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Effect of second-hand smoke exposure on TGF α gene polymorphism at the K primer region among non-syndromic oral cleft patients

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Abstract

Objective:

To determine the association between maternal exposure to second-hand smoke during pregnancy and TGF α gene polymorphism in the cleft children genotype.

Material and Method:

Retrospective cohort study was carried out among cleft children with and without maternal exposure to cigarette smoke during pregnancy. The cleft children were selected from the Combined Cleft Clinic at Kota Bharu Dental Clinic. A total of 33 subjects were identified as exposed (16 Males and 17 Females) and 32 were identified as non-exposed (20 Males: 12 Females) with age range from 3 months to 10 years. The subjects' mothers (age range from 17 to 50 years old) were interviewed using the standard craniofacial deformity registration form used at the Combined Cleft Clinic. Blood samples were taken from the subjects. DNA was extracted and amplified with PCR. Then the Restriction Fragment Length Polymorphism (RFLP) technique was used with enzyme Hinf1 and Nco1 to detect polymorphism at the K primer region of the TGF α gene.

Results:

The chi-square(X^2) test detected a significant difference of allele 4 at K region between exposed and non-exposed subjects (95% CI: 1.07, 8.06); $p=0.034$. Simple logistic regression analysis revealed that maternal exposure to second-hand smoke for more than 30 minutes per day had the relative risk of 3.82 times of having allele 4 polymorphism among exposed compared to non-exposed subjects (95% CI: 1.29, 11.28) $p=0.015$.

Conclusion:

Maternal exposure to second-hand smoke during pregnancy was significantly associated with polymorphism of allele 4 at K-primer region of TGF α gene in sporadic non-syndromic oral cleft patients.

Key words: Cleft, TGF α gene polymorphism, second-hand smoke.

Chua KB, Chua IL, Chua IE, Chua KH. Differential preferences of oviposition by *Aedes* mosquitoes in man-made containers under field conditions. Southeast Asian J Trop Med Pub Hlth 2004; 35(3): 599-607

Differential preferences of oviposition by *Aedes* mosquitoes in man-made containers under field conditions

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Abstract

A study was made of the oviposit behavior of gravid female *Aedes* mosquitoes in man-made habitats under field conditions. The study showed that the gravid female *Aedes* mosquitoes preferred containers with relatively easy access but not too open to external environmental influence. The dark surface of the containers served as the initial and long-range attractant to the breeding sites. Volatile chemicals generated by the decaying vegetation in the container may serve as a close-range attractant. Finally, the water quality and the quantity of 'food' derived from decaying vegetative matter in the water determined the amount of eggs deposited in each container. The study confirmed previous findings that each gravid female *Aedes* mosquito had the tendency to lay her eggs in more than one container. However, the results of the study suggests that under favorable conditions, each gravid female *Aedes* mosquito could be encouraged to lay all her eggs in a single breeding site.

Jutti JC, Radhakrishnan AK, Nurjahan MI, Khuzaiah RA, Chen PC. Experience of developing an outcome-based curriculum at the International Medical University, Malaysia. *Jap Med Edu Today* (online publication 2003.3) 2004; (online journal URL: <http://www.gifuu.ac.jp/~medc/jmet/gencho/genchofl.htm>)

Experience of developing an outcome-based curriculum at the International Medical University, Malaysia

Ramesh JC, Radhakrishnan AK, Nurjahan MI, Khuzaiah RA, Chen PC

International Medical University, Malaysia

Abstract

The International Medical College of IMC (established in the year 1992) became International Medical University (IMU) when it was accorded university status in the year 1999. When the IMC first started, it only offered Phase 1 (equivalent to pre-clinical part) of the medical programme, which is a two-and-a half years course spanning over five semesters (semesters 1 to 5). Upon successful completion of Phase 1, the students will transfer to any of the IMU's 23 partner medical schools (PMS) to complete their clinical training (see Table-1). The medical degree conferred by the partner medical school to the transferred students is identical to the degree conferred to students who enter these medical schools directly i.e. not via the IMC/IMU route. When University status was according to IMU, the Phase 2 (clinical part) of the medical programme was developed. So, from the year 1999 onwards, students entering the IMU medical programme had an additional option of obtaining a medical degree from the International Medical University. Currently, about 60% of phase 1 students transfer to one of partner medical schools overseas (see Table-1) and the remainder pursue their medical training locally. Currently International Medical University has partnership with 23 overseas medical schools spread over different continents (see Table-1).

IMU is the pioneer private medical university in Malaysia. The IMU medical programme can be completed in five-years where the first two-and-a half years will cover Phase 1 (semester 1 to 5) and the second two-and-a half years will cover Phase 2 (semesters 6 to 10). The medical programme at the IMU had adopted modern pedagogy, which emphasises on student- centred learning, life-long learning and problem-based learning since its inception in 1992.

Jutti RC, Radhakrishnan AK, Nurjahan MI, Khuzaiyah RA. Portfolios: experience of International Medical University, Malaysia. Jap Med Edu Today (online publication 2003.3) 2004; (online journal URL: <http://www.gifu-u.ac.jp/~medc/jmet/gencho/genchofl.htm>)

Portfolios: experience of International Medical University, Malaysia

Ramesh JC, Radhakrishnan AK, Nurjahan MI, Khuzaiyah RA

International Medical University, Malaysia

Abstract

The International Medical University (IMU) first stated as the International Medical College (IMC) in the year 1992. The IMU undergraduate medical programme is a five-year course; Phase 1 comprise 2.5 years (semesters 1 to 5) while Phase 2 comprise 2.5 years (semesters 6 to 10). For the period of 1992 to 1999, the International Medical College, offered only the Phase 1 of the current IMU Medical programme. Phase 1 is undertaken wholly at the IMC/IMU. During Phase 1, students will learn medical sciences in an integrated organ system-based curriculum and also clinical skills, communication skills and some aspects of medicine applicable to Malaysia. We are proud to say that problem-based learning (PBL) and early clinical exposure are some key delivery tools used for curriculum delivery during Phase 1. The successful completion of Phase 1 will lead to the award of the Advanced Diploma in Medical Sciences. Upon completion of Phase 1, students were transferred to overseas partner medical schools (PMS) for the clinical phase of their training (see Table-1). When IMC was accorded university status in 1999, we started the clinical phase or Phase II of the medical programme in 1999 and students had the additional option of obtaining undergraduate medical degree locally. Currently, about 60% of Phase 1 students transfer to once of overseas the 23 partner medical schools and the remainder continue their medical course locally in our clinical school. Currently, International Medical University (IMU) has partnership with 23 partner medical schools that are spread over different continents (See Table-1).

Kalanithi Nesaretnam, Roberto Ambra, Kanga Rani Selvaduray, Radhkrishnan AK, Karin Reimanna, Ghazali Razak, Fabio Virgili. Tocotrienol-rich fraction from palm-oil affects gene expression in tumors resulting from MCF-7 cell inoculation in athymic mic. *Lipids* 2004; 39(5): 459-467

Tocotrinol-rich fraction from palm-oil effects gene expression in tumors resulting from MCF-7 cell inoculation in athymic mic

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Abstract

It has recently been shown that tocotrienols are the components of vitamin E responsible for inhibiting the growth of human breast cancer cells *in vitro*, through an estrogen-independent mechanism. Although tocotrienols act on cell proliferation in a dose-dependent manner and can induce programmed cell death, no specific gene regulation has yet been identified. To investigate the molecular basis of the effect of tocotrienols, we injected MCF-7 breast cancer cells into athymic nude mice. Mice were fed orally with 1mg/d of tocotrienol-rich fraction (TRF) for 20 wk. At end of the 20 wk, there was a significant delay in the onset, incidence, and size of the tumors in nude mice supplemented with TRF compared with the controls. At autopsy, the tumor tissue was excised and analyzed for gene expression by means of a cDNA array technique. Thirty out of 1176 genes was significantly affected. Ten genes were down-regulated and 20 genes up-regulated with respect to untreated animals, and some genes in particular were involved in regulating the immune system and its function. The expression of the interferon-inducible transmembrane protein-1 gene was significantly up-regulated in tumors excised from TRF-treated animals compared with control mice. Within the group of genes related to the immune system, we also found that the CD59 glycoprotein precursor gene was up-regulated. Among the functional class of intracellular transducers/effectors/modulators, the c-myc gene was significantly down-regulated in tumors by TRF treatment. Our observations indicate that TRF supplementation significantly and specifically affects MCF-7 cell response after tumor formation *in vivo* and therefore the host immune function. The observed effect on gene expression is possible exerted independently from the antioxidant activity typical of this family of molecules.

Kalanithi Nesaretnam, Roberto Ambra, Kanga Rani Selvaduray, Radhakrishnan AK, Raffaella Canali, Fabio Virgili. Tocotrienol-rich fraction from palm-oil and gene expression in human breast cancer cells. *Annals of the New York Academy of Sciences* 2004; 1031;143-157

Tocotrinol-rich fraction from palm-oil and gene expression in human breast cancer cells

Kalanithi Nesaretnam,^a Roberto Ambra,^b Kanga Rani Selvaduray,^a Ammu Radhkrishnan,^c Raffaella Canali,^b Fabio Virgili^b

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^cInternational Medical University, Kuala Lumpur, Malaysia

Abstract

Vitamin E is important not only for its cellular antioxidant and lipid-lowering properties, but also as an antiproliferating agent. It has also been shown to contribute to immunoregulation, antibody production, and resistance to implanted tumors. It has recently been shown that tocotrienols are the components of vitamin E responsible for growth inhibition in human breast cancer cells *in vitro* as well as *in vivo* through estrogen-independent mechanisms. Although tocotrienols act on cell proliferation in a dose-dependent manner and can induce programmed cell death, no specific gene regulation has yet been identified. In order to investigate the molecular basis of the effect of a tocotrienol-rich fraction (TRF) from palm oil, we performed a cDNA array analysis of cancer-related gene expression in estrogen-dependent (MCF-7) and estrogen-independent (MDA-MB-231) human breast cancer cells. The human breast cancer cells were incubated with or without 8µg/mL of tocotrienols for 72 h. RAN was subsequently extracted and subjected to reverse transcription before being hybridized onto cancer arrays. Tocotrienol supplementation modulated significantly 46 out of 1200 genes in MDA-MB-231 cells. In MCF-7 cells, tocotrienols administration was associated with a lower number of affected genes. Interestingly, only three were affected in a similar fashion in both cell lines: c-myc binding protein MM-1, 23-kDa highly basic protein, and interferon-inducible protein 9-27 (IFITM-1). These proteins are most likely involved in the cell cycle and can exert inhibitory effects on cell growth and differentiation of the tumor cell lines. These data suggest that tocotrienols are able to affect cell homeostasis, possibly independent of their antioxidant activity.

Key words: vitamin E; tocopherols; tocotrienols; human breast cancer cells; gene expression

Loh KY. Spiritual distress in a terminally ill patient with breast cancer. *Int J Palliat Nurs* 2004; 10(3):131-132

Spiritual distress in a terminally ill patient with breast cancer

Loh KY

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Abstract

For terminally ill patients, suffering can relate to issues beyond the physical body, such as psychological and spiritual distress. The North American Nursing Diagnosis Association defines spiritual distress as a disruption in the life principle, that, when intact, suffuses a person's entire self, integrating and transcending biological and psychosocial aspects (Mesnikoff, 2002). Patients in spiritual distress express concern about the meaning of life, death and suffering, and may state that their illness is a punishment. They may be angry, cry, be withdrawn or show apathy. This case study concerns a 45-year-old Malaysian Muslim woman with terminal breast cancer. The woman presented with spiritual distress manifested as anger and deep denial.

Loh KY. Handling spiritual questions of terminally ill patients. *Int J Palliat Nurs* 2004; 10(11)

Handling spiritual questions of terminally ill patients

Loh KY

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Abstract

In caring for terminally ill patients, we may sometimes be asked difficult questions by our patients. The hardest questions may not be medically related but rather relate to doubts about patients' own cultural and religion practices. In Malaysia the population comprises three major ethnic groups, Malays, Chinese and Indians. These three ethnic groups have different cultural and religious practices. It is very common to see doctors and nurses in Malaysia of one ethnicity managing patients from different ethnicity, different cultural practice and religion. Doctors and nurses in Malaysia are particularly aware of how patients of different ethnicity respond differently to the illness and its treatment. They are trained to be nonjudgmental and to understand patients' cultural and religious backgrounds.

Loh KY, Jeanne O. Age related visual impairment in the elderly. Med J Malaysia 2004; 59 (4)

Age related visual impairment in the elderly

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Abstract

Visual impairment among the elderly is a major health problem. With advancing age, the normal function of eye tissues decreases and there is an increased incidence of ocular pathology. Demographic studies have shown that age is the best predictor of blindness and visual impairment. The most common causes of age related visual impairment in the elderly are presbyopia, cataracts, age related macular degeneration, primary open angle glaucoma and diabetic retinopathy. Untreated visual impairment leads to physical handicap, increased incidence of fall, depression, social isolation and dependency. Active screening for visual loss in the elderly should be part of the health examination. The elderly should be encouraged to come for formal 1-2 yearly eye assessment for early detection of visual impairment and to treat all associated problems in order to prevent permanent visual loss.

Key words: Elderly, Age related visual impairment, Screening

Loh KY, Nalliah S. Gestational trophoblastic disease. Med J Malaysia 2004; 59: 697-704

Gestational trophoblastic disease

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Abstract

Gestational trophoblastic disease is a spectrum of pregnancy disorder arising from the placental trophoblastic tissues. It characterised by the secretion of a distinct tumour marker, the beta-HCG. This condition is highly curable even in the presence of metastasis. The incidence of this disease is higher in the Asian population. The major well-established risk factors for gestational trophoblastic disease are advanced maternal age and a past history of gestational trophoblastic disease. Common clinical presentations include vaginal bleeding in early trimester, uterus larger than gestational age, absence of fetal parts after 20 weeks of gestation. Ultrasonography is a reliable non-invasive tool for diagnosis of gestational trophoblastic disease in the clinical setting. All placental tissue following miscarriage or curettage should have histopathological evaluation to exclude gestational trophoblastic disease. Since this group of disorders is one of the highly curable neoplasms, early diagnosis and prompt treatment is necessary.

Loh LC, Teng CL, Teh PN, Koh CN, Vijayasingham P, Thayaparan T. Metered-dose inhaler technique in asthmatic patients - a revisit of the Malaysian scene. Med J Malaysia 2004; 59(3): 335-341

Metered-dose inhaler technique in asthmatic patients- a revisit of the Malaysian scene

L C Loh, MRCP*, C L Teng, MFamMed*, P N Teh*, C N Koh, MPH**, P Vijayasingham, FRCP***, T Thayaparan, FRCP***

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Abstract

Inefficient metered-dose inhaler (MDI) technique results in poor drug delivery, suboptimal disease control and possibility of inhaled medication overuse. The MDI technique of 134 government hospital and clinic followed-up adult asthmatic patients followed-up in a government hospital and a health clinic was pragmatically assessed based on the 3 obligatory steps of adequate lip seal, appropriate hand-breath coordination and sufficient breath holding after inhalation. The relationship between technique efficiency and frequency of daily short-acting β 2-agonist (SABA) use via the MDI and asthma exacerbations over a 12-month period was also assessed. Fifty-six patients (42%) had inefficient MDI technique. All demographic and asthma-related variables between the 'efficient' and 'inefficient' technique groups of patients were comparable except for significantly longer mean years of MDI use in the 'efficient' technique group [mean (SD): 10 (7) vs. 7 (5); $p=0.003$]. There were no significant differences between the two groups in relation to frequency of daily SABA use or asthma exacerbations over the past 12 months. Despite having been available in Malaysia for a considerable period of time, the MDI device is still poorly handled by a large proportion of adult asthmatic patients. Changing to other more user-friendly devices or use of spacer devices to facilitate delivery should be considered for these patients.

Key words: Metered-dose inhaler, Technique, Asthma, Malaysia

Mak JW. Antifilarial compounds in the treatment and control of lymphatic filariasis. *Tropical Biomedicine* 2004; 21(2):27-38

Antifilarial compounds in the treatment and control of lymphatic filariasis

Mak JW

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Abstract

Diethylcarbamazine citrate (DEC) has been used for treatment and control of lymphatic filariasis since the 1950s. Although this remarkable drug is still useful and modified strategies in its usage have been developed, a number of newer antifilarial compounds are now available. Numerous field trials evaluating their efficacy in the control of lymphatic filariasis have been conducted. In particular, ivermectin (IVM), albendazole (ALB), and DEC have been tested singly and in combinations and the results of such field studies should be evaluated. While most of the studies were based on efficacy in the clearance of microfilaraemia, a few clinical trials evaluated the adulticidal activity of these compounds. Some antibiotics are effective in killing *Wolbachia* bacteria symbionts of filarial worms, but their role in the chemotherapy of lymphatic filariasis is still undefined. This review of randomised controlled field studies and randomised controlled clinical trials with these compounds will summarise the findings and give recommendations on their appropriate use for the control and treatment of lymphatic filariasis.

Important zoonotic intestinal protozoan parasites in Asia

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Abstract

Intestinal protozoa are increasingly being studied because of their association with acute and chronic diarrhoea in immunocompromised as well as immunocompetent patients. Various community outbreaks due to contamination of water or food with these protozoa have further highlighted their importance in public health. Among these important pathogens are *Giardia duodenalis*, *Entamoeba histolytica*, *Cryptosporidium parvum*, *Cyclospora cayentanensis*, *Isospora belli*, and microsporidia. Except for the cyst-forming *G. duodenalis* and *E. histolytica*, the others are intracellular and form spores which are passed out with the faeces. These organisms are also found in various animals and birds and zoonotic transmission is thought to occur. These infections are distributed worldwide, with a higher prevalence in developing compared to developed countries. However, the relative importance of zoonotic infections especially in developing countries has not been studied in detail. The prevalence rates are generally higher in immunodeficient compared to immunocompetent patients. Higher prevalence rates are also seen in rural compared to urban communities. Most studies on prevalence have been carried out in developed countries where the laboratory and other health infrastructure are more accessible than those in developing countries. This relative inadequacy of laboratory diagnosis can affect accurate estimates of the prevalence of these infections in developing countries. However, reports of these infections in travellers and workers returning from developing countries can provide some indication of the extent of these problems. Most studies on prevalence of amoebiasis in developing countries were based on morphological identification of the parasite in faecal smears. As the pathogenic *E. histolytica* is morphologically indistinguishable from that of non-pathogenic *E. dispar*, estimates of amoebiasis may not be accurate. The epidemiology of human microsporidia infections is not completely understood. Two species, *Enterocytozoon bieneusi* and *Encephalitozoon intestinalis*, are associated with gastrointestinal disease in humans and it is believed that human to human as well as animal to human infections occur. However, the importance of zoonotic infections has not been fully characterised. *G. duodenalis* cysts, microsporidia and *Cryptosporidium* oocysts have been detected in various ground water resources, but their role in community outbreaks and maintenance of the infection has not been fully characterised. The taxonomic classification and pathogenic potential of *B. hominis* are still controversial. While considered by many as yeast, fungi or protozoon, recent sequence analysis of the complete SSUrRNA gene has placed it within an informal group, the stramenopiles. This review covers recent published data on these zoonotic infections and examines their public health importance in Asian countries.

Mimi O, Noriah A, Nurul A, Looi PS, Rushidi R, Thavamalar G, Teng CL.
Reduction of birth before arrival and unsafe deliveries in Puchong, Selangor. FMS
Malaysia 2004, 2(1): 17-21

Reduction of birth before arrival and unsafe deliveries in Puchong, Selangor

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⁴Selangor Health Department

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Abstract

The number of "Born Before Arrival" (BBA) cases in Puchong has increased drastically from 2000 to 2001. As a result, the rate of unsafe deliveries in Puchong increased from 0.40 in 1999 to 2.02 in the year 2001. The main objective of this study is to reduce the number of BBA cases hence reducing the rate of unsafe deliveries in Puchong government clinics to 0.8 or less. The study was conducted in two phases at Puchong Government Health Clinics. Phase 1 was a retrospective study to retrieve information on all cases of BBA that occurred from 1.1.2000 to 31.12.2001. Interventional strategies were formulated after data analysis. Phase 2 was a prospective study whereby the interventional strategies were carried out from 1.1.2002 to 31.12.2002. A total of 84 cases were recorded of which 65.5% were foreigners. The majority of BBA cases were unbooked or had antenatal check-ups at private clinics. 90% of unregistered cases were foreigners. The midwife was called after delivery in 81% of cases. The interventional strategies that were undertaken were successful in reducing the number of BBA to 13 cases. Hence the rate of unsafe deliveries reduced from 2.02 in the year 2001 to 0.61 the following year; well below the target rate of 0.8

Key words: Safe Motherhood, Born Before Arrival

Muthiah YD, Lee WL, Teh LK, Ong CE, Salleh MZ, Ismail R. A simple multiplex PCR method for the concurrent detection of three CYP2C8 variants. Clin Chim Acta. 2004; 349:191-198

A simple multiplex PCR method for the concurrent detection of three CYP2C8 variants

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Abstract

Background:

Cytochrome P450 (CYP) 2C8 is a principle enzyme responsible for the metabolism of many clinically important drugs as well as endogenous compounds such as arachidonic acid. The enzyme is genetically polymorphic but a simple method is not available to study its genetic polymorphism. We developed and optimized a variant-specific PCR techniques to detect CYP2C8*2, CYP2C8*3 and CYP2C8*4.

Method:

Genomic DNA was extracted from blood using standard extraction methods. A two-step PCR method was developed to detect simultaneously three CYP2C8 variants. In the first PCR (PCR1), specific regions from exons 3, 5 and 8 of the CYP2C8 gene were amplified. The products were used as templates in parallel alleles-specific PCR (PCR2). This method was tested against DNA samples obtained from 57 healthy Malaysian volunteers.

Result:

The bands of interest were successfully amplified. This method showed specific and reproducible results when tested on healthy volunteers. DNA sequencing further confirmed genotype results obtained from current method.

Conclusion:

We have successfully developed and optimized a multiplex PCR method suitable for use in population studies of CYP2C8 polymorphism.

Key words: CYP2C8; Polymorphism; Multiplex PCR

Nalliah S. Teaching and learning professionalism in medical schools. *Ann Acad Med* 2004; 33: 707-710

Teaching and learning of professionalism in medical schools

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Abstract

Concerns about professionalism in medicine have made necessary the explicit teaching and learning of ethics, professionalism and personal development. The noble profession of medicine, taken up as a "calling" by those who are expected to put the needs of the patient above their own, appears to have become a fees-for-service business model and trade. Parental expectations, the diminishing sense of responsibility in teachers, lack of role models, technological advancements, sub-specialisation and third-party involvement in the healthcare delivery system have been identified as reasons for these concerns. The General Medical Council in the United Kingdom, and other professional bodies in both Europe and the Americas, have emphasised the need to enhance the teaching and learning of professionalism in medical schools, particularly the development of good attitudes, appropriate and competent skills, and the inculcation of a value system that reflects the tenets of professionalism in medicine. The medical curriculum will need to be scrutinised so as to introduce the subject of professionalism at all levels of training and education. Barriers to learning professionalism have been identified and students need to be equipped to resolve conflicts and to put the needs of others above their own.

Key words: Curriculum development, Explicit teaching, Professionalism in medicine, Threats, Training

Omar M, Teng CL, Chia YC. Clinical tests for diabetic peripheral neuropathy – which modality to choose? FMS Malaysia 2004, 2(1): 11-13

Clinical tests for diabetic peripheral neuropathy – which modality to choose?

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Abstract

In an effort to reduce the time taken to conduct a neurological examination, various modalities of clinical neurological tests were compared. It was found that testing for vibration sense gave the best positive predictive value in detecting the presence of diabetic peripheral neuropathy. Although light touch and pinprick tests were more sensitive and were more likely to exclude peripheral neuropathy, they were not specific enough. Vibration test has the highest specificity for detecting peripheral neuropathy in this study. Hence to diagnose diabetic peripheral neuropathy in a busy outpatient setting, a rapid neurological examination could be achieved by testing for vibration sense alone.

Key word: Diabetic peripheral neuropathy

Onishi H, Oda Y, Koizumi S. Lecture was more effective than role-play for patient education skill - an incomplete curriculum development in Saga Medical School. Jap J Fam Pract 2004; 11: 10-16

Lecture was more effective than role-play for patient education skill - an incomplete curriculum development in Saga Medical School

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Abstract

Objectives:

To compare role-playing with lecture to teach medical students patient education for chronic disease patients and to evaluate the curriculum in Saga Medical School for behavioral science.

Methods:

From September to November 1999, 36 final-year medical students (5 groups) were consecutively enrolled into a randomized post-test only comparative study conducted in Saga Medical School, Japan. Groups were alternately allocated into role-playing or lecture concerning patient education; 21 students took lecture and others took role-playing of an asthmatic patient. A week later, all the students took objective structured clinical examination (OSCE) including interview with standardized patient (SP) suffering from type-2 diabetes mellitus. SP's patient satisfaction questionnaire (PSQ) scores of two educational methods were compared.

Results:

Average and standard deviation of PSQ scores on students who took lecture or role-playing were 26.0 +/- 2.5 vs 23.1 +/- 3.4 (p=0.014). Factor analysis divided eight items of PSQ into 'explanatory' and 'empathy' parts and the latter part by students who took lecture and role-playing were 13.3 +/- 1.5 and 10.6 +/- 2.3 (p=0.001).

Conclusion:

The results of OSCE indicated that lecture improved PSQ more than role-playing to teach patient education. Role-playing without enough knowledge base for medical interview in patient education might not work properly.

Onishi H, Yoshida I. Rapid change in Japanese medical education. *Med Teach* 2004; 26: 403-408

Rapid change in Japanese medical education

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Abstract

Change in Japanese medical education has been accelerating over the last 10 years. Historically, clinical departments in each medical school played a crucial role, but reports in the mass media tried to refute the feudal 'ikyoku-koza' system with a number of malpractice cases, inappropriate patient-doctor communication, etc. At that time policies