LIFE AMONG ADULT DIABETES MELLITUS PATIENTS IN UNIVERSITI KEBANGSAAN MALAYSIA MEDICAL CENTRE

Shahirah Md Rasid[1], Normah Che Din[2], Suehazlyn Zainudin[3], Siti Balkis Budin[4]

[1]Ocupational Therapy Programme, Universiti Kebangsaan Malaysia, [2]Health Psychology Unit, Faculty of Allied Health Sciences, Universiti Kebangsaan Malaysia, [3]Department of Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, [4]Department of Biomedical Sciences, Faculty of Allied Health Sciences, Universiti Kebangsaan Malaysia.

Background:
Diabetes Mellitus (DM) is a chronic illness that leads to multiple complications that may disturb and influence patients' daily activities.

Materials and Methods:
This cross-sectional study was designed to measure the health-related quality of life of diabetes mellitus patients in Universiti Kebangsaan Malaysia Medical Centre (UKMMC). Ninety adult subjects who attended the outpatient diabetes mellitus clinic from September to December 2007 were surveyed using the SF-36 Health Questionaire. Scores of 50 and above were considered as good quality of life whereas scores below 50 were considered as poor quality of life.

Results:
Good quality of life scores were obtained in the scales for physical function (78.72 ± 22.39), physical role function (58.61 ± 48.16), general health (50.00 ± 10.22), emotional role function (86.67 ± 29.05) and mental health (59.33 ± 6.43), whereas low quality of life scores were obtained in scales for bodily pain (20.78 ± 15.73), vitality (46.17 ± 8.00) and social function (47.78 ± 9.09). In general, based on the total score of SF-36, diabetic patients in UKMMC have good quality of life (56.01±8.80).
When compared between sexes, female patients had significantly higher scores for physical function (83.95 ± 14.25) compared to men (73.94 ± 27.13) at $p<0.05$. However, no significant difference between sexes are noted for scores of physical role function, bodily pain, general health, vitality, social function, emotional role function and mental health. There was also no significant difference between sexes for total SF-36 score.
Age correlates positively with scores for bodily pain ($r = 0.445$, $p<0.01$), general health ($r = 0.214$, $p<0.05$) and vitality ($r = 0.352$, $p<0.01$) but negatively with scores for physical function ($r = -0.565$, $p<0.01$), physical role function($r = -0.532$, $p<0.01$), emotional role function($r = -0.211$, $p<0.05$) and total score of SF-36 ($r = -0.457$, $p<0.01$).

Conclusion:
This study showed that diabetic patients in UKMMC have good quality of life. If the goal of maximizing quality of life in diabetic patients is to be reached, health-related quality of life assessment should be used as means to monitor progress.

Keywords: Diabetes Mellitus, quality of life, SF-36,

AUTOIMMUNE POLYGLANDULAR TYPE III: A CASE REPORT

Norasyikin AW, Suehazlyn Z, Mohamed Badrulnizam LB, Nor Azmi K

Medical department, Pusat Perubatan Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Polyglandular autoimmune syndrome (PGS) comprises a group of autoimmune disorders of the endocrine glands that results in failure of the glands to produce their hormones. Three types of PAS have been recognized of which do not involve the adrenal glands. Here we described a case of PAS type III consisting of pernicious anaemia and hashimoto thyroiditis.

A 62-year-old Chinese lady presented with symptoms of anaemia, jaundice, poor appetite and weight loss of 6 months duration. No history of alteration in bowel habit or hepatitis were noted. She had no significant past medical history except being hypertensive for 15 years.
On examination, she was pale, jaundiced with coarse and dry skin and brittlehair. Full blood count showed macrocytic anaemia with thrombocytopenia while full blood picture revealed leucoerythroblastic picture with polychromasia and ovalostomatocytosis. Bone marrow aspiration and trephine biopsy indicated severe megalobl;astic anaemia with absent of blast cells. Thyroid function test was consistent with hypothyroidism. Her vitamin B12 level was very low with normal folate level. Her synacthen test revealed a good cortisol response.
In the presence of megaloblastic anaemia and hypothyroidism, the diagnosis of PGS was entertained. We proceeded with investigations to confirm the pernicious anaemia with both anti-gastric parietal cell and intrincic factor (IF) antibodies being positive. Her antithyroid peroxidase as well as fasting gastrin levels were extremely high.

The goals of pharmacotherapy are to replace each normonal involves, prevent complications, and reduce morbidity. This patient was then treated with monthly intramascular injection of vitamin B12, packed cell transfusions and L-thyroixine replacement. Prognostic of PGS III depends on the individual glandular failures. No systemic studies of long term prognosis of patients with PAS III had been conducted so far.

Keywords: Polyglandular syndrome, pernicious anaemia, hypothyroidism

BILATERAL ADRENAL HISTOPLASMOSIS: A CASE REPORT

Norasyikin AW, Rozita M, Suehazlyn Z, Norhaliza A, Wong M, Norlaila M, Nor Azmi K

Medical department, Pusat Perubatan Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Histoplasmosis is a fungal disease that is endemic in certain parts of the world including Asia. In its disseminated form, histoplasmosis frequently affects a single adrenal gland, with normal cortisol response. Abnormal adrenal response occurs in only 10% of the cases. Thus diagnosing adrenal histoplasmosis needs a high index of suspicion as the presentation mimics other chronic infections or malignancies especially in the elderly and immunocompromised hosts. We report a case of bilateral adrenal histoplasmosis with normal cortisol response.

A 75-year-old man, diabetic and hypertension for 10 years on treatment presented to a private hospital with history of prolonged fever, malaise and marked weight lost. Computed tomography (CT) scan of the abdomen revealed bilateral adrenal masses measuring 5 x 4 cm . A fine needle aspiration biopsy of the mass was inconclusive. He was treated empirically with fluconazole 200mg daily for 2 months. However he did not return for his subsequent follow up.

Six months later, he presented a gain with generalised bodyaches, unwell and significant loss of appetite and weight of 4 months duration. No lymphadenopathy or organomegaly was noted. He had mild hypercalcaemia despite having acute renal failure. His random serum cortisol was 539 nmol/L (normal range : 60-469nmol/L) and synacthen test showed adequate cortisol response. Despite a normal chest radiograph, repeat CT scan showed persistent bilateral adrenal masses measuring 5 by 4 cm. A repeat fine needle aspiration biopsy of the adrenal gland again indicated histoplasmosis infection.

Liposomal amphoterecin B was used to reduce the risk of nephrotoxicity and to achieve the recommended dose in relatively shorter period as compared to conventional amphotericin B. it was given for 2 weeks followed by oral ketoconazole planned for 1 year. On his subsequent follow up, he was asymmptomatic, gained weight and tolerated his treatment well.

Keywords: histoplasmosis, cortisol, liposomal amphoterecin B

A RARE CAUSE OF HYPOKALEMIA

Subashini CT, Nor Aini U, Bador KM

Department of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia.

A 46-year-old Chinese man, a known case of hyperthyroidism, presented to the Emergency Department of HUKM with sudden onset of bilateral lower limb weakness. He had experienced previous similar episodes, which had resolved spontaneously. On physical examination, patient was clinically euthyroid and the muscle strength was lowered bilaterally in the lower (3/5) and upper extremities (4/5). The only significant laboratory findings were low serum potassium (2.0mmol/L) and raised creatinine kinase (651 U/L). Patient was immediately given 2g intravenous Potassium Chloride (IV KCl) with 200ml Normal Saline over 2 hours with cardiac monitoring. 6 hours post IV KCl, repeat serum potassium was 3.4mmol/L. Based on the patient's history, signs, symptoms, laboratory findings and response to initial treatment, a provisional diagnosis of Thyrotoxic Hypokalemic Periodic Paralysis (THPP) was made, which was subsequently confirmed with thyroid function test results: TSH<0.01μIU/ml; freeT4=28.23pmol/L. The patient was discharged on Carbimazole (10mg daily) and Propranolol (40mg daily) 3 days later.

THPP is more commonly found in Asian males (prevalence 2-10%) than in Caucasians (0.2-1%) and this patient presented typically. However, unlike previous reports, the freeT4 in this patient was only slightly elevated. This patient also had poor compliance with medication and a history of consuming 2-3 bottles of beer per week, which may have contributed to the onset of THPP.

A RARE CAUSE OF HYPERTENSION

Siti Yazmin ZS, Nor Aini U, Bador KM

Department of Pathology, Department of Medicine, Universiti Kebangsaan Malaysia

A 30 year old gentleman presented with headache, excessive sweating and hypertensive episodes. There was a strong family history of hypertension, cardiovascular diseases and sudden death on his paternal side. His blood pressure was 204/140, heart rate was 87 beats/min and respiratory rate was 24/min. ECG showed normal sinus rhythm with evidence of left ventricular hypertrophy, whilst his echocardiogram was normal. Renal artery stenosis was ruled out by abdominal ultrasound. However, CT abdomen showed a lesion of right adrenal gland, measuring 3.7 x 2.5 cm, without calcification, suggestive of phaeochromocytoma. His 24-h urinary fractionated catecholamines showed only elevated noradrenaline (Noradrenaline = 1363 μg/24h; adrenaline <3.0μg/24h; Dopamine = 242 μg/24h). Based on his classical clinical presentation, positive CT findings and elevated urinary catecholamines, a diagnosis of phaechromocytoma was made. However following elective operation, the tumour was found to be a paraganglioma, encroaching the adrenal gland, which was confirmed histologically. Apart from being on a lifelong follow-up, he is now doing well post-operatively. Recently, it was discovered that one of his paternal cousins had died due to metastatic tumour of unknown origin. Thus this case may represent a case of familial phaeochromocytoma, given the other family history of hypertension and sudden death. A definitive diagnosis of familial phaeochromocytoma would require genetic testing, which is unfortunately unavailable in Malaysia. Paraganglioma is an extra-adrenal catecholamine-secreting tumour. Although the extra-adrenal location of the tumour was indeed suggested by the higher noradrenaline level compared to adrenaline, the CT scan was more suggestive of adrenal phaechromocytoma. The final diagnosis was only made during surgery, together with histological confirmation. This case illustrates the necessity for combined laboratory and surgical investigations to arrive at the diagnosis.

EFFECT OF TOPICAL *MOMORDICA CHARANTIA* (BITTER GOURD) EXTRACT IN STREPTOZOTOCIN-INDUCED DIABETIC RATS

Teoh Seong Lin, Azian Abd Latiff, Srijit Das

Department of Anatomy, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia

Background:
Momordica charantia (MC) is a traditional herb commonly used for its antidiabetic, antioxidant, antibacterial and antihelmintic properties. It is also used externally for the rapid healing of wounds. The present study observed the effect of MC extract on wound healing in non-diabetic and streptozotocin-induced diabetic *Sprague Dawley* rats when administered topically.

Materials and methods:
A total of 72 rats weighing 200 ± 50 g were used in the study. Rats were divided into a non-diabetic group (n = 36) and a diabetic group (n = 36). The rats were further subdivided into a non-treated group (n = 18) and topically treated group (n = 18). Full thickness cutaneous wound of 6 mm diameter were created on the skin over the dorsal aspect of the thoracolumbar region. The animals were sacrificed and wound tissues were harvested on the 1^{st}, 5^{th} and 10^{th} day following wound infliction. The rate of wound closure and the total protein content was estimated and the histological analysis with light and electron microscope was performed.

Results:
There was no significant difference in the parameters tested within the non-diabetic groups. The diabetic group exhibited delayed wound healing as compared to the non-diabetic group, while the topically treated diabetic group showed increased total protein content, rate of wound closure, better integrity of the epithelium, proliferation and migration of cells, and more collagen deposition within the wounded tissues as compared to the non-treated diabetic group.

Conclusion:
The present study demonstrated that topical treatment of MC extract accelerates diabetic wound healing. The beneficial effect of MC extract on wound healing might be due to its antioxidant and antibacterial properties.

Keywords: *Momordica charantia*, bitter gourd, wound, healing, diabetes

NEUROPSYCHOLOGICAL PROFILES OF EPILEPSY PATIENTS REFERRED FOR PRESURGICAL EVALUATION

Normah Che Din[1], Saralla Murugappa Chettiar[1], Azlinawati Nik Mat[1], Raymond Azman Ali[2]

[1] *Health Psychology Unit, Faculty of Allied Health Sciences, UKM*
[2] *Faculty of Medicine, UKM*

Background:
Neuropsychological assessment endeavours to provide important information on reducing the risks for post-operative surgery for epilepsy patients. The main purpose of the study was to determine the suitable candidates for epilepsy surgery. The study also aimed to compare the neuropsychological profiles between genders, and sites of lesion.

Materials and Methods:
The data was collected from 32 epilepsy patients referred by neurologists from Hospital Universiti Kebangsaan Malaysia. Neuropsychological tests administered were Wechsler Adult Intelligence Scale Revised (WAIS-R), Rey Auditory Verbal Learning Test (RAVLT), Benton Visual Retention Test (BVRT) and Trail Making Test (TMT). Among the selection criteria for suitable candidates of epilepsy surgery are patients with unilateral lesion particularly the right-sided lesion, good verbal memory, and a Full Scale IQ higher than 70.

Results:
The results showed that male patients have similar neuropsychological profiles with female patients, and those with left sided lesion did not differ significantly from patients with right-sided lesion.

Conclusion:
Based on the criteria above, almost all participants were eligible for epilepsy surgery.

Keywords: Epilepsy, Neuropsychology, Evaluation.

MODULATION OF GLUCOSE UPTAKE IN L6-MYOUTUBE CELLS BY HYDROGEN PEROXIDE

Musalmah M, Rehana M and Wan Zurinah WN

Dept of Biochemistry, Medical Faculty, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, MALAYSIA

Background:
Increased in reactive oxygen species (ROS) has been reported to be one of the causes for complications in diabetes mellitus. However recently there have been reports that ROS could exert beneficial effects on health. Therefore this study was undertaken to evaluate the effect of hydrogen peroxide (H_2O_2) on glucose uptake by myotubes and compare that to the action of insulin as control.

Materials and Methods:
Cells were divided into groups and treated with either insulin, H_2O_2 or insulin + H_2O_2. Untreated cells served as control. D-[2-^{3}H]Glucose was given to each group and the glucose uptake was measured using beta-scintillation counter. The V_{max} and K_m of the transport were also calculated for each group. The expressions of proteins involved in glucose uptake such as GLUT4 and hexokinase were determined by Western blot. The expressions of PPAR-γ and IRS-1 which are proteins of the insulin signaling pathway were also determined.

Results:
Results showed that H_2O_2 treated cells had significantly higher amount of D-[2-^{3}H]Glucose being taken by cells when compared to control. This finding was similar to that seen with cells treated with insulin. Treatment with both insulin and H_2O_2 increased the amount of glucose transported into cells, however this was not significant compared to treatment with either insulin or H_2O_2 alone. The kinetics of glucose uptake were similar in both treatments ie increased in Vmax but no change in Km. This indicates that the increase in the rate of glucose transport did not involve change in affinity of the glucose transporter. This was further confirmed when Western blot studies showed that H_2O_2 increased the translocation of GLUT4 from the golgi apparatus, increased expression of hexokinase- an enzyme which phosphorylates glucose and indirectly stimulate glucose uptake by cells. The similarities in these effects of H_2O_2 to those observed with insulin treated cells were further strengthened with the observations that H_2O_2 treated cells also stimulated increased in PPAR-γ and IRS-1.

Conclusion:
Thus in conclusion, the study shows that H_2O_2 at 10 μM mimicked insulin action in stimulating glucose uptake in myotube cells.

Keywords: Reactive oxygen species, hydrogen peroxide, glucose uptake, myotube cells, kinetics.

PREVALENCE OF RISK FACTORS FOR CHRONIC DISEASES AMONG NURSES AND MEDICAL DOCTORS IN R.I.P.A.S HOSPITAL, BRUNEI DARUSSALAM

Seit Mei Chien[1], M M Hossain[1], Mohd Ayub@Lin Naing[1]

[1]*Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam*

Introduction
The prevalence of chronic diseases is rapidly increasing and this has posed a global health threat. The aim of this study is to study the prevalence of risk factors for chronic diseases of the nurses and medical doctors in Raja Isteri Pengiran Anak Saleha (R.I.P.A.S) Hospital.

Methods
A cross-sectional study was conducted among the nurses and doctors in R.I.P.A.S Hospital using a self-reported questionnaire which was adapted from the World Health Organization's STEPwise approach to chronic disease risk factor surveillance (STEPS).

Results
Overall, 139 individuals (70 nurses and 69 doctors), from aged 20 years and above participated. The response rate was 54.1%. The prevalence of hypertension among nurses was 16.9% [95% CI: 7.8, 26.5] compared with 18.2% [95% CI: 8.9, 28.0] among doctors. The prevalence of overweight or obese (BMI ≥ 25kg/m^2) was 51.6% [95% CI: 39.3, 65.3] among nurses and 45.5% [95% CI: 33.4, 58.7] among doctors. Overall, 75.4% [95% CI: 64.9, 87.9] of nurses and doctors took less than five servings of fruits and/ vegetables per day. Physical inactivity (spending less than 150 minutes of vigorous and/or moderate sports, fitness or recreational (leisure) activities per week) was reported by 58.3% [95% CI: 45.9, 72.6] of nurses and 44.6% [95% CI: 32.5, 58.0] of doctors. Low prevalence of tobacco use was reported in both nurses and doctors at 2.9% [95% CI: 0.0, 6.9]. The prevalence of alcohol consumption in the past 12 months was 3.2% [95% CI: 0.0, 7.6] among nurses and 28.8% [95% CI: 17.9, 40.5] among doctors.

Conclusion
Nurses and doctors are experiencing an increase in the prevalence of many risk factors for chronic diseases. The findings highlight the need to carry out further studies among them as to understand why they have many of the chronic disease risk factors, despite their broad knowledge on health issues.

Keywords: Chronic disease risk factors, nurses, doctors, STEPS.

γ-TOCOTRIENOL MODULATED CELL CYCLE OF PRIMARY HUMAN SKIN FIBROBLAST CELLS

Azalina Zainuddin, Suzana Makpol, [1]Chua Kien Hui, Yasmin Anum Mohd Yusof, [2]Gapor Md.Top, Wan Zurinah Wan Ngah

Department Of Biochemistry and [1]Physiology, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia and [2]Department Of Chemistry, Malaysian Palm Oil Board, Kuala Lumpur, Malaysia.

Background:
The aim of this study was to determine the effect of palm oil γ-tocotrienol on replicative senescence by determining the cell cycle status of primary human skin fibroblast cells.

Materials and Methods:
Primary culture of human skin fibroblast cells from different passages were incubated with 50 μM gamma tocotrienol for 24 hours. Cell cycle status in young (*passage 4*), pre-senescent (*passage 20*) and senescent (*passage 30*) cells of human skin fibroblast was analyzed by flow cyctometry (BD FACSCalibur flow cytometer). The single-parameter histogram of DNA allowed discrimination of cell populations existing in G_0/G_1, S and G_2/M phases of the cell cycle.

Results:
Our results indicated that young cells (both control and γ-tocotrienol treated groups) showed an increase in S-phase and decreased in the G_0/G_1 phase. Whereas, similar effects was not observed in the pre-senescent and senescent cells (both control and γ-tocotrienol treated groups).

Conclusion:
In conclusion, γ-tocotrienol increases the synthesis phase of the cell cycle of young human skin fibroblast cells and therefore prevents replicative senescence.

Keywords: γ-tocotrienol, aging, cell cycle and fibroblast cells.

EFFECTS OF GINGER EXTRACT (*ZINGIBER OFFICINALE ROSCOE*) ON APOPTOTIC PROTEIN EXPRESSION IN HEPATOCARCINOMA INDUCED RATS

Yasmin Anum Mohd Yusof, Shahriza Zainal Abidin, Looi Mee Lee, Shafina Hanim Mohd Habib , Harlianshah Hanif, Noor Aini Abdul Hamid.

Department of Biochemisty, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz 50300, Kuala Lumpur

Background:
Ginger extract was recently found to exert its anticancer and antioxidant effects by reducing tumour burden and lipid peroxidation respectively in hepatocarcinognesis induced rats (N.Ahmad et al., Mal J Bioch & Mol Biol. 2006 14:7-12). The current study examined the expression of pro-apoptotic protein caspase-8 and anti-apoptotic protein Bcl-2 in hepatocarcinogenesis treated rats.

Materials and Methods:
Twenty six normal male Wistar rats were divided into 5 groups based on the diet given: i) control (normal rat chow), ii) olive oil, iii) ginger extract (100mg/kg body weight), iv) choline deficient diet plus ethionine, CDE (to induce liver cancer) and v) CDE + ginger extract. Rats were killed at 8 weeks, and liver tissues were fixed with formalin and embedded in paraffin wax. Immunohistochemistry staining for pro apoptotic and anti apoptotic proteins, caspase-8 and Bcl-2 respectively was performed for each group.

Results:
The observation on H&E staining confirmed that CDE diet induced liver cancer indicated by the presence of numerous oval cells. 91.6% of the samples showed positive staining for Bcl-2 while treatment with ginger extract however inhibited the expression of Bcl-2 in CDE group with only 8.4% samples exhibited positive staining. For CDE group, only 41.7% of the samples were positive for caspase-8 staining, while ginger extract treatment in CDE group increased the expression of caspase-8 showing 100% positive staining for caspase-8.

Conclusion:
These findings suggests that ginger extract has an anticancer effect by inducing apoptosis in cancer cells via up-regulation of the expression of pro-apoptotic protein, caspase-8 and down-regulation of the expression of anti-apoptotic protein Bcl-2

Keywords: Ginger, hepatoma-induced rats, apoptosis, Bcl-2, caspase-8

PRIMARY PERITONEAL CARCINOMA : A CASE REPORT

Nur Syahrina R, Siti-Aishah MA[1], Ng PHO[2], Ismail S[3], Aini AA[4]

[1]Departments of Pathology, [2]Obstetrics and Gynaecology , [3]Surgery and [4]Radiology, Pusat Perubatan , Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Background:

Primary peritoneal carcinoma (PPC) is a rare tumor that is histologically and immunohistochemically virtually indistinguishable from epithelial ovarian carcinoma. The diagnosis is usually made after excluding gross ovarian involvement or the ovarian involvement is only confined to the surface

Case:
We report a case of primary peritoneal carcinoma diagnosed in December last year. The patient was a 68-year-old lady presented with right iliac fossa pain and increasing CA125. The CT scan showed bilateral pelvic adnexal masses with peritoneal deposits within the right side of abdomen. She was initially diagnosed with carcinomatosis peritonei from the omental cake removed after exploratory surgery. She was managed as advanced ovarian tumor with peritoneal metastasis and was then given 6 cycles of chemotherapy and proceeded to debulking surgery consisting of total abdominal hysterectomy, bilateral salpingo-oophorectomy and omentectomy and also with right hemicolectomy. The histopathological findings were of primary peritoneal serous carcinoma with only minimal involvement of the serosal surface of the right ovarian capsule. No microscopic invasion into underlying ovarian cortex and stroma was seen. Multiple tumor deposits were also seen over the right paratubal and paraovarian tissue, both parametrium as well as serosal surface of the terminal ileum and periappendicular tissue. Immunohistochemically, the malignant cells are positive to CA125, focally positive to CK7 and negative to CK20 and Calretinin.
Conclusion: This case illustrates that the PPC is one of important differential diagnosis need to be considered in cases of advanced ovarian tumor, although the former can only be ascertained after excluding the ovarian involvement microscopically.

Keywords: Primary peritoneal carcinoma, epithelial ovarian carcinoma

4', 5', 7-TRIHYDROXYFLAVONE REDUCES CYCLOSPORINE-A INDUCED CHANGES IN LIPID HYDROPEROXIDES AND TOTAL ANTIOXIDANTS IN RATS

Nagaraja H S[1], Srikumar Chakravarthi[2], Thanikachalam P[2], Nagarajah Lee[3], Ravinder Singh Jassal[1]

[1]Department of Human Biology, [2]Department of Pathology, [3]Department of Community Medicine, International Medical University, Kuala Lumpur, Malaysia

Background: Cyclosporine-A is the first choice immunosuppressant universally used for the prevention of allograft rejection in solid organ transplants and immune mediated diseases. However, with increasing use, evidence has accumulated that cyclosporine therapy is associated with a variety of side effects. 4', 5', 7- trihydroxyflavone is a bioflavonoid containing heterocyclic skeleton of flavones. This compound is known to have chemo preventive properties, induces cellular growth arrest, with concomitant inhibition of intracellular signaling cascades and decrease proto-oncogene expression. In the present study we aim to investigate the role of this bioflavone on cyclosporine-A induced changes in oxidative stress markers in the rats.

Materials and Methods: Rats were divided into control, cyclosporine-A alone (25mg/Kg body weight), trihydroxyflavone alone (20mg/kg body weight) and cyclosporine-A with trihydroxyflaavone groups. Cyclosporine-A was injected intraperitoneally and trihydroxyflavone was given orally in the treatment groups daily, for 21 days. Serum total antioxidants, lipid hydroperoxides, superoxide dismutase and glutathione peroxidase were measured by enzyme-linked immunosorbent assay methods.

Results: There was a significant increase in serum lipid hydro peroxide levels ($p<0.01$) and a statistically significant decrease in total antioxidants ($p<0.05$), superoxide dismutase ($p<0.01$) and glutathione peroxidise ($p<0.01$) levels in the cyclosporine treated rats. Concurrent treatment with 4', 5', 7- trihydroxyflavone significantly decreased the lipid hydro peroxides ($p<0.01$) and increased the total antioxidants ($p<0.05$) and superoxide dismutase ($p<0.01$) and glutathione peroxidise ($p<0.01$) levels.

Conclusion: Cyclosporine-A treatment produced a severe oxidative stress there was a reduction in the total antioxidants and antioxidant enzymes in blood. 4', 5', 7- trihydroxyflavone reduced the cyclosporine-A induced oxidative damage. Bioflavonoid, 4', 5', 7- trihydroxyflavone may be used therapeutically to reduce the tissue and organ damage caused by cyclosporine - A induced oxidative stress.

Keywords: Cyclosporine A, Trihydroxyflavone, Antioxidants, Lipid hydroperoxides

KNOWLEDGE ON FEVER MANAGEMENT AMONG NURSES AT HOSPITAL UNIVERSITY KEBANGSAAN MALAYSIA (HUKM)

Ho Siew Eng[1]., Muliati ismail[1]., Hamidah Hassan[1]., Badrulhisham Bahadzor[2]

[1]Department of Nursing, Faculty of Medicine, University Kebangsaan Malaysia, Kuala Lumpur, Malaysia
[2]Department of Surgery, Faculty of Medicine, University Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Background:
Fever, is a common event in childhood and indication of a self-limiting viral infection rather than bacterial infection or serious illness. Nurses perceive fever to be harmful and determining severity by the height of the fever. Fever generally is protective; pharmacological efforts to reduce it may be harmful to the febrile children. Inconsistent fever management practices would endanger the febrile child. The objective of the study is to identify nurses' level of knowledge and attitude on fever management at HUKM.

Materials and Methods:
A descriptive cross sectional study using self-administered questionnaire adopted and modified from Walsh et al., (2005). It consisted of 42 items of three domains: knowledge of general fever management, physiological knowledge and knowledge of antipyretic administration on fever management. 61 participants who fulfilled the inclusion criteria were recruited in this study. This study was conducted in emergency department and pediatric ward one of HUKM from January 2006 until March 2006.

Results:
Sixty-one nurses, all those approached participated in this study. Knowledge of antipyretic was highest with 79% correct, as for general fever management and physiological knowledge levels were similar, at 71% and 73% respectively**.** Chi-square analysis reported significant relationship between nurse attitude and their level of experiences with fever management with p values< 0.05. On the other hand, 38 respondents (62%) did not believe in non pharmacological practices in lowering temperature among febrile children were reported.

Conclusion:
In conclusion, the findings have demonstrated that nurses in HUKM are knowledgeable from the aspect of antipyretic administration, general fever management and physiological knowledge of fever. However, improvements are needed in non-pharmacological practices in lowering temperature among febrile children. Fever management involved the combination of a thorough knowledge of febrile response based on individual assessment and response to fever at each point of time. Educational intervention is essential to improve nurses' knowledge and strengthen positive attitudes towards the practice on non-pharmacological intervention.

Keywords: Knowledge, fever, fever management, antipyretic

DEFINING STATUS OF STEM CELLS-ASSOCIATED GENES IN UMBILICAL CORD MATRIX-DERIVED STEM CELLS AFTER SERIAL-PASSAGE

AR Hayati, MMN Fariha, GC Tan, SS Fatimah, AE Tan[2] and KH Chua[1]

Department of Pathology, [1]Physiology and [2]Obstetrics & Gynecology, Faculty of medicine, Universiti Kebangsaan Malaysia

Background:
Stem cells from umbilical cord matrix have been well characterized using cell surface markers by many groups. However, changes in the stem cell potency during serial-passage remain unclear. Therefore, our interest is to reveal the stemness gene expression profile of umbilical cord matric-derived stem cells (UCMSC) after serial-passage.

Materials and Methods:
UCMSC isolated from human term placenta were continuously cultured until passage 5 in an equal volume mix of Ham's F12 medium and Dulbecco's Modified Eagle Medium, supplemented with 10%FBS, 1% Glutamax, 1% Vitamin C and 1% Antibiotic antimycotic. Total RNA extracted from passage 1, 3 and 5 cells proceeded for quantitative real time RT-PCR to assess the mRNA expression level of the following genes; oct-4, sox-2, FGF-4, Rex-1, TERT, Nanog3, Nestin, FZD9, ABCG2 and BST-1. RT-PCR reaction was performed with 100-200ng of total RNA, 5uM of each primer and SYBR Green as indicator in Bio-Rad iCycler instrument. The reaction kinetic of each primer set and protocol was verified with melting profile and further confirmed with agarose gel electrophoresis. Expression level of each gene was then normalized to GAPDH.

Results and Conclusion:
Our results suggested that reducing expression level of some genes could be an indicator of losing the stemness property. In the other hands, our results demonstrated that UCMSC after serial-passage retained their stemness potential by maintaining certain gene expression.

Keywords: placenta, stem cells, umbilical cord

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ETIOLOGY OF URINARY TRACT INFECTION AND THEIR SUSCEPTIBILITY PATTERN

Anis Karuniawati, Ariyani Kiranasari, Retno Kadarsih, Mardiastuti Wahid

Department of Microbiology, Faculty of Medicine Universitas Indonesia

Background:
The microbial etiology of urinary infections has for several decades been regarded as well established, reasonably consistent, and of limited interest. *Escherichia coli* remains the predominant uropathogen isolated. Although new pathogens have been appearing with remarkable frequency in other illnesses, research to identify new agents underlying unexplained urinary tract clinical syndromes has been limited. In addition, the pathogens traditionally associated with urinary tract infection (UTI) are changing many of their features, particularly because of antimicrobial resistance. As a result, empiric treatment will undergo change during the next several years in an attempt to limit the occurrence of resistance and prevent its spread.

Methods:
The study was designed as a retrospective study of urine samples from patients both inside and outside hospitals that were received at the laboratory of clinical microbiology, Faculty of Medicine Universitas Indonesia between 2005-2007. Bacterial susceptibility was performed using Kirby Bauer method.

Results:
The total urine specimens received are 740. *Escherichia coli* was still the most predominant etiology of urinary tract infection (20%), followed by *Klebsiella pneumonia* (14.5%), Alcaligenes faecalis (11%), Staphylococcus epidermidis (10%), and Acinetobacter anitratus (7.4%). Overall, the susceptibility of Gram negative bacteria (GNB) to nitrofurantoin was still more than 60% except Acinetobacter anitratus was only 14%. The susceptibility of GNB to Amikacin was >90%, Gentamicin >60%, Sulphametoxazole-Trimethoprim and Ciprofloxacin was only 30-40%. The susceptibility of Staphylococcus epidermidis to the above mentioned antibiotics were >60%, except to Ciprofloxacin was only 40%.

Conclusion:
The predominant etiology of urinary tract infection is still *Escherichia coli*. The causative agents of UTI are less sensitive to antibiotics than in the other countries and the reason of this may be the high consumption of antibiotics in the country.

Keywords: urinary tract infection, etiology, susceptibility pattern, resistance,

QUANTITATIVE EXAMINATION OF MICROBIAL AEROSOL IN DIFFERENT OPERATING THEATERS IN JAKARTA

Anis Karuniawati, Conny Riana Tjampakasari, Retno Kadarsih, Mardiastuti Wahid

Department of Microbiology, Faculty of Medicine Universitas Indonesia

Background:
Infection control has long been considered one of the main concerns of hospitals community. Indeed, infectious agents may be transmitted to patient and surgical staff via several vectors including instrument and air. Numerous studies concerning the importance of airborne transmission of pathogen in hospitals have been described previously. Ministry of Health, Republic of Indonesia has published the regulation of permitted number of bacteria in different rooms in hospital (Keputusan Menkes RI No. 1204/MENKES/SK/IX/2004).

Methods:
Retrospective study of collected data in clinical microbiology laboratory Universitas Indonesia was done. The bacterial aerosols in operating theatre and ICU were collected in the period of 2005 – 2007 using air sampler MAS 100, Merck.

Results:
Data have been collected from 50 operating theatres and 30 ICU. Most of bacterial numbers in operating theatre are more than 10 CFU/m3. Most of bacterial numbers in ICU were between 200-500 CFU/m3.

Conclusion:
Microbial concentration in operating theatres and ICU in some hospitals exceed the regulation. Hospitals have to evaluate the method used for room sterilization.

Keywords: air sampling, number of bacteria, operating theatre, ICU, Indonesian regulation

THE USE OF MINI NUTRITIONAL ASSESSMENT AND ITS CORRELATION WITH SERUM ALBUMIN LEVEL IN INDONESIAN HOSPITALIZED ELDERLY PATIENTS (A PRELIMINARY STUDY)

Kuntjoro Harimurti, Siti Setiati

Division of Geriatric Medicine, Department of Internal Medicine, Faculty of Medicine, Universitas Indonesia

Background:
Malnutrition is common in elderly population but the assessment of nutritional status in elderly people often difficult. The Mini Nutritional Assessment (MNA) is a simple instrument that widely used and validated elsewhere to assess nutritional status, but its use in Indonesian elderly population was never been evaluated, including its correlation with other nutritional marker. The study aimed to: describe the nutritional status based on the MNA score, correlate the MNA score with the serum albumin level in hospitalized elderly patients, and to evaluate the use of MNA in Indonesian elderly population.

Methods:
We conducted a cross-sectional study (as a preliminary study) in hospitalized elderly patients who admitted to Dr. Cipto Mangunkusumo Hospital Jakarta in January - June 2005. Patients with obstacles to the completion of MNA form were excluded, as well as patients with the conditions that could affect the serum albumin levels. The proportions of patients based on MNA classification were described and the MNA scores were correlated with serum albumin levels using the Pearson's correlation test.

Results:
Among 26 hospitalized elderly patients recruited into the study, 6 patients classified as malnutrition, 12 patients as at risk of malnutrition, and the rest (8 patients) as good nutritional status, based on the MNA scores. We found there was a modest and significant positive correlation between the MNA scores and serum albumin levels ($r = 0.427$; $P = 0.030$), among study subjects. In this study we also found some difficulties in completing the MNA form related to our local situation.

Conclusion:
Malnutrition among hospitalized elderly patients quite common using the MNA as a tool of assessment, and there is a correlation between the MNA scores and the albumin levels in hospitalized elderly patients. We suggest performing a validation study of MNA in Indonesia population before use it to assess the nutritional status in our elderly population.

Keywords: MNA, nutritional status, elderly, albumin

THE RELATIONSHIP BETWEEN INITIAL C-REACTIVE PROTEIN LEVELS AND DECREASING OF ALBUMIN LEVELS DURING HOSPITALIZATION IN ELDERLY PATIENT WITH COMMUNITY-ACQUIRED PNEUMONIA

Kuntjoro Harimurti, Siti Setiati

Division of Geriatric Medicine, Department of Internal Medicine, Faculty of Medicine, Universitas Indonesia

Background:
Albumin level is temporarily decreased during acute phase of infection. However, its relationship with C-reactive protein (CRP), during community-acquired pneumonia (CAP) infection in hospitalized elderly patients was never been studied. The study aimed to obtain: the correlation between initial CRP level on admission with the decrease of albumin level during hospitalization and the risk difference of decreasing albumin level in patients with high CRP levels on the admission compared to whom with low CRP level on the admission, in hospitalized elderly patients with CAP.

Methods:
A prospective cohort study was conducted on hospitalized elderly patients with CAP in Cipto Mangunkusumo Hospital Jakarta in January - June 2005. Subjects with diseases and conditions that could interfere with CRP and albumin level beside pneumonia infection were excluded. The patient's CRP level was measured upon the initiation of the study, while the patient's albumin level was measured on the first and fifth day of hospitalization to observe changes that took place during 5 days of hospitalization. Pearson's correlation test, independent t-test, and chi-square test were used to answer the objectives of the study.

Results:
We found that there were modest negative correlation between the initial CRP level and the percentage of albumin level decrease during 5 days of hospitalization ($r = -0.442$; $P = 0.035$) and significant difference in the mean initial CRP level between patients with and without decreasing albumin level (mean difference 99.69 mg/L, 95% confidence interval (CI) = 13.25 to 186.13 mg/L; $P = 0.026$). But the risk difference of decreasing albumin level during hospitalization between patients with high and low initial CRP levels did not attaint statistical significance (RR 2.12; 95% CI = 0.26 to 29.07; $P = 0.621$).

Conclusion:
In hospitalized elderly patients with community-acquired pneumonia with high initial CRP levels tend to experience a decrease in albumin level during hospitalization.

Keywords: CRP, albumin, community-acquired pneumonia, elderly

SEQUENCE ANALYSIS OF THE ENVELOPE GENES OF DENGUE VIRUSES TYPE 1, 2, AND 3 AND NS-1 GENE OF DENGUE VIRUS TYPE 3 ISOLATED IN JAKARTA

Beti Ernawati Dewi,[1] Roni Chandra,[1] Cucunawangsih,[1] Jordan Khaidir,[1] Suhendro,[2] Herdiman Pohan, [2] Karyanti, [3] I. Kurane,[4] T. Mirawati Sudiro[1]

[1]*Department of Microbiology Faculty of Medicine Universitas Indonesia*
[2]*Department of Internal Medicine Faculty of Medicine Universitas Indonesia*
[3]*Department of Pediatry, Faculty of Medicine Universitas Indonesia*
[4]*National Institute for Infectious Diseases, Japan*

Background:
Dengue Haemorrhagic Fever have been reported in all provinces in Indonesia and all serotypes are endemic. Despite the high incidence of dengue infection, data on molecular epidemiology of dengue virus circulated in Indonesia is very limited.

Methods:
Specimens were collected in March 2006 to April 2007 in Cipto Mangunkusumo Hospital Jakarta. Viral detection and serotype determination was done by RT-PCR. Sequencing was done to amplifie DNA directly from plasma RNA or from early culture in C6/35 cells. Sequencing was done to the envelope and NS-1 region of dengue virus.

Results:
A total of 238 plasma specimens from children and adults with suspected dengue infection during 2006-2007. All four serotypes were found. We sequenced the envelope region of one DENV-1, two DENV-2 and four DENV-3. We also sequenced NS-1 region of DEN-3 from year 2006 isolates.

Conclusion:
We found that among year 2006 isolates of DENV-1 belongs to genotype IV, DENV-2 belong to genotype cosmopolitan and DENV-3 sequenced in this study belong to genotype I. NS-1 gene of DENV-3 from 3 strains were sequenced and compared with 11 other sequence data from Gen Bank. We found that four known B-cell epitopes sequence were conserved in all strains tested.

Keywords: dengue viruses, Jakarta, genotype.

EFFECTIVITY OF *ECHINACEA PURPUREA* IN EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS

Fathiyah Isbaniah,[1] Wiwien Heru Wiyono,[1] Faisal Yunus,[1] Arini Setiawati[2]

[1]*Department of Pulmonology and Respiratory Medicine, Faculty of Medicine Universitas Indonesia/Persahabatan Hospital, Jakarta*
[2]*Department of Pharmacology and Therapeutics, Faculty of Medicine Universitas Indonesia*

Background:
Exacerbation in chronic obstructive pulmonary disease (COPD) patients is triggered by upper respiratory tract infections. *Echinacea purpurea* as an immunomodulator stimulates macrophage to release TNF-α, IL-1 & IL-10. This study aimed to determine the benefit of *Echinacea purpurea* in exacerbation of COPD patients.

Methods:
The eligible subjects were all COPD patients in Persahabatan Hospital Jakarta during 2006 to 2007. The exacerbation was based on Anthonissen's criteria. Subjects were divided into three randomized group and given *Echinacea purpurea* + vitamin C, Zn and Se (EP) or pure *Echinacea purpurea* (PEP) or placebo (PL) caplet once daily for 14 days. Ciprofloxacin was given for seven days. The serum level of TNF-α, IL-1 and IL-10, micro organism sputum, and spirometry were done before and after two weeks treatment. All of the patients were instructed to fill the diary books for symptoms.

Results:
A number of 108 out of 120 exacerbated COPD were included, 104 male (96.3%), aged ranged 40 to 81 years. Exacerbation type 2 was 40%. Dyspnoea, sputum volume, sputum purulence, cough, wheeze, sore throat, sneeze or nasal discharge and fever score was not significantly decreased. The total score of exacerbation in EP group was improved faster (4.3 vs 10 vs 9.8 days; p = 0.009). Cough frequency and sneezing or nasal discharge score improved faster than others group. The serum level of TNF-α, IL-1 and IL-10 in EP group was not significantly decreased. Eradication rate in EP group was 89.47%, PEP group was 89.74% and placebo group was 87.5%, there were no significance differences. Colonization value was found almost the same in three groups, 6.25% in placebo group, 5, 26% in EP group and 4, 55% in PEP group.

Conclusion:
Echinacea purpurea with additional amount of vitamin C, Zn and Se could decrease the duration of exacerbation symptoms and act as an anti inflammation.

Keywords: COPD, exacerbation, TNF-α, IL-1, IL-10, anti inflammation

ACANTHAMOEBA SPP. CASES IN KERATITIS PATIENS IN JAKARTA

Hendri Astuty,[1] Agnes Kurniawan,[1] Mardiono Marsetio[2]

[1] *Department of Parasitology, Faculty of Medicine, Universitas Indonesia*
[2] *Department of Opthalmology, Faculty of Medicine, Universitas Indonesia*

Background:
Acanthamoeba spp is a free living amoeba which lives naturally in environment such as soil, fresh water, waste water, brackish water, sea water, swimming pool, and flow water. Acanthamoeba keratitis incidence in USA is quite high. In Indonesia, there are a lot of reports on keratitis due to bacteria, fungus or virus and hardly any report due to Acanthamoeba. The aim of this study is to identify Acanthamoeba from corneal scraps or soft lens solution of patients with keratitis in Jakarta.

Methods:
The subjects of this study were the patients who visited the opthalmology clinic at Cipto Mangunkusumo Hospital and Jakarta Eye Center from September 2006 until December 2007. The specimens were corneal scraps, put in transport media either PAGE salt or 0,9 % sterile saline solution of soft lens washing solution. The samples were then centrifuged and made wet smear with lugol/eosin solution, dried smear and stain with giemsa. The remaining of the specimen was poured onto non nutrient agar plate and added with solution of Escherichia coli. Acanthamoeba castelani was made as positive control for culture. The plate was then incubated at 30^{o} C and monitored everyday up to 10 days**.**

Results:
There were 20 samples collected during 1 year consisted of 19 corneal scraps and one contact lens solution. There were 3 positives from the corneal scraps which were detected by direct smears and giemsa staining. None of the culture gave positive result, however the positive control did grow.

Conclusion: *Acanthamoeba spp* was one of the pathogens causing keratitis in Jakarta.

Keywords: free living amoeba, lab diagnosis, keratitis

DURATION OF UNTREATED PSYCHOTIC IN JAKARTA AND BOGOR, INDONESIA

Natalia Widiasih Raharjanti

Department of Psychiatry, Faculty of Medicine, Universitas Indonesia

Background:
Most of psychotic disorder is found in late adolescence or early adult life, thus related to bigger cost, burden, morbidity and mortality. Longer duration of untreated psychotic **(**DUP) is related to severity of symptoms, increasing recurrence and decreasing quality of life. So far no research on DUP has been conducted in Indonesia, although shorter DUP combined with early detection and treatment will improve outcome in first episode psychosis. The aim of the study was to find the average DUP in first episode psychosis, its related factors and pathways in seeking mental health service.

Methods:
This cross sectional study was carried out in August 2005 – July 2006 involving 50 respondents, using consecutive sampling method. Instruments used in this study were SCID-IV, PANSS, SUMD, IRAOS, Health Seeking Action Pathway Instrument, PAS, PSST, GAF, Stigma Scale and DAS. Statistical analysis was performed using SPSS version 11.50

Results:
Average DUP were 32,53 weeks (SD 47,265) with median 14 weeks. Bivariate and multivariate analysis found significant association between DUP and onset (p=0.009), negative symptoms (p=0.005), premorbid function (p=0.016) and postmorbid function (p=0.10). First intervention was traditional treatment (38%) and counseling with religious figures (30%), and only 10% went directly to mental health service. The main reason was strange behaviour (70%), social environment disturbance (32%) and aggressive behaviour (26%). Negative feeling (62%) and stigma (46%) were the reason of avoiding mental health service.

Conclusion: DUP of first episode psychosis were 14 weeks (median). There was significant association between DUP and onset of the disease, type of symptoms, premorbid and postmorbid function. There was lack of understanding about mental illness, while traditional approach and counseling to religious figures played prominent role in the intervention of first episode psychosis. There was negative perception in mental health service in the society.

Keywords: duration of untreated psychotic, first episode psychosis

CORRELATION BETWEEN VITAMIN D CONCENTRATION AND BASIC FUNCTIONAL MOBILITY IN ELDERLY WOMEN

Purwita Wijaya Laksmi,[1] Siti Setiati,[1] Maryantoro Oemardi,[1] Wanarani Aries,[2] Parlindungan Siregar[1]

[1]*Department of Internal Medicine, Faculty of Medicine, Universitas Indonesia*
[2]*Department of Medical Rehabilitation, Faculty of Medicine, Universitas Indonesia*

Background:
In elderly there are changes in gait and balance, muscle strength decline, slowing of sensory-motoric integration, and susceptibility to vitamin D deficiency which is associated with musculoskeletal system in light of functional mobility. The objectives of this study were to determine vitamin D serum concentration, the timed up and go (TUG) test score, and the correlation between vitamin D and TUG test score of elderly women.

Methods:
a correlative cross-sectional study of elderly women aged ≥ 60 years old was carried out in Jakarta and Bekasi, in January 2005. TUG test was performed to evaluate basic functional mobility by measuring the time in seconds to stand from 46 cm height armchair, walk three meters, turn around, and return to full sitting in chair. Vitamin D was measured by ELISA method. Calcium ion serum concentration that was measured by NOVA method, age and body mass index (BMI) were confounding variables.

Results:
of 42 elderly women who met the research criteria, 30 subjects which proportional randomly assigned participated in this study. Mean (+SD) vitamin D was 68.0 (21.1) nmol/L, with concentration < 50 nmol/L was 23.3%, TUG score was 10.7 (2.1) seconds, BMI was 22.3 (3.7) kg/m^2, age was 70.2 (6.4) years, and median (minimum-maximum) ionized calcium was 1.095 (1.030-1.230) mmol/L. Vitamin D did not show significant correlation with TUG (r = -0.008; P = 0.968). There were also no significant correlations among the confounding variables and TUG.

Conclusion:
vitamin D serum concentration has not showed significant correlation with basic functional mobility of elderly women which may be due to small sample size and relatively good vitamin D serum concentration and TUG score among respondents; but the proportion of subjects with TUG score < 10 seconds were lesser in vitamin D deficiency respondents.

Keywords: *elderly women, basic functional mobility, vitamin D*

CORRELATION OF GROUP DISCUSSION WITH WRITTEN TEST PERFORMANCE ON PROBLEM-BASED LEARNING: A STUDY IN NEUROPSYCHIATRY MODULE

Dewi Sukmawati

Department of histology, faculty of medicine, universitas indonesia

Background:
Problem-based learning (PBL) is widely used in medical education. Based on our teaching method using PBL, the student core activity is in small group discussion. The student challenges to direct self learning, working in groups to obtain the knowledge and develop critical thinking skills. However, some are still concern about their knowledge gain and retention. The assumption is often made, during attempts to utilise PBL that learners will acquire less information due to reduce in lecture. It is still in questions whether the group discussion activities will ensure more knowledge gain and at last reflect on the performance of written test result.
The aim of this study is to determine whether group discussion result correlated with student's written test performance.

Methods:
Using cross sectional design we collect the data from students who participated in neuropsychiatry module in Faculty of Medicine Universitas Indonesia, International class program, from December 2007 to February 2008. We collect data of group discussion, MCQ1, essay and MCQ2 scores. Using SPSS 13.0 version program, we analyse data of 48 students and correlate the students group discussion score with their written test score (MCQ1, MCQ2 and essay).

Results:
Group discussion has significant (p = 0.029) and strong correlation (0.315) with the MCQ2 score and there were insignificant and weak correlation between group discussion and MCQ1 (p = 0.107; correlation 0.263) and essay (p = 0.364, correlation 0.134).

Conclusion:
Based of our study in neuropsychiatry module, we concluded that group discussion had insignificant and weak correlation with the performance of written test in PBL.

Keywords: group discussion, written test, Problem-based learning, FMUI

RISK FACTORS OF ANEMIA IN CHRONIC HEPATITIS C PATIENTS TREATED BY INTERFERON ALPHA AND RIBAVIRIN COMBINATION THERAPY

Femmy Nurul Akbar, Zuljasri Albar, Laurentius Lesmana, Nurul Akbar

Department of Internal Medicine, Cipto Mangunkusumo Hospital/Faculty of Medicine, Universitas Indonesia, Jakarta

Background:
Interferon alpha and ribavirin combination therapy is one of effective standard therapy for chronic hepatitis C (CHC). Anemia is a common side effect of this therapy that patients have to reduce or discontinue ribavirin therapy. Reduction and discontinuation ribavirin can decrease the effectivity of combination therapy. There is no publication in Indonesia about the prevalence of anemia and the risk factors associated with anemia caused by combination therapy. This study was designed to know the proportion of anemia and some risk factors associated with anemia caused by CHC combination therapy.

Methods:
Sixty one patient of CHC who received combination therapy in Hepatology Division, Department of Internal Medicine, Cipto Mangunkusumo Hospital in September 2005 - January 2006 were consecutively enrolled in this study. Data were obtained by anamnesis, physical examination, and measured complete blood count on 8th week of therapy. This study used cross sectional design, bivariate analysis using Fisher's exact test and multivariate analysis using logistic regression (p = 0,005; CI 95%).

Results:
Subjects were 47 males (77%), females 14 (23%) with mean age 38.9 years. Twenty three subjects had genotype 1 and 4 (71.9%) and 44 subject (72.1) received 1000 mg ribavirin. Proportion of anemia were 52.5 % (32 subjects). From bivariate analysis age 50 years or older, female, low pretreatment hemoglobin level (less than 14 g/dl) were more likely risk factors of anemia. There were 8 subjects from 32 anemia patients had ribavirin reduction, and no patient had discontinuation treatment on 8th weeks of therapy.

Conclusion:
Although age 50 years or older and female were not yet found to be risk factors, more careful monitoring to these risk factor is necessary, and intervention of anemia should be considered.

Keywords: chronic hepatitis C, Interferon alpha-ribavirin combination therapy, anemia, risk factors

CLONING AND EXPRESSION OF DENGUE VIRUS TYPE 2 NS-1 PROTEIN FOR DEVELOPMENT OF DIAGNOSTIC OF DENGUE HAEMORRHAGIC FEVER

T. Mirawati Sudiro, Fitriyah, Beti Ernawati Dewi, Andriansjah Rukmana

Department of Microbiology, Faculty of Medicine Universitas Indonesia, Indonesia

Background:
Dengue virus infection is a major public health problem in Indonesia. To develop early diagnostic tool for dengue infection, we are trying to produce NS-1 protein to be used as diagnostic antigen.

Methods:
The study was carried out in 2007 – June 2008**.** DV-2 NS-1 gene was cloned from dengue virus strain DS 3106 isolated from DHF patient in Jakarta. The gene coding for the nonstructural glycoprotein of dengue-2 virus was cloned, sequenced, and expressed in *Escherichia coli* using pGEX-6P-1 vector.

Results:
SDS PAGE analysis showed that GST-fused NS-1 protein could be expressed. Purification of GST-fused NS-1 protein have been optimized with glutathione sepharose 4B.

Conclusion:
In future, genetic engineering production of recombinant NS1 antigen could provide a safe and valuable resource for diagnostic of dengue virus infection.

Keywords: NS-1 protein, expression protein, dengue virus

DC-SIGN1 (CD209) PROMOTER GENE POLYMORPHISMS IN THE PATHOGENESIS OF DENGUE DISEASES IN INDONESIA

Purnomo Soeharso,[1] Zen Hafy,[2] Timothy H. Burgess,[2] Wahyuning Ramelan[1]

[1]*Department of Medical Biology, Faculty of Medicine, Universitas Indonesia*
[2]*Division of Virology, NAMRU Research Centre, Jakarta*

Background:
Dendritic cell (DC) is thought to be a key host factor responsible for dengue virus (DENV) infection and pathogenesis. DC-specific intercellular adhesion molecule (ICAM)-grabbing non-integrin (DC-SIGN; CD209) is a C-type lectin specifically expressed on DCs and function as pathogen recognition receptor that eventually mediate DENV infection in human DCs. The aim of the study was to evaluate DC-SIGN1 -336 (A/G) and -871 (A/G) polymorphisms as well as the degree of DC-SIGN neck region polymorphisms in association with the development of dengue diseases among Indonesian people who were participating in a longitudinal study of dengue infection.

Methods:
The experiment was done throughout years of 2007 in the Department of Biology and Namru Research Lab. Dengue infection was confirmed serologically and/or by molecular biology examination. Selected individuals with negative ELISA level (< 1.0) were included as dengue negative controls. We evaluated the role of genetic host factor in the pathogenesis of dengue diseases by comparing the polymorphic frequencies of DC-SIGN1 promoter gene using PCR-RFLP among individuals experiencing dengue infection. The allele distribution of DC-SIGN1 promoter gene were determined as compared between individuals with DF and those with DHF.

Results:
The G variants and the wild type alleles of both DC-SIGN1 promoter gene polymorphisms were equally distributed among individuals in the dengue cases and control group. In conformity with similar studies in Southeast Asia countries, most individuals studied had the wild type neck region repeated variant (7/7). Two individuals harbored 7/8 and 7/6 genotype variants respectively (0.96%) though, the small number of identified neck region repeat genotype variants prevent assessment of association. However, the G allele of DC-SIGN1 -871 variant was strongly associated with the development of DHF rather than DF in individuals experienced dengue infection.

Conclusion: This result indicates a role of the DC-SIGN1 -871 variants in the pathogenesis of dengue diseases

Keywords: DC-SIGN1 promoter gene polymorphisms, dendritic cell, dengue diseases, allele distribution, PCR-RFLP, DC-SIGN1 neck region repeat variants

CRYPTOCOCCOSIS AMONG AIDS PATIENTS WITH CENTRAL NERVOUS SYSTEM INVOLVEMENT

Ridhawati Sjam, Mulyati, Robiatul Adawiyah, Retno Wahyuningsih

Department of Parasitology, Faculty of Medicine, Universitas Indonesia

Background:
AIDS patients are susceptible to opportunistics infections. Cryptococcosis is opportunistics infections caused by encapsulated yeast *Cryptococcus neoformans*. The predominant clinical manifestation of cryptococcosis in AIDS patients is meningitis. For the establishment of diagnosis, india ink test and culture on sabouraud dextrose agar (SDA) and bird seed agar (BSA) were commonly used. Serology test to detect capsular antigen *glucoronoxylomannan* (GXM) is aimed to support the diagnosis of cryptococcosis. The aim of this study is to know the prevalence of cryptococcosis among AIDS patients with CNS involvement.

Methods:
The study was conducted from April 2005 – February 2007 at the mycology laboratory Department of Parasitology Faculty of Medicine Universitas Indonesia. Spinal fluid from 102 AIDS patients with CNS involvement from Cipto Mangunkusumo Hospital and other hospitals around Jakarta were tested using india ink test and culture on SDA and BSA. From 102 samples, 49 were tested for GXM antigen by latex agglutination test.

Results:
Cryptococcus could be found in 22 (21,9%) out of 102 spinal fluids tested. GXM antigen was detected in 30 out of 49 samples. From 49 samples with GXM antigen, nine samples was proved to have *Cryptococcus* by mycology test as well. No yeast was found in the rest 21 samples.

Conclusion:
The prevalence of cryptococcosis among AIDS patients with CNS involvement in Jakarta was 21.9%. Antigen detection in 49 samples; nine were positive and proved by mycology test. The rest, (40 samples) were positive for GXM, but could not be proved by mycology test. Thus, it could not be concluded that this group of patients suffered from cryptococcosis.

Key words: spinal fluid, *Cryptococcus neoformans,* cryptococcosis*,* prevalence, GXM antigen

HYPOGLYCAEMIA UNAWARENESS IN INSULINOMA

Suehazlyn Z, Norasyikin AW, Wong Ming, Nor Azmi K

Department of Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia

Lack of autonomic warning symptoms in a patient with hypoglycaemia is well documented in type 1 diabetes mellitus due to recurrent bouts of hypoglycaemia. In insulinoma, this lack of symptoms has implications on diagnosis and subsequent treatment.

We describe a case of a 68 year old Chinese lady with chronic kidney disease stage IV secondary to missed glomerulonephritis who was incidentally noted to have low fasting plasma glucose of 2.8 mmol/L during an appointment with a private nephrologist. She was asymptomatic. A review of her blood results for 2 years prior showed that her fasting plasma glucose was persistently between 2 to 3 mmol/L. An ultrasound performed was suspicious of a pancreatic nodule. She was admitted to our institution and subjected to a 72 hour fasting test which showed. She was fasted for 56 hours before she complained of feeling lethargy, during which the capillary blood glucose was 2.0 mmol/L. Plasma glucose, cortisol, c-peptide and insulin levels were measured every 6 hours throughout the test. Her lowest plasma glucose level of 1.7 mmol/L was reached at 46 hours of fasting during which she was asymptomatic. At the same time, her cortisol was elevated, c-peptide and insulin was high. A CT scan of the pancreas was reported as normal. An endoscopic ultrasound revealed a 1.1 x 1.1 cm nodule at the head of pancreas.

This case illustrates 2 important points in insulinoma: (i) The superior sensitivity of endoscopic ultrasound to CT scan in localizing small pancreatic nodules. (ii) Profound hypogycaemic unawareness is very common in insulinoma with impairment of both the autonomic and neuroglycopenic symptoms.

Keywords: hypoglycaemia unawareness, insulinoma

PLASTINATION, A USEFUL TOOL IN TEACHING GROSS HUMAN ANATOMY IN THE UKM MEDICAL CURRICULUM

Farihah H-Suhaimi[1], Siti Norain Bakhtiar[1], Hairi Ghazalli[1].

[1]*Department of Anatomy, Faculty of Medicine, Universiti Kebangsaan Malaysia.*

Background:
Over the years, there has been an acute shortage in acquiring cadavers for gross anatomy teaching. Due to this difficulty in obtaining cadavers, the preservation technique used needs to produce resilient human specimens that can be preserved for a longer duration, able to retain their natural and realistic appearances and suitable for handling by students. In this context, UKM uses the plastination technique because the preserved anatomical structure produced is dry, odourless, easy to handle and almost everlasting.

Materials and Methods:
Plastination technique has four basic steps: Fixation, Dehydration, Impregnation and Polymerization. 1. Fixation: formalin fixed specimen can be plastinated. 2. Dehydration: is performed by submerging the specimen in subsequent acetone baths under freezing conditions until the remaining amount of tissue water is less than 1%. The acetone drains out all the water and replaces it inside the cells. 3. Impregnation: is performed by immersing the specimen in a bath of liquid polymer with an increasing vacuum. By creating a vacuum, the acetone is made to boil at a low temperature. As acetone vaporizes and leaves the cells, it draws the liquid polymer in, leaving a cell filled with liquid polymer. 4. Polymerization: the liquid polymer must then becured either with gas, heat or ultraviolet light in order to harden it.

Results:
Plastination technique allows preservation of anatomical specimens making them lifelike, dry, odourless, durable and can be easily carried with less risk of damage.

Conclusion:
Plastination may solve the problem encountered by many medical institutions who fall behind in having and preserving cadavers. There is no doubt that the introduction of plastinated specimens adds another tool to teaching gross human anatomy.

Keywords: plastination, gross anatomy

HLA-A, -B, -Cw, -DR AND –DQ ALLELLE FREQUENCIES IN SIBLINGS SCREENED FOR ALLOGENEIC STEM CELL TRANSPLANT IN UKM MEDICAL CENTRE

T Nor Rafeah[1], MI Salasiah[2], S A W Fadilah[1,3]

[1]Department of Medicine, [2]Bone Marrow Transplant Ward, [3]Cell Therapy Centre, Universiti Kebangsaan Malaysia Medical Centre (UKMMC)

Background
Human leukocyte antigen (HLA) typing is important in identifying compatible donors for haematopoietic stem cell transplant (SCT). The objectives of this study were to determine the most frequent alleles at different HLA loci in volunteered potential sibling donors and also the probability of finding a matched sibling donor for allogeneic SCT in our center.

Materials and Methods
This was a retrospective analysis of all consecutive potential adult sibling donors for allogeneic stem cell transplant (SCT) from 2000 till 2007. Peripheral blood for HLA typing was sent to Institute of Medical Research, Kuala Lumpur after consent was obtained. HLA typing was done via microlymphocytotoxicity or polymerase chain reaction (PCR) methods. During that period, a total of 105 SCT were performed out of which 54 cases were allogeneic SCT. Allele frequencies were calculated as percentages of the total number of occurrences of a particular allele from the total number of alleles at that locus in the population. Where only one allele was detected, it was considered as homozygous and the allele was counted twice.

Results
Four hundred and ten adults volunteered for HLA typing in search for compatible allogenic sibling donors. They were mostly Malays which constituted 253 of the cases (61.7%) while Chinese 140 (34.1%), Indian 9 (2.2%) and 8 cases from other ethnicity (2.0%). Eighty four (20.5%) were both HLA Class I- and II-matched sibling donor, 26 (6.3%) were HLA Class I-matched but HLA Class II was not performed and 300 (73.2%) were mismatched. Fifteen HLA-A, twenty nine HLA-B, ten HLA-Cw, fourteen HLA-DR and eight HLA-DQ alleles were detected.
The most common HLA-A alleles and their frequencies were HLA-A24 (31.6%), HLA-A11 (25.4%) and HLA-A2 (20.4%). The most common HLA-B alleles were HLA-B60 (10.1%) HLA-B62 (9.9%) and HLA-B35 (9.5%). The most common HLA-Cw alleles were HLA-Cw7 (27.3%), HLA-Cw3 (22.6%) and HLA-Cw4 (16.8%). The most common HLA-DR alleles were HLA-DR12 (28.2%), HLA-DR15 (25.2%) and HLA-DR4 (10.4%) while the most common HLA-DQ alleles were HLA-DQ5 (31.2%), HLA-DQ7 (28.7%) and HLA-DQ6 (16.3%).

Conclusion
There were differences in the HLA alleles and their frequencies in our study as compared to those found in Malay volunteers registered with the Malaysian Marrow Donor Registry (MMDR). These results may be helpful in determining the probability of finding matched donors for allogeneic SCT in future.

Keywords: HLA typing, allogeneic, stem cell transplant.

MICROARRAY PROFILING OF ENDOMETRIAL CARCINOMA IN MALAYSIAN POPULATION – AN EARLY FINDING.

Fatma .S. A. Saghir [1], Ahmad Zailani Hatta Mohd. Dali [2], A Rahman A Jamal[3], Zainab Shamsuddin[4], and Norfilza Mohd Mokhtar[1,3].

[1]Department of Physiology, [2]Department of Obstetrics and Gynaecology, [3]UKM Medical Molecular Biology Institute, Hospital Universiti Kebangsaan Malaysia and [4]Department of Obstetrics and Gynaecology, Hospital of Kuala Lumpur, Kuala Lumpur, Malaysia.

Background:
Endometrial cancer is the forth most gynaecological cancer among Malaysian population. It develops as a result of disruption of the delicate balance between cell proliferation and cell loss or apoptosis, through activation of oncogenes or loss of tumours suppressor genes. The aim of this study is to identify the expression of genes involved in the endometrial carcinoma compared to the normal endometrium.

Materials and Methods:
Flash-frozen endometrial tissue specimens were obtained from normal (n=4) and endometrial carcinoma (n=4) patients that undergo total hysterectomy. Tissue samples were subjected for total RNA isolation.The integrity of each of the RNA samples were confirmed using the bioanalyzer 2100.The RNA samples with the integrity number of ≥ 7 were considered suitable for the labeling. The gene expressions were assessed using Affymetrix Human Genome Gene Chip 1.0 ST array. The results were analyzed using GeneSpring 9.0 GX software.

Results:
Software analysis showed 237 differentially expressed genes (2-fold change) between normal and tumour. Among of these genes, 28 were found to be up regulated and 209 were down regulated in tumor compared to the normal ($p<0.01$).

Conclusion:
Based on this preliminary finding, we have identified the differentially expressed genes between the endometrial carcinoma compared to the normal endometrium. These genes may be some roles in the pathogenesis of endometrial carcinoma. Further validation using RT-PCR will be carried out later.

Keywords: Endometrial carcinoma, Microarray, Gene expression.

UTILITY OF p53 AND Ki-67 IN DISTINGUISHING CERVICAL INTRAEPITHELIAL NEOPLASIA 3 AND SQUAMOUS CELL CARCINOMA OF THE CERVIX

Tan Geok Chin[1], Sharifah Noor Akmal[1], Salwati Shuib[1], Shiran Mohd Sidik[3], Hatta Ahmad Zailani[2], Ng Hock Oon[2]

Department of Pathology[1] and Obstetric & Gynaecology[2], Faculty of Medicine, Universiti Kebangsaan Malaysia, Malaysia, Department of Pathology[3], Universiti Putra Malaysia

Background:
Cervical cancer is one of the leading causes of mortality in Malaysia. Ki-67 is an excellent marker to determine the growth fraction. The p53 gene is one of the most important targets of the HPV E6 gene. It inhibits several functions of wild-type p53 including the suppression of malignant growth.One of the commonly face challenges in pathology in cervical lesion is the differentiation between CIN3 lesion and early invasive SCC. The aim of the present study is to investigate Ki-67 and p53 protein as possible biomarker in distinguishing CIN 3 from cervical SCC.

Materials and Methods:
This is a retrospective study on cases diagnosed as CIN 3, and SCC, obtained from the histopathology records of the Department of Pathology, UKMMC for the past seven years. The total number of cases was 61. There were 25 cases of CIN 3 and 36 cases of SCC.

Results:
Thirteen of the 25 pre-malignant cases (52%) were positive for Ki-67 protein, in contrast, 34 of the 36 cases of malignant cases (94.4%) were positive. The average percentages of Ki-67 expression were 12 and 64.9 for CIN 3 and SCC, respectively. Eighteen of the 25 pre-malignant cases (72%) were positive for p53, in contrast, 34 of the 36 cases of malignant cases (94.4%) were positive. The average percentages of p53 expression were 33 and 71.1 for CIN 3 and SCC, respectively.

Conclusion:
Oncogenes and cell-cycle regulators that may play a role in the genesis of cervical cancer include c-erb 2, p27, p53, p16INK4a and Ki-67. This study revealed that Ki-67 expression correlates well with invasive nature of SCC. In conclusion, immunohistochemical markers such as Ki-67 and p53 may serve as helpful adjuncts to the differentiation of CIN 3 and SCC in difficult situation. However, morphological identification of invasive foci remains the gold standard for the diagnosis of invasive SCC.

Keywords: Cancer, Cervix, Immunohistochemistry, p53, Ki-67

HLA-A, B, Cw, DR AND DQ ALLELLE FREQUENCIES IN POTENTIAL DONORS OF PATIENTS REFERRED FOR ALLOGENEIC STEM CELL TRANSPLANTATION IN UKM MEDICAL CENTRE

T Nor Rafeah[1,2], MI Salasiah[1], JS Dhaliwal[3], S A W Fadilah[1,2]

[1]Cell Therapy Centre, [2]Department of Medicine, Universiti Kebangsaan Malaysia Medical Centre (UKMMC), [3]Institute of Medical Research (IMR), Kuala Lumpur, Malaysia.

Background:
Human leukocyte antigen (HLA) typing is important in identifying compatible donors for haematopoietic stem cell transplantation (HSCT). The objectives of this study were to determine the most frequent alleles at different HLA loci in volunteered potential sibling donors and also the probability of finding a matched sibling donor for allogeneic HSCT in our center.

Materials and Methods:
This was a retrospective analysis of all consecutive potential adult sibling donors for allogeneic HSCT from 2000 till 2007. Peripheral blood for HLA typing was sent to IMR, Kuala Lumpur after consent was obtained. HLA typing was done via microlympho-cytotoxicity or polymerase chain reaction (PCR) methods. During that period, a total of 105 HSCT were performed out of which 54 cases were allogeneic. Allele frequencies were calculated as percentages of the total number of occurrence of a particular allele from the total number of alleles at that locus in the population. Where only one allele was detected, it was considered as homozygous and that particular allele was counted twice.

Results:
Four hundred and ten adults volunteered for HLA typing in search for compatible allogeneic sibling donors. They were mostly Malays (253 cases, 61.7%) while the remainders were Chinese (140 cases, 34.1%), Indian (9, 2.2%) and others (2.0%). Eighty four (20.5%) were both HLA Class I- and II-matched sibling donor, 26 (6.3%) were HLA Class I-matched but HLA Class II was not performed and 300 (73.2%) were mismatched. Fifteen HLA-A, 29 HLA-B, 10 HLA-Cw, 14 HLA-DR and 8 HLA-DQ alleles were detected. The most common HLA-A alleles and their frequencies were HLA-A24 (31.6%), HLA-A11 (25.4%) and HLA-A2 (20.4%). The most common HLA-B alleles were HLA-B60 (10.1%) HLA-B62 (9.9%) and HLA-B35 (9.5%). The most common HLA-Cw alleles were HLA-Cw7 (27.3%), HLA-Cw3 (22.6%) and HLA-Cw4 (16.8%). The most common HLA-DR alleles were HLA-DR12 (28.2%), HLA-DR15 (25.2%) and HLA-DR4 (10.4%) while the most common HLA-DQ alleles were HLA-DQ5 (31.2%), HLA-DQ7 (28.7%) and HLA-DQ6 (16.3%).

Conclusion:
There was an only approximately 20% chance of finding a HLA-matched sibling donor for allogeneic HSCT in UKMMC. There were differences in the HLA alleles and their frequencies in our study as compared to those found in Malay volunteers registered with the Malaysian Marrow Donor Registry (MMDR). These results may be helpful in determining the probability of finding matched donors for allogeneic HSCT in future.

Keywords: HLA typing, HLA allele, allogeneic haematopoeitic stem cell transplantation.

PROLIFERATIVE ACTIVITY OF *CHANNA STRIATUS* (HARUAN) EXTRACTS ON MESENCHYMAL STEM CELLS

MJ NurSyamsyiah, SAW Fadilah[1,2], AM Mat Jais

Department of Biomedical Sciences, Faculty of Medicine and Health Science, Universiti Putra Malaysia, Serdang, Selangor, Malaysia
[1]*Cell Therapy Center,* [2]*Department of Medicine, Universiti Kebangsaan Malaysia Medical Center (UKMMC), Kuala Lumpur, Malaysia.*

Background:
In wound healing multipotent epidermal stem cells contribute to re-epithelization. *Channa striatus* fillet has been proven to hasten wound healing, however the exact mechanism has not been characterised. The present study was performed to determine the *in vitro* cell proliferation activity of *Channa striatus* traditional (aqueous and lipid), methanol and chloroform extracts on mesenchymal stem cells (MSC).

Materials and Methods:
The traditional extract was prepared by steaming the fresh fillet at 120°C for 3 hours with the volume ratio of 1:1. At the end of extraction process, two layer was present (the upper is an aqueous (AECS) and the bottom layer is a lipid (LECS)). The chloroform (CECS) and methanol (MECS) extracts were prepared by soaked freeze-dried fillet into chloroform and methanol separately with the ratio of 1:20(w/v) for 72 hours. The aqueous extract was freeze-dried while the lipid, chloroform and methanol extracts were evaporated to dryness. MSC was prepared from human bone marrow mononuclear cells as previously described. The crude extracts were later prepared in a series of concentrations at 100, 50, 25, 12.5, 6.25, 3.125, 1.5625 and 0 µg/ml and added to 2.0 X 10^5 of MSC/ml. Cell proliferation activity was determined using the 3,(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) (MTT) assay. Data was obtained using microplate ELISA reader at 570nm.

Results:
The crude AECS extracts at 100 µg/ml induced proliferation of MSC with cell viability of 114% at 24 h, 114% at 48 h and 148% at 72 h. The LECS, CECS and MECS crude extracts induced cell proliferation at 120%, 105.8% and 121% at 24 h, respectively at highest concentration but the % of cell viability decreased from 96% to 108% at 48 h and from 80.5% to 1.8.5% at 72 h.

Conclusion:
We showed here that the crude AECS extracts of the *C. striatus could* induce proliferation of MSC better than the other types of *C. striatus* extracts. This may be explained by the presence of higher quantity of active compounds that is responsible for cell proliferation in the AECS extract. These findings suggest that *C. striatus* may have the potential to promote tissue growth and wound healing via its effect on stem cell proliferation.

Keywords: *Channa striatus*, Haruan, mesenchymal stem cells, wound healing

Group2

EVALUATION OF CALCIUM ION WITHIN LIVE *BOER* BUCK SPERM USING CONFOCAL LASER SCANNING MICROSCOPE (CLSM): A PRELIMINARY STUDY

Mohd Iswadi Ismail[1], Siti Fatimah Ibrahim[1], Khairul Osman[3], Mohd Padzil A.Rahman[4], Srijit Das[2] & Abas Mazni Othman[4]

[1]Department of Physiology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, [2]Department of Anatomy, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, [3]Forensic Science Programme, Faculty of Allied Health Sciences, Universiti Kebangsaan Malaysia, Kuala Lumpur, [4]Breed Improvement Programme, Strategic Livestock Centre, Malaysian Agricultural Research and Development Institute (MARDI), 43400 Serdang, Selangor

Background:
Sperm need to use calcium ion (Ca^{2+}) for their movement, acrosome reaction and capacitation process. Previously, Ca^{2+} was reported to be located at endoplasmic reticulum, nucleus, acrosome and mitochondria at the midpiece of the sperm. Changes of the Ca^{2+} concentration within the sperm will lead to various degrees of sperm physiological and motility changes. Despite conclusive association between Ca^{2+} and motility of a sperm, some researchers suspect that Ca^{2+} are always present in the sperm's head. The variation of Ca^{2+} concentration within the area will have an impact on the acrosome reaction, motility and capacitation process of the sperm. Based on this, a study was conducted to confirm the Ca^{2+} activity and Ca^{2+} level within a live *Boer* buck sperm.

Materials and Methods:
Fresh semen samples were collected from male adult *Boer* buck species. A dual photon confocal laser scanning microscope (CLSM) with a 488 nm excitation and 597 nm emission on Fura red and 526 nm emission on Fluo-3 was used. Fresh sperms were mixed with 10% polyvinyl pyrrolidone (PVP) and stained with 500ug/ml Fura red and 1mg/ml Fluo-3. The sperms were incubated at 37°C for 30 minutes. Location of Ca^{2+} activity was observed and captured under the CLSM at 400x magnification (optical and software) and a frame rate of 20 fps. All fluorescent images were then automatically overlaid with images obtained through Brightfield (BF) to the location of the sperm's membrane. The location and activity of Ca^{2+} was then captured. Then a Fura red/Fluo-3 ratio was calculated to confirm the Ca^{2+} level within a sperm.

Results:
Images obtained from various active sperm had indicated that mostly Ca^{2+} was present at the head region. Incidentally we have also observed that Ca^{2+} in dead sperms were also present at the head region and midpiece. From the result, the intensity level of calcium ion relatively higher within the live (3.9501±0.1367) compared to dead (3.9215±0.1178) *Boer* buck sperm.

Conclusion:
In conclusion, we suspect that viability of a particular sperm largely depends on the ability of the sperm to confine Ca^{2+} within the head and midpiece region.

Keywords: calcium ion, sperm, *Boer* buck, confocal laser scanning microscope

EFFICACY OF MONOTHERAPY INSULIN (INSULATARD) IN GLYCAEMIC CONTROL IN WOMEN WITH DIABETES MELLITUS IN PREGNANCY DURING RAMADAN

Nor Azlin MI[1],Rohaida A[1], Norashikin AW[2], Norlaila M[2], Seri Suniza S[1], MA Jamil[1],Nor Azmi K[2]

[1]*Department of Obstetrics & Gynaecology, Faculty of Medicine, UKMMC*
[2]*Department of Medicine, Faculty of Medicine, UKMMC*

Background:
During Ramadan among diabetic patients, about 43% for type 1 diabetes and 86% for type 2 diabetes are able to fast. This however may not be easy in pregnant women complicated by diabetes mellitus without having complications. This study was designed for pregnant women complicated with diabetes mellitus to be able to fast and to evaluate the efficacy of blood glucose control in these women using monotherapy insulin (Insulatard) during Ramadan.

Materials and Methods:
This prospective observational study was conducted in the combined antenatal – endocrine clinic Universiti Kebangsaan Malaysia Medical Centre (UKMMC) during Ramadan in 2005 and 2006. Administration on Insulatard once daily at 5pm or twice daily at 5pm and 5am were given. Patient was seen in the clinic weekly with closed monitoring home blood glucose. The patient's age group, parity, gestation, occupation distribution, type of diabetes, maternal glucose control, insulin requirement, day of fasting, complication and successful rate were analysed.

Results:
Thirty women were recruited but 6 were dropped out. Majority of the patients were between 30 – 39 years old, which accounted 83.3%. The patients aged between 20 – 29 years old constituted 12.5% and more than 40 years old constituted 4.1%. Most of the patients were para 1 (37.5%). Primigravida consist of 29.2%, para 2 and 4 were 8.3% and 16.7% respectively. Most of the women were in second trimester (54.2%) followed by 3rd trimester (37.5%) and first trimester (8.3%). Most of the patients were working (87.5%). Fifty eight percent of the patients were having gestational diabetes mellitus. Nine patients had type 2 diabetes mellitus (37.5%) and only one who had type 1 diabetes mellitus (4.2%). There was a significant reduction in the mean of fasting blood glucose before Ramadan (6.16mmol/L) and after Ramadan (5.34mmol/L with p value = 0.00). Even though, statistically there was no significant different in blood glucose level before and after Ramadan in prelunch, predinner and before bed, the mean blood glucose level still remain within normal limits. There was a statistically significant reduction in HbA1c and fructosamine before Ramadan versus after Ramadan. Although insulin requirement increased during Ramadan from the first week to the fourth week, however there was a reduction in insulin requirement compared (before Ramadan 40U/day) to (after Ramadan 38.5U/day). Most of the patients were able to complete the fasting month for 30 days (79.2%) without any maternal and fetal complication.

Conclusion:
Monotherapy insulin (Insulatard) used during Ramadan not only significantly reduced

fasting blood glucose, HbA1c and fructosamine levels but also was acceptable in controlling blood glucose in diabetic women in pregnancy without any complications.

Keywords: diabetes, pregnancy, Ramadan, HbA1c, Insulatard

MATERNAL OBESITY AND PREGNANCY OUTCOMES

Alagammai R[1],Soon R[1],Nor Azlin MI[2] ,Rizal AM[3]

[1]*Department of Obstetrics & Gynaecology, Hospital Likas Kota Kinabalu Sabah.*
[2]*Department of Obstetrics & Gynaecology, Faculty of Medicine, UKMMC*
[3]*Department of Community Health, Faculty of Medicine, UKMMC*

Background:
Obesity is a complex, multifactorial condition characterised by excess body fat. The prevalence of obesity is constantly on the rise and constitutes a major worldwide epidemic in which obesity in pregnancy is not without risk. This study was done to correlate the effect of maternal body mass index (BMI) and obstetric outcomes.

Materials and Methods:
A prospective evaluation was carried out of five hundred and fifty three (553) women in one unit of a tertiary care teaching hospital in East Malaysia from January 2007 to August 2007 on the effect of maternal BMI on pregnancy outcomes.

Results:
Two hundred and seventy seven (277) (50.1%) were obese and the remaining two hundred and seventy six (276) (49.9%) had normal BMI. Obese women had a significant risk for gestational diabetes ($p \leq 0.05$), pre-eclampsia/pregnancy induced hypertension ($p \leq 0.05$), cesarean delivery ($p \leq 0.05$), macrosomia ($p \leq 0.05$), induction of labour ($p \leq 0.05$), low apgar score in neonates ($p=0.023$) and Neonatal care admission($p \leq 0.05$). There were no significant differences in parity, pre-term delivery, 3rd and 4th degree perineal tear, incidence of shoulder dystocia, thromboembolism in mother or perinatal mortality between the two groups of mothers.

Conclusion:
Obese women carry a higher risk for adverse pregnancy outcomes. Therefore pregnant women should maintain a normal BMI to achieve healthy pregnancy outcomes.

Keywords: obesity, pregnancy, BMI, gestational daibetes

UNILATERAL VOCAL CORD PALSY ; CAUSES, TREATMENT AND OUTCOME.

Marina MB[1], Pengiran Suhaili DN[1], Sharifa Ezat WP[2], Sani A[1].

[1]*Department of Otorhinolaryngology-Head and Neck Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Yaakob Latif, 56000, Kuala Lumpur, MALAYSIA.*

[2]*Dept. of Community Health, Faculty of Medicine Universiti Kebangsaan Malaysia, Jalan Yaakob Latif, 56000, Kuala Lumpur, MALAYSIA.*

Background:
Unilateral vocal cord palsy causing glottis insufficiency will lead to poor voice quality and aspiration. The management continues to give rise to controversy and the use of numerous surgical technique.

Materials and Methods:
A retrospective analysis in Hospital Universiti Kebangsaan Malaysia was done for patients who had underwent Gore-Tex medialization thyroplasty between 2000 and 2007. Hospital notes were sought and full documentation obtained. Subjective functional outcome was assessed using self-evaluation visual analogue score (VAS)before and after surgery.

Results:
Of 50 cases operated, 39 had retrievable hospital notes. The patients were followed up between 2 weeks to 34 months. There were 19 males and 20 females with mean age of 48 years. 35 patients had unilateral vocal cord paralysis. The predominant cause of unilateral vocal cord paralysis in our series was **thyroidectomy (41%).** Other aetiologies were idiopathic (15.4%), aortic arch aneurysm (5.1%), vagal schwannoma (5.1%), malignancy (5.1%), pulmonary tuberculosis (2.6%) and 5 cases (12.8%) were related to higher vagal nerve lesion with multiple cranial nerve palsies. 59% presented with hoarseness as the main symptom whereas 30.8% had additional aspiration component to their hoarseness. There were postoperative complications occurring in 2 patients (7.7%) namely stridor secondary to supraglottic oedema. A further 2 patients underwent re-do medialization thyroplasty due to aphonia and aspiration. 24 out of 35 (VAS) were analysed and this indicated 91.7% of patients had achieved significant improvement of voice ($p<0.0001$). Those with high vagal nerve lesion were found to have persistent aspiration despite achieving good voice outcome. There was no significant correlation between the age, sex, race and VAS post operation respectively

Conclusions:
Gore-Tex medialization thyroplasty is an efficient phonosurgical method which bears significant improvement in patient satisfaction. However this is not equally reflected in those with vocal fold paralysis secondary to higher lesion reflecting the multiple associated cranial nerve palsies.

Keywords: Unilateral vocal cord palsy, thyroidectomy, Gore-Tex, medialization thyroplasty

MANAGEMENT OF MASTOID ABSCESS IN PUSAT PERUBATAN UNIVERSITI KEBANGSAAN MALAYSIA, A TERTIARY REFERRAL CENTRE.

Mazita Ami, Zahiruddin Zakaria Azidin, Mohd Razif Mohd Yunus, Marina Mat Baki, Bee See Goh, Asma Abdullah, Lokman Saim

Department of Otorhinolaryngology, Universiti Kebangsaan Malaysia

Background:
In the era of antibiotics the incidence of mastoid abscess has declined. The objective of this study is to review the presentation of patients of mastoid abscess and their management in a tertiary referral centre.

Materials and Methods:
A retrospective study of patients who underwent surgery for mastoid abscess in Pusat Perubatan Universiti Kebangsaan Malaysia between January 2002 and November 2007 was reviewed. The patients' files were retrieved and their data on clinical presentation, duration of symptoms, premorbid illnesses, associated complications, imaging findings and treatment were collected and analysed.

Results:
A total of 12 patients were identified from the surgical records. However 1 patient was excluded because the file cannot be traced. The 11 patients consisted of 4 female and 7 male. Their age ranges from 3 to 70 years old. Three of them were diagnosed with cholesteatoma and the other eight had underlying otitis media. Mastoid surgery was performed in all patients; four underwent cortical mastoidectomy, five had modified radical mastoidectomy and two underwent radical mastoidectomy.

Conclusion:
Mastoid abscess is still a recognised entity of complications of otitis media in this modern era of antibiotics. It occurs both in the paediatric and adult population. Patients with mastoid abscess must be treated urgently especially in those with premorbid illness.

Keywords: mastoid abscess, mastoidectomy

THE EFFERENT AUDITORY PATHWAY IN TINNITUS

[1]Mazita Ami, [1]Asma Abdullah, [2]Wan Fazlina Wan Hashim, [1]Lokman Saim

[1] Department of Otorhinolaryngology Universiti Kebangsaan Malaysia
[2] Department of Medical Rehabilitation Medicine Universiti Kebangsaan Malaysia

Background:
The objective of this study is to determine the effect of contralateral sound stimuli on distortion product otoacoustic emission (DPOAE) of patients with tinnitus. Contralateral suppression of DPOAE provides an indirect method of assessing the efferent auditory pathway.

Materials and Methods:
This is a prospective case control study conducted in Universiti Kebangsaan Malaysia. All patients underwent ENT assessment and had tympanometry, pure tone audiometry and baseline DPOAE levels documented. Subsequently these patients had redocumentation of their DPOAE levels in the presence of sound stimuli in the contralateral non test ear. Patients were divided into four groups of patients that is group 1 consisted of patients with tinnitus and reduced hearing, group 2 consisted of patients with tinnitus and normal hearing, group 3 consisted of patients without tinnitus with reduced hearing and group 4 consisted of patients without tinnitus and normal hearing. This study has been approved by the Medical Ethics Committee.

Results:
Contralateral suppression of DPOAE was absent in 65.6% ears of patients with tinnitus and reduced hearing. However a higher rate of 76.9% ears of patients without tinnitus and reduced hearing had absent contralateral suppression of DPOAE. In patients with tinnitus and normal hearing contralateral suppression of DPOAE was absent in 42.3% ears and in patients without tinnitus and normal hearing the rate was 38.5% ears.

Conclusion:
We conclude that the effect of contralateral acoustic stimuli on DPOAE levels was reduced in patients with reduced hearing and had no relation to tinnitus.

Keywords: tinnitus, contralateral suppression of DPOAE, efferent auditory pathway

DO WE NEED DIETICIAN IN DIABETIC CARE?

Azarisyam A, M Adenan S, M Hafiz A, M Mizary R, M Aiman S, N Azimah M.

Department of Family Medicine, Universiti Kebangsaan Malaysia Medical Centre.

Background:
One of the key factors in the management of diabetes is for patients to practice diabetic diet. The aim of this study was to assess the level of knowledge on diabetic diet and the role of dietician in imparting this knowledge.

Materials and Methods:
This was a cross sectional study, on diabetics above 18 years old in the month of April 2008 in UKM Primary Care Centre. Patients who refused to be interviewed and had difficulty in understanding Malay or English were excluded from this study. Participants responded to a set of pre-tested questionnaire which contains socio-demographics data of the participants and questions on diabetic diet.

Results:
A total of 110 participants were included in the study. Participants showed a high score of knowledge on diabetic diet (mean score: 71.7 ± 9.3) with the highest score of 89.1. More than half of participants (56.4%) answered they can share others' food. Almost half of the participants (49.1%) thought carbohydrate should from simple starch and diabetics need more vitamins compared to others (48.2%). Participants showed difficulty in certain food proportion such as *Pharatta* (61.8%), *Tosai* (40.9%), red bean (58.2%), sweet potato (61.8%), potato (58.2%), water melon (68.2%) and lemon juice (60.9%). Patients who had seen dietician showed significantly higher level of knowledge score (p= 0.036). Participant's age, gender, body mass index, academic level, employment status, number of meeting with dietician, duration of diabetes, and level of glycaemic control were not associated with the level of participants' knowledge on diabetic diet.

Conclusion:
Overall, the studied diabetics had a good knowledge on diabetic diet except in few domains such as meal practice, food sources and proportion. The involvement of dietician in the care of diabetics gave a significantly better knowledge on diabetic diet. However this is not done by meeting dietician more frequent.

Keywords: diabetic diet, dietician, knowledge

YOUNG CHILD FEEDING PRACTICES AND CHILD NUTRITIONAL STATUS

T Shafieian[1], Latiffah A.L.[1], Ghayour-Mobarhan, M.[2]

[1]*Department of Community Health, Faculty of Medicine and Health Sciences, University Putra Malaysia.*[2] Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
Email: tfshafieian@gmail.com

Background:
Despite much development that has taken place in Iran, there are districts where one in four children is malnourished and this situation calls for serious action by the state and society. Various reports have mentioned to this problem in Iran. The Demographic and Health Survey (DHS; 2000), for example reported that nearly 11% of Iranian children are still underweight.

Materials and Methods:
A study was conducted in the Mashhad district of Iran with the objective of studying young child (2-5 yrs) feeding practices and child nutrition situation in the area. The study was a cross-sectional survey involving 700 young children between 24 and 60 months. A combination of methods, including structured interviews using questionnaire and anthropometry, was used to collect data for the study. The data obtained were analyzed using SPSS version 11.5 in Windows. Means and standard deviations were generated for continuous variables and frequency distribution for categorical variables.

Results:
The study showed that 28.3% of the children were undernourished (< -1SD), some (4.3%) of them severely (< -2SD). Breastfeeding duration of more than one year was common among the mothers. Only 12.1% of mothers weaned their children as early as twelve months after birth. The most common type of weaning food was almond porridge (gruel) mixed with cow's milk/water (50.4%). An educated mother was less likely to have an undernourished child, while a child from a teenage mother was more likely to be undernourished. Small size of a household was in favour of nutrition status.

Conclusion:
For adequate complementary feeding and improved child nutrition in this population, nutrition education intervention programmes aimed at improving nutrient intake among young children, through increased use of local foods rich in nutrients, need to be undertaken.

Keywords: Children Nutritional Status, Breastfeeding, Complementary Feeding, Iran,

DIAGNOSIS OF TYROSINEMIA TYPE 1: 10 YEARS LATER

Intan S[1], Bador KM[1], Zabedah Y[2]
Department of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia[1]
Institute of Medical Research (IMR)[2]

A 10 year old boy presented with liver dysfunction, hepatomegaly and severe rickets. He was investigated for possible diagnosis of Tyrosinemia type 1 **(**TT1) at IMR, where test for specific urinary organic acids and succinylacetone (by GCMS) confirmed the diagnosis. The patient had initially presented at 1 week of life with jaundice, abdominal distention and hepatosplenomegaly with an elevated alpha-fetoprotein. 2 siblings had died from underlying liver disease. At that time the pediatrician suspected TT1, however test for succinylacetone was negative possibly due to the difficulty in extracting the analyte. Thus patient was not treated until he re-presented at 10 years old. This case illustrates the continuing need to develop highly sensitive tests for the diagnosis of inborn error of metabolism. Other confirmative tests for TT1 include measurement of fumarylacetoacetate hydrolase (FAH) in cultured skin fibroblasts or the documentation of pathogenic mutations from DNA, although they are rarely available as diagnostic assays in most laboratories.

Keywords: inborn error, tyrosinaemia tyoe 1, diagnosis, screening, succinylacetone

A CASE OF EARLY ONSET OF ARGININOSUCCINIC ACIDURIA

Hanisah AH[1], Hanita O[1], Zabedah Y[2]
[1]*Departments of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur.* [2] *Institute of Medical Research, Kuala Lumpur*

Argininosuccinic aciduria is a rare inherited urea cycle disorder characterized by a deficiency of the enzyme argininosuccinic acid lyase. In 2005, Ministry of Health reported 58 cases of urea cycle disorders out of 812 cases of inborn errors of metabolism in Malaysia. Urea cycle disorders can be difficult to recognize and diagnose. Early detection and prompt treatment are required to prevent acute complications and permanent disabilities. We reported a full term Malay baby boy, admitted to the hospital for disease monitoring as he had positive family history of urea cycle disorder. Despite close monitoring, he developed hyperammonemia crisis with encephalopathy which required peritoneal dialysis. Biochemical analysis of plasma and urine amino acid showed markedly elevated level of arginosuccinic acid and urinary orotic acid, which are diagnostic of Argininosuccinic aciduria. Argininosuccinic aciduria can present either immediately at birth, as in this case or later. The role of chemical pathology laboratory in this patient is to establish the diagnosis and management of urea cycle disorder. The issue of neonatal screening for urea cycle disorder still remains debatable. Therefore, a careful, stepwise approach to diagnostic testing and a high index of suspicion for a urea cycle disorder were needed to serve both the physician and patient well.

Keywords: Urea cycle disorder,Argininosuccinic aciduria,ammonia,diagnosis,screening.

KNOWLEDGE, BELIEFS, BARRIERS AND PRACTICES TOWARDS BREAST CANCER SCREENING AMONG WOMEN TEACHERS IN SELANGOR, MALAYSIA.

Parisa Parsa (PhD)*[1], Mirnalini Kandiah (PhD)[2], Dr. Hejar Abdul Rahman (MD, MScom)[1], Nor Afiah Mohd Zulkefli (MD, MScom)[1]

[1]Department of Community Health, Faculty of Medicine and Health Sciences Universiti Putra Malaysia.
[2]Department of Nutrition and Dietetics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

Background:
Breast cancer (BC) is the leading cancer among Malaysian women. However participation of women in breast cancer screening (BCS) is low in Malaysia. Studies have shown greater risk of breast cancer among women teachers compared to other occupations. The objective of this randomised controlled trial study was to evaluate the effect of an educational intervention to improve knowledge, beliefs, barriers and practices on breast cancer screening among female secondary school teachers in Selangor, Malaysia.

Material and Methods:
A multi-stage random sampling was used for selection of secondary schools (4 control schools and 4 intervention schools). Baseline data were collected from 237 teachers on socio-demographic background, knowledge, beliefs and practices on breast cancer screening. An educational intervention comprised seminar supported by an educational model, brochures, telephone follow-up motivation sessions, and practical demonstration on breast self examination (BSE) techniques. To evaluate the effect of the intervention subjects were followed-up four months after intervention.

Results:
The mean age of participants was 37.8 years (SD=7.2) and majority of them were Malay (84%), married (88%) with tertiary education (90%). Knowledge and BCS improved significantly after intervention ($p<0.05$). Grounded Health Belief Model (HBM) constructs significantly increased for perceived susceptibility, seriousness, confidence and benefits of mammography and decreased in barriers for BSE and mammography was observed in the intervention group but HBM did not predict the BCS behaviours. The logistic regression model showed that change in knowledge score was the predictor of the uptake of BCS practices. The change in knowledge score on risk factors of BC (OR=1.663), screening methods (OR=1.145) and symptoms of BC (OR=1.729) were predictors of BSE, CBE and mammography utilization, respectively.

Conclusion: This study suggests that women's knowledge on BCS can improve breast cancer screening behaviors. In addition availability and affordability of screening services and their cost need to be addressed for promoting breast cancer screening behaviors in Malaysian women.
Keywords: Breast cancer, screening, women teachers, Malaysia

A CASE-CONTROL STUDY ON THE ASSOCIATION BETWEEN ENVIRONMENTAL FACTORS AND THE OCCURRENCE OF ACUTE LEUKAEMIA AMONG CHILDREN IN KELANG VALLEY: A SPATIAL ANALYSIS

[1]Shamsul Azhar, [1]Hairul Izwan, [2]Shaharudin Idrus

[1]Department of Community Health, Universiti Kebangsaan Malaysia Medical Centre,
[2]Institute for Environment and Development, Universiti Kebangsaan Malaysia.

Background:

Acute leukaemia is the most common cancer among children below the age of 15 years old in Malaysia. The main objective of the study was to determine the association between environmental factors and the occurrence of acute leukaemia among children in Kelang Valley.

Materials and Methods:
A case-control study was conducted among children with acute leukaemia who were histologically diagnosed at UKM Hospital (HUKM) and Kuala Lumpur General Hospital (HKL). Case subjects were children aged below 15 years old who were diagnosed with acute leukaemia in HUKM and HKL. Control subjects were children aged below 15 years old who were diagnosed with any non-cancerous acute illnesses in these hospitals. A total of 128 case subjects and 128 control subjects were enrolled in this study. The information regarding locations of children's houses, petrol stations, main roads and powerlines were collected using a structured questionnaire and the coordinate of patients' houses and their environmental factors were taken using a global positioning system (GPS) device. Spatial analysis was performed to determine the association between these environmental factors and the location of the children's houses.

Results:
Results from the first method showed that the occurrence of disease cluster for acute leukaemia occurred [R=0.367 for Kuala Lumpur and R=0.526 for the rest of Kelang Valley]. The outcome of the second method in spatial analysis was projected to ArcGis 9.2 software which shows 7 hot spot areas in Kelang Valley. Finally, *kernel estimation* showed elevated risk of acute leukaemia was found around such sources.

Conclusion:
Environmental factors are strong predictors for the occurrence of acute leukaemia among children. This study also proves that data from Geographical Information System (GIS) can be used to determine the association between environmental factors and acute leukaemia among children.

Keywords: acute leukaemia, spatial analysis, environmental factors

ESTIMATION OF DETERMINANTS OF HOUSEHOLD HEALTH EXPENDITURE ON PUBLIC INSTITUTIONS BY CONTROLLING SELF SELECTION OF PROVIDERS

Tin Tin Su[1], Steffen Flessa[2]

[1]*Department of Social & Preventive Medicine, Faculty of Medicine, University of Malaya,*
[2]Department of Health Care Management, University of Greifswald, Friedrich-Loeffler-Strasse 70, D-17489 Greifswald, Germany

Background:
Among several factors influencing decision to use health services, the price of the health care appeared as a major deterrent. In developing countries, expenditure incurred in household at the time of seeking treatment can be used as a proxy measure for price of respective health care because of lack of or insufficient prepayment scheme in many developing countries. Thus, it is crucial to look into the household health expenditure and conduct empirical studies on its determinants. Results from such studies can be implied to improve health care utilization.

Materials and Methods:
We assessed determinants of household health expenditure on public institutions with different econometric models by controlling the self selection of providers in order to get unbiased parameter estimates. The data used were from a representative household panel survey with 800 households in the Nouna district, Burkina Faso during 2000-2001.

Results:
The factors “being an adult”, “married”, “illness occurred in rainy season” and “severe illness” significantly increased the magnitude of health expenditure. Compared to malaria, individuals spent higher expenditure on other infectious diseases, injury and other disease category. In contrast, people were less likely to use expenditure on chronic illness. An individual who belongs to a household headed by a female, a literate household head and with a higher socioeconomic status had significantly positive association with the magnitude of expenditure.

Conclusion:
Findings from this study can be used for policy implication to improve health system performance in Burkina Faso through enhancing health care utilization.

Keywords: Health expenditure, Utilization, Developing countries, Burkina Faso

INDUCTION OF OSTEOPOROSIS WITH INTRAMUSCULAR INJECTION OF DEXAMETHASONE : A PILOT STUDY.

MR Elvy Suhana[1], S Farihah[1], S Ima Nirwana[2], O Faizah[1] and O Azizah[2].

[1]Department of Anatomy, Faculty of Medicine, University Kebangsaan Malaysia, Kuala Lumpur 50300, Malaysia. [2] Department of Pharmacology Faculty of Medicine, University Kebangsaan Malaysia, Kuala Lumpur 50300, Malaysia.

Background:
Long-term use of glucocorticoids will lead to osteoporosis. This study was done to determine the most suitable dose and duration for dexamethasone to induce osteoporosis in the rats.

Materials and Methods:
There were 3 groups of rats and each group consists of 10 rats.There were 2 groups of adrenalectomised and a sham operated group. The adrenalectomised rats were treated with intramuscular injection of dexamethasone for 6 days a week at 2 different doses (120µg/kg/day and 240µg/kg/day) to induce osteoporosis. The rats were sacrificed after 2 months and the left femurs were taken to evaluate the osteoporosis progression using the structural parameters of bone histomorphometry. The treatment group were compared to the sham operated group

Results:
The result showed that intramuscular injection of dexamethasone causes osteoporosis to the bones. The trabecular bone volume (BV/TV), trabecular thickness (Tb.Th) and trabecular number (Tb.N) were reduced in the treatment group compared to the sham operated group and the reduction was more marked in the group treated with 240µg/kg/day compared to the group treated with 120µg/kg/day. The trabecular bone separation(Tb.Sp) were increased in the treatment group compared to the sham operated group and it was more marked in the group treated with 240µg/kg/day.

Conclusion:
The study suggested that intramuscular injection of dexamethasone at the dose of 120µg/kg/day for 2 months had induced osteoporosis in rats and the severity of osteoporosis is dose dependent.

Keywords: Dexamethasone, osteoporosis, bone histomorphometry

COMPARING DIFFERENT INCISION TECHNIQUES FOR OVARIECTOMY OF RATS

Saadat Parhizkar[1],*Rashid Ibrahim* [2], *Latiffah Abdul Latiff*[1]

[1]Department of Community Health, Faculty of Medicine and Health sciences, [2] department of veterinary Clinical Studies, Faculty of Veterinary Medicine, University Putra Malaysia

Background:
The choice of surgical incision in the abdomen is determined by access for surgery. It has been suggested that utilizing a transverse or oblique rather than a midline incision may influence other parameters such as duration of surgery, recovery and complication rates. However, there is little study as to whether a particular incision confers any advantage. The purpose of this study is to determine whether a dorso-lateral incision or a transverse incision confers any advantage to the rats.

Materials and Methods:
Ninety five 16 weeks age female Sprague-Dawley rats were divided into two groups. Ovariectomy was preceded either by a single vertical dorso-lateral incision (in group A, n=45) or a single transverse lateral incision (in group B, n=50).

Results:
Animals in group A (vertical incision, n= 45) had a mean weight of 259.11 ±20.31 gram and those in group B (transverse incision, n= 50) had a mean weight of 254.20± 20.31 gram. There were significant differences in the duration of surgery in the two groups ($p < 0.001$). Although wound healing time for group B was slightly shorter than group A (9.46±.973 min vs 9.78±1.380 min); none of the distributions of wound length and healing percentage per day showed significant variation between these two groups.

Conclusion:
In comparison of these two types of incision for ovariectomy of rats, the operation as conducted in group B (Transverse Incision) was technically easier, less time consuming with less wound healing duration.

Keywords: Ovariectomy, Incision technique, Vertical, Transverse, Wound healing

BREASTFEEDING PRACTICES AND KNOWLEDGE AMONG MOTHERS IN KLINIK KESIHATAN IBU DAN ANAK CHERAS BARU

Shahid[1],Khalid[1],Azreen[1], Rohayu[1], Hairi[1], Radzniwan R[2]

Department of Family Medicine, Faculty of Medicine, Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM).

Background:
The advantages of breastfeeding have been well established. World Health Organization (WHO) has introduced the code of ethic to safeguard the marketing practices. But the trend of breastfeeding is said to be on the decline in most developing countries. The objective of this study is to determine the present practice and knowledge of breastfeeding in a semi-urban community and identify associated socio-demographics factors.

Materials and Methods:
This is a cross-sectional study. A total of 162 mothers attending Klinik Kesihatan Ibu Dan Anak Cheras Baru from 31st March until 11th April 2008 were interviewed using a questionnaires and their socio-demographic information recorded.

Results:
93.8% of respondents practiced breastfeeding at the birth of their child. Prevalence of breastfeeding was noted higher among age group of 25 to 34 years old(64.5%), Malay mothers(77%), high education mothers(94.7%), employed mothers(58.6%), mothers married to non-professional husbands(83.6%), mothers with high family monthly income(73.7%) and mothers who attended antenatal breastfeeding classes(55.9%). Besides, prevalence of breastfeeding was slightly higher in primiparous mothers(51.3%) compared to multiparous mothers(48.7%). Most mothers with low birth weight baby breastfed their child. Knowledge wise, most of the respondents answered all 10 questions correctly, for instance the role of breastfeeding as contraception, benefits of colostrums, protection against gastrointestinal infection and allergy, reduce neonatal jaundice, and health benefits of breast milk to the baby. Most of them know when to start breastfeeding. There were significant relationship between ethnicity and influence from husband and family members with breastfeeding practices.

Conclusion:
Most local mothers have adequate knowledge regarding breastfeeding. Malay ethnicity and influence from closest family were significantly associated with breastfeeding practices. Therefore encouraging factors in Malay should be studied to find the answers. Closest family should be included into health education programmes to promote effective breastfeeding.

Keywords: breastfeeding, practices, prevalence ,knowledge.

CONVERSION DISORDER IN BRUNEI DARUSSALAM

Irene Nor Liew[1]; Oduola Abiola[1]

[1]*Institute of Medicine, University Brunei Darussalam, Jalan Tungku Link, Gadong BE 1410 Brunei Darussalam*

Conversion disorder otherwise known as hysteria is believed to have a high incidence in Brunei although the evidence for this is tenuous. A few years ago an outbreak of what Bruneians believe to be mass hysteria occurred in some schools in Brunei Darussalam. This probably accounts for why conversion disorder is widely known in the Sultanate and possibly for the ascribed 'high incidence'. Like for most psychiatric disorders Bruneians generally prefer to seek help from traditional healers rather than hospital psychiatric clinics. Although Bruneians believe that the incidence of conversion disorder in the country is high there is no evidence in the literature to support this or indeed on the perception of care givers in relation to the nature of the disorder, its cause(s), diagnosis and management. The reasons for the choice of traditional healers for consultation in conversion disorder are also not known. We therefore decided to use an inductive qualitative approach, using a standardised open ended interview to investigate the perception of western orthodox medical practitioners and those of three different types of traditional healers that appear to be mostly patronised with regards to conversion disorder in Brunei. The three traditional-healer types are Islamic, a Buddhist and a non-religious traditional healer. We also interviewed a teacher to present a societal view outside of care providers. Our data shows that on average, each of the care providers sees two patients annually which sort of belie the so called 'high incidence' of conversion disorder in Brunei. We note that most of the care providers use similar diagnostic method and history taking from patients' family. Treatment goals for traditional healers are identical but unique to each of them and are different from that of the psychiatrist, psychiatric nurse and A&E nurse who, working in a multidisciplinary team aim to 'manage' rather than 'cure' the disorder. Finally most Bruneians seem to believe that the cause of conversion disorder is spiritual: which explains the preference for traditional healers.

Keywords: Conversion Disorder, car providers, perceptions, Brunei Darussalam.

INVESTIGATING INTO THE INCIDENCE OF POSTOPERATIVE NAUSEA AND VOMITING

Muhd Najib Adib Haji Muhd Naibi[1], M K A Abdurrahman Harry @ Charles Hoyle[1], Z Haji Latif [2], Kaul[2]

[1]*Institute of Medicine, Universiti Brunei Darussalam, Brunei Darussalam*
[2]*Raja Isteri Pengiran Anak saleha Hospital, Gadong, Brunei Darussalam*

Postoperative nausea and vomiting is a common unpleasant complication of surgery. It's aetiology has a multi-factorial nature and it affects 25-30% of patients who undergo surgery. Risk factors (Patient-related; surgical-related and anaesthetic-related) tend to predispose patients to postoperative nausea and vomiting. However, despite all the studies, not much is known about the incidence of postoperative nausea and vomiting in Brunei Darussalam. 67 patients from the Raja Isteri Pengiran Anak Saleha Hospital were recruited. The consented patients were recruited in the period of January – March 2008. These patients were interviewed and asked questions based on a questionnaire designed by the investigators. There were three interviewing sessions, 1) preoperative, one day before surgery to assess preoperative risk factors; 2) two to three hours after surgery at the hospital wards to investigate whether patients experienced episodes of nausea and/or vomiting; 3) one week after surgery, which was performed over the telephone, to investigate whether patients experienced nausea and vomiting during the one week interval. Statistical analysis was done using SPSS for windows (version 16.0). Pearson's chi-squared X^2 test was used to identify significant correlations. The incidence of postoperative nausea was found to be 37.3% (95% CI: 25.7, 49.9) while postoperative vomiting was 16.4% (95% CI: 7.5, 25.7). There was significant correlation between patient risk factors : obesity, history of postoperative nausea and vomiting and history of motion sickness ($p<0.05$).In contrast, female gender, history of migraine, history of post-operative nausea and vomiting and the type of surgical procedure were risk factors which predisposed patients to having episodes of postoperative vomiting ($p < 0.05$). It was also found that an increase in risk factors tend to increase the likelihood of a patient to postoperative nausea and vomiting. Furthermore, none of the patients experienced severe complications. Consistent with previous studies, several of the risk factors did indeed predispose patients to postoperative nausea and vomiting, however, some risk factors did not. This could mainly be due to the relatively small number of patients in the study. However, significant risk factors in postoperative nausea and vomiting found in this study should be considered in the management of patients undergoing surgery.

Keywords: Postoperative nausea and vomiting, RIPAS Hospital, incidence.

THE HISTOLOGICAL, STATISTICAL AND HORMONAL AFFECT ON ADULT UNCOUPLED RATS AND MICE OVARIES WITH FENUGREEK OIL

Israa M.Sulaiman, Azian Abd Latiff, Faizah Othman, Farihah Haji Suhaimi, Khin Papa Hlaing

Department of Anatomy, Universiti Kebangsaan Malaysia
Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia

Background:
Fenugreek is one of the most abundant herb all over the world. The dried ripe seeds of this herb are the effective medicinal part of it. The aim of this study was to determine the pharmacological effect of a new chemical substance (fenugreek oil) that was extracted from crude fenugreek seeds. This has a hormonal like action. We assessed the pharmacological effect of this experimental material (fenugreek oil) in order to recommend it in future as a stimulator for ovulation or a contraceptive pill.

Materials and Methods:
Sixty uncoupled female rats and mice were enrolled in this study, categorized into groups as mentioned in the text. Prolactin, estradiol and progesterone serum levels where measured for all groups. Histological and statistical analytical methods were applied to identify the increase in the folliculogenesis process within the ovaries of the studied animals.

Results: There was an increase in folliculogenesis process in all the experimental groups when compared to the control. These findings were confirmed histologically and associated hormonal assay levels were examined.

Conclusion: It was concluded that fenugreek oil has a significant effect on folliculogenesis process as many growing follicles are found with increase in granulosa and theca interna cells that surround these follicles within the ovary due to the increase in the sex hormones level in the blood as it has wide biochemical effective components.

Keywords: Fenugreek, oil, hormonal, folliculogenesis.

PROCALCITONIN IN ORTHOPAEDIC IMPLANT INFECTION

J Ahmad, MH Shukur, KF Mohammad

Department of Orthopaedic, Faculty of Medicine, Universiti Kebangsaan Malaysia.

Background:
Orthopaedic implant infection is a devastating morbidity. Diagnosis is made clinically and aided by blood investigations such as white cell count (WCC), C-reactive protein (CRP), and erythrocyte sedimentation rate (ESR). Procalcitonin (PCT) has been used in the detection of bacterial sepsis. This study attempts to highlight the experience in the use of serum PCT in patients with orthopaedic implant infection.

Materials and Methods:
Patients suspected of having implant-associated infection were included into the study to determine the value of serum procalcitonin measurements. PCT, WCC, CRP, and ESR levels were measured prior to treatment and subsequently repeated on a weekly basis. Microbiology results were used as the 'Gold standard' upon which all the blood parameters were compared. Diagnosis of infection was determined on the basis of positive microbiology results. T-tests were used to determine the presence of significant difference between patients with and without infection for each blood parameter studied.

Results:
There was no significant difference with regard to the levels of CRP, ESR, and PCT between patients with and without infection at week1. WCC levels were significantly higher in the infected group at week 1 whereas PCT levels were significantly higher in the infected group at week 4.

Conclusion:
WCC combined with PCT levels are reliable indicators of orthopaedic implant infection. A larger cohort of patients with longer follow up is required to substantiate these findings.

Keywords: procalcitonin, orthopaedic implant, infection

VOICE DISORDER AND ASSOCIATION FACTORS AMONG SEVERAL CALL CENTRE WORKERS COMPANY IN JAKARTA

Donna Andresya, Zarni Amri

Faculty of Medicine. Universitas Indonesia, Jakarta

Background:
The call center workers are talking and using telephone during their works. This activity may cause voice disorder or disphonia. This study investigated several risk factors associated with voice disorder.

Methods:
Data was collected using interview, questionnaire, physical examination, voice analyze, and measurement of workplace environment in November to December 2006. Subjects were call center and back office workers at several call centers in Jakarta who have worked for 3 months or more, aged 17 years or older. Participating subjects were selected randomly among the eligible would be sample. Voice disorder was determined by two of four increasing the acoustic parameter (fold vocal frequency, amplitude pertubation quotient, pitch pertubation quotient, noise harmonic ratio).

Results:
A number of 82 employees participated in this study, aged 17 to 30 years, work for 6 months to 5 years, 23% of smokers, room temperature of 24^{o} to 28^{o} C, humidity of 52 to 53 WBGT. The proportion of voice disorder among call center workers 78% (32/41 employees), and among back office workers was 51% (21/41 employees). Call center workers than back office workers had 52% more risk for having voice disorder (relative risk (RR) = 1.52; 95% confidence interval (CI) = 1.08 – 2.14).

Conclusion:
Compared with back officer, call centre workers had higher risk to be voice disorder. Further study among call center workers needed to identify specific risk factors related to voice disorder.

Keywords: voice disorder, worker, call center, Jakarta

SUSCEPTIBILITY PATTERN OF *CANDIDA* SPP ISOLATED FROM NEONATES WITH SYSTEMIC CANDIDOSIS AGAINST SOME AZOLE DERIVATIVES

Anna Rozaliyani,[1] Idham Amir,[2] Joedo Prihartono,[3] Retno Wahyuningsih[1]

[1]*Department of Parasitology, Faculty of Medicine, Universitas Indonesia*
[2]*Department of Paediatrics, Faculty of Medicine, Universitas Indonesia*
[3]*Department of Community Medicine, Faculty of Medicine, Universitas Indonesia*

Background:
Since the early ninetieth the role of *Candida* in causing a fatal disease called systemic candidosis become increase and it has high mortality rate. The predominant causative agent is *Candida albicans*. Moreover *Candida* non-*C. albicans* such as *C. glabrata, C. parapsilosis, C. tropicalis* and *C. krusei* emerge as important causative agents. During the two decades fluconazole and itraconazole was used extensively to treat superficial and systemic candidosis. On the other hand, the extensive and long term use raise the possibility of resistance. This study was done to know *Candida* susceptibility pattern in neonates with systemic candidosis and its relation with clinical outcome. Furthermore the prevalence and risk factors that influence the infections were also investigated.

Methods:
The *Candida* species were isolated from the blood of neonates with sepsis or potentially become sepsis which were sent by Department of Paediatrics to Department of Parasitology, Faculty of Medicine Universitas Indonesia. Antifungal susceptibility test was performed by Etest. *C. parapsilosis* ATCC 90018 and *C.krusei* ATCC 6258 were used as quality control.

Results:
Out of 135 neonates investigated, 62.96% (85 neonates) were positive for *Candida* spp. but only 52 neonates with 68 yeasts isolates were eligible to be analyzed. The most dominant species was *C. tropicalis* (48.5%), then *Trichosporon variabile* (19.1%), *C. guilliermondii* (14.7%), *C. albicans* (11.8%), *C. glabrata* (4.4%) and *C. lusitaniae* (1.5%). More than half (69.2%) were infected by one species and 30.8% with mixed infection.

Conclusion:
C. tropicalis was the most dominant species. Prevalence of resistance against fluconazole was less than itraconazole (3,8% vs 9,6%). *In vitro*, susceptibility pattern of *Candida* spp. against fluconazole was better than itraconazole. Several possible risk factors that could be noted were prematurity, low birth body weight, intravenous catheters, orogastric tube, powerful systemic antibiotics and underlying diseases.

Keywords: *Candida,* neonates, susceptibility pattern, fluconazole, itraconazole

A PROSPECTIVE OBSERVATIONAL STUDY OF PAIN FOLLOWING STAPLED HAEMORRHODOPEXY

A Mukhtar, H Imtiaz, I Sagap

Colorectal Unit, Department of Surgery, UKM Medical Center, Kuala Lumpur

Background:
Stapled hemorrhoidopexy has resulted in a radical change in the treatment of 3rd and 4th degree hemorrhoids. By avoiding wound creation in the sensitive perianal skin, stapled hemorrhoidopexy is intended to offer less postoperative pain compared to the conventional techniques.Correlation between postoperative pain assessed by Visual Analogue Score (VAS) and the distance of the stapled line from the dentate line as well as to the histological examination of the resected specimen (presence of squamous epithelium and muscle fibers) were obtained in prospective manner.

Methods & Material:
Fifty-four patients underwent stapled hemorrhoidopexy between February 2007 to May 2008; 28 males and 26 females. The median age was 47.5 years (range 25 to 76 years). Forty-nine patients had 3rd degree hemorrhoids and 5 patients had 4th degree hemorrhoids. The mean postoperative follow up was 5.4 months.

Results:
Predominant symptoms for hemorrhoids were prolapse (100%), bleeding (42.6%), pain (42.5%) and flatus incontinence were present in 3 patients. The median staple line height was of 2.5 cm (range 0-4cm). Intraoperative additional hemostasis was required in 43 patients (79.9%). The median postoperative pain score measured by (VAS) at 6, 12 and 24 hours and following the first motion was 4 at all intervals. Median hospital discharge time was 28hrs (24-72hrs). Histopathological examination of resected tissues revealed the presence of muscularis propria in 32 (59.3%) cases and squamous epithelium in 22 (40.7%) . Postoperative pain was significantly associated with the presence of squamous epithelium ($p < 0.01$) and low-lying staple height ($p < 0.01$).

Conclusion:
Technical default causes significant pain after stapled hemorrhoidopexy. This is evidenced by low staple line height and the inclusion of skin within resected specimen. The optimal height for staple line may be around 2.5 cm. However the procedure is well tolerated with no major complication observed in our series.

ASSOCIATION BETWEEN MATERNAL HAIR NICOTINE LEVELS AND PREGNANCY OUTCOMES AMONG MALAYSIAN MOTHERS

Harlina H.Siraj, Arifah H, Che Nin M* , Zaleha A.Mahdy

Dept of O&G, Faculty of Medicine, National University of Malaysia (UKM) K. Lumpur, National Poison Centre, Science University of Malaysia (USM)Pulau Pinang, MALAYSIA*

Background:
This study investigates the adverse health effects of exposure to environmental tobacco smoke (ETS) among pregnant women. The aim is generally to determine the effects of ETS on pregnancy outcomes by determining the quantitative level of nicotine found in maternal hair.

Materials and Methods:
A cross-sectional study was conducted over a period of five months in postnatal wards of the National University Hospital of Malaysia (HUKM), in which 316 mothers were randomly recruited. Maternal exposure to ETS was determined quantitatively by measuring the nicotine levels detected in the maternal hair. Self-answered questionnaire was completed by the mothers to indicate their smoking habits as well as their spouses. The maternal and foetal variables were compared among those who were exposed to ETS vis-à-vis not exposed. Outcome measures include antenatal complications and perinatal outcomes, such as gestation at birth, birth weight and the Apgar score. SPSS (Ver 14.0) was employed for data analysis. Unpaired Student t-test was used for the comparison of continuous variables while Fisher's Exact test was used for the comparison of categorical variables

Results:
It was found that high exposure to ETS in pregnant women was significantly associated with a higher risk of LBW babies and preterm delivery. The mean birth weight of babies born to the mothers exposed to ETS was 130 grams less than that of babies in the unexposed group, while the incidence for pre-term birth was 68.6% vs. 39.6%. However, SGA infants and low Apgar score babies did not show any significant association with exposure.

Conclusion:
The findings of this study supports the well-established findings of the ill-effects of ETS to pregnancy outcomes. More effective educational programmes and anti-smoking campaigns are needed to disseminate information on the ill-effects of ETS to women in the reproductive age group, either as active or passive smokers.

Keywords : Environmental tobacco smoke (ETS), nicotine level, pregnancy outcomes,

OBSERVATIONS ON THE SIGNAL FLY, *SCHOLASTES* SP. (LOEW, 1873) (DIPTERA: PLATYSTOMATIDAE) VISITING ANIMAL CARCASSES IN MALAYSIA

Chen Chee Dhang[1,6], Heo Chong Chin[2], David McAlpine[3], Hiromu Kurahashi[4], Nazni Wasi Ahmad[1], Mohamad Abdullah Marwi[2], John Jeffery[2], Lee Han Lim[1], Baharudin Omar[5] and Mohd Sofian-Azirun[6]

[1]Medical Entomology Unit, WHO Collaborating Center Vectors, Infectious Diseases Research Centre (IDRC), Institute for Medical Research (IMR), Jalan Pahang, 50588 Kuala Lumpur, Malaysia. [2]Department of Parasitology & Medical Entomology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia. [3]Australian Museum, 6 College Street. Sydney NSW 2010, Australia. [4]International Department of Dipterology, Hikawadai 1-2-21, Higashikurume City, Tokyo 203-0004 Japan. [5]Department of Biomedical Science, Faculty of Allied Health Science, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia. [6]Institute of Biological Science, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia.

Background:
Platystomatidae, recently termed signal flies, belongs to the order Diptera. Platystomatidae are worldwide in distribution and one of the largest families of acalyptrate Diptera with around 119 known genera and nearly 1,200 described species in the world. The present study was the first report on the observations of a signal fly, *Scholastes sp.* (Loew) (Diptera: Platystomatidae) visiting monkey and pig carcasses in Malaysia.

Materials and Methods:
(i) A monkey carcass was used as a model for human decomposition study in a forested area. At the beginning of field study, the monkey was euthanized by Department of Wildlife and National Parks (PERHILITAN) Peninsular Malaysia, Ministry of Natural Resources and Environment Malaysia. After death was confirmed, monkey carcass was immediately placed outdoor in a forest.
(ii) A young pig was used as a carcass model to study the insect succession and decomposition patterns. The pig was dead due to pneumonia and was immediately placed inside the oil palm plantation located nearby the pig farm.

Results:
(i) Within an hour, the blowfly, *Hypopygiopsis sp.* (Townsend) was the first visitor on the monkey carcass, followed by *Chrysomya sp*. (Robineau-Desvoidy). On the other hand, a signal fly, *Scholastes sp.* was also observed visiting the carcass. The *Scholastes sp.* was observed landed and sucking the blood stain on the cloth.
(ii) Within five minutes of placement, a signal fly, *Scholastes sp.* was observed as the first landed to the body of pig carcass, followed by the blowfly, *Chrysomya megacephala* (Fabricius). However, no oviposition by *Scholastes* sp. was observed in both studies. No *Scholastes sp.* was observed visiting the carcasses after first day.

Conclusion:
Both studies also observed that *Scholastes sp.* visited the carcasses within an hour after the animal's death, which is the fresh stage, indicating *Scholastes sp.* was attracted only to

freshly death carcasses.

Keywords: Platystomatidae, *Scholastes* sp, monkey carcass, pig carcass

LABORATORY STUDY ON THE EFFICACY OF GEL BAITS CONTAINING IMIDACLOPRID AND HYDRAMETHYLNON AGAINST AMERICAN COCKROACH, *PERIPLANETA AMERICANA* (LINNAEUS, 1758)

Chen Chee Dhang[1,2], Lee Han Lim[1], Izzul Amri Azizan[2], Heo Chong Chin[2], Lau Koon Weng[2], Andy-Tan Wei Ann[1,2], Loke Seau Rong[1,2] and Mohd Sofian-Azirun[2]

[1]Medical Entomology Unit, WHO Collaborating Center Vectors, Infectious Diseases Research Centre (IDRC), Institute for Medical Research (IMR), Jalan Pahang, 50588 Kuala Lumpur, Malaysia. [2]Institute of Biological Science, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia.

Background:
Gel baits are proven to be convenient to use and highly effective. As a result, gel baits have become popular cockroach management tool for pest management professionals.

Materials and Methods:
This study was conducted to evaluate the effectiveness of 2 gel baits with different active ingredients, imidacloprid 2.15% w/w and hydramethylnon 2.00% w/w against American cockroach, *Periplaneta americana*. The study was designed by (i) treating the cockroaches with gel baits (direct application) and, (ii) treating the cockroaches with the cockroach carcasses poisoned by gel bait (secondary toxicity effect).

Results:
For the direct application, the laboratory strain of male cockroaches showed LT_{50} of 20.44 and 40.79 hours for gel bait containing imidacloprid and hydramethylnon, respectively; while female cockroaches showed LT_{50} of 41.12 and 53.36 hours for gel bait containing imidacloprid and hydramethylnon, respectively. However, gel bait containing hydramethylnon achieved 90% mortality within shorter time (72.47 and 79.95 hours) in comparison to gel bait containing imidacloprid for both male and female cockroaches, respectively. For secondary toxicity effect, carcasses poisoned by gel bait containing imidacloprid achieved 50% mortality within 91.56 and 246.41 hours for both male and female cockroaches, respectively. On the other hands, carcass poisoned by gel bait containing hydramethylnon take longer time to achieve 50% mortality, with 129.08 and 407.80 hours for male and female, respectively. Furthermore, cockroaches treated with carcass poisoned by gel bait containing imidacloprid achieved 90% mortality within shorter time in comparison to hydramethylnon for both male and female cockroaches by 1.56 – 15.89 folds. Imidacloprid thus induced better secondary toxicity effect against male and female cockroaches.

Conclusion:
Gel bait containing imidacloprid was able to induce 50% mortality of male and female cockroaches within shorter period by direct application and secondary toxicity effect in comparison to hydramethylnon. Generally, male cockroaches were more susceptible to imidacloprid and hydramethylnon compared to female cockroaches.

Keywords: *Periplaneta Americana*, imidacloprid, hydramethylnon, direct application, secondary toxicity effect

ANTS (HYMENOPTERA: FORMICIDAE) ASSOCIATED WITH PIG CARCASSES IN MALAYSIA

Heo Chong Chin[1], Chen Chee Dhang[2,3], Mohamad Abdullah Marwi[1], Rosli Hashim[3], Nurul Ashikin Abdullah[3], John Jeffery[1], Hiromu Kurahashi[4] and Baharudin Omar[5]

[1]Department of Parasitology & Medical Entomology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia. [2]Institute of Biological Science, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia. [3]Medical Entomology Unit, WHO Collaborating Center Vectors, Infectious Diseases Research Centre (IDRC), Institute for Medical Research (IMR), Jalan Pahang, 50588 Kuala Lumpur, Malaysia. [4]International Department of Dipterology, Hikawadai 1-2-21, Higashikurume City, Tokyo 203-0004 Japan. [5]Department of Biomedical Science, Faculty of Allied Health Sciences, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia.

Background:
An entomological study conducted in an oil palm plantation in Tanjung Sepat, Selangor, Malaysia on August until September 2007 to observe the decomposition process of pigs and then related faunal succession.

Materials and Methods:
Two young pigs (*Sus scrofa* L.) ca. 10 kg, were died from pneumonia and were immediately placed on the ground in an oil palm plantation (2.6 °N, 101.6 °E) to study the insects succession and decomposition process. One of the pigs was partially burned by petrol to simulate a real crime whereby the victim was burned. Observation was made for two weeks and the presence of arthropods that visited to pig carcasses were recorded and photographed. Ants were collected using forceps and preserved in 70% ethyl alcohol with label. Species of ants were then identified by the authors from Institute of Biological Science, Faculty of Science, Universiti Malaya.

Results:
We collected 6 species of ants (Formicidae) from 3 subfamilies: Formicinae (*Oecophylla smaragdina* and *Anoplolepis gracilipes*), Myrmicicnae (*Tetramorium* sp. and *Pheidologeton* sp.) and Ponerinae (*Odontoponera* sp. and *Diacamma* sp.) that associated with pig carcasses placed on the ground. *Oecophylla smaragdina*, *Pheidologeton* sp. and *Tetramorium* sp. were found on a partially burnt pig carcass whereas the rest species were recovered from unburned pig carcass. These ants were predators for fly eggs, larvae, pupae and adult flies. Ants' populations can be found from all stages of decomposition started from fresh stage until dry stage.

Conclusion:
Predatory ants can reduce fly population thus affecting the rate of decomposition and ants activity on dead body may produce artifacts similar to ante-mortem abrasions or injuries caused by strong acid on dead body. Hence it is important to differentiate artifacts made by ants on dead body.

Keywords: forensic entomology, ants, pig carcass, Malaysia

DEVELOPMENT OF SANDWICH ENZYME-LINKED IMMUNOSERBENT ASSAY FOR DETECTION OF SARS-COV NUCLEOCAPSID PROTEIN

Andi Yasmon, Budiman Bela, Fera Ibrahim

Department of Microbiology, Faculty of Medicine, University of Indonesia, Jakarta

Backgrounds:
Although the *severe acute respiratory syndrome* (SARS) epidemic has ceased, outbreaks may reoccur, since SARS is a zoonotic disease with high recombination and mutation. It is therefore important for Asian countries to be prepared in facing the re-emerging SARS epidemic. The capacity to perform early diagnostic of SARS-CoV infection should be maintained, as a prevention strategy to apply prompt isolation of SARS cases. The implementation of such a strategy in eliminating the SARS epidemic has been proven effective. Therefore, we developed a sandwich ELISA for detection of SARS-CoV nucleocapsid protein.

Methods:
SARS-CoV nucleocapsid fragment, obtained from pGEX-N sample, was subcloned into prokaryotic expression vector pQE-80L (Qiagen). The resulting recombinant construct (pQE-N) was used for transformation of *E. coli* BL21, and the recombinant protein was expressed by inducing *E. coli* BL21 transformants with 0.2 mM isopropyl-1-thio-D-galactopyranoside (IPTG). Bacterial pellets were suspended in Buffer NTT (1.5% N-lauroylsarcosine, 1% Triton X-100, 150 mM NaCl, and 10 mM Tris, pH 8.0). The recombinant protein was purified according to the manufacturer's instructions (Qiagen), and injected into guinea pig and rabbit to obtain antisera against the recombinant SARS-CoV nucleocapsid protein. A sandwich ELISA assay for detection of SARS-CoV nucleocapsid protein was then developed using these antibodies. The sensitivity of the sandwich ELISA was tested using serial dilution of pooled normal human sera spiked with recombinant nucleocapsid protein.

Results:
The ELISA was capable of detecting the recombinant necleocapsid protein in serum at minimal concentration of 1.25 ng/mL. No false positive results were given when 29 samples from healthy individuals were tested, and no cross-reaction occurred when 19 serums of HIV-1 infected people was tested.

Conclusion:
The present sandwich ELISA may serve as an alternative tool for the early diagnosis of SARS-CoV infection in laboratories that are not capable to perform molecular assays. Further studies using clinical specimens of atypical pneumonia from SARS-CoV and other infections would be performed for the specificity of this assay.

Key words: SARS, re-emerging, sandwich ELISA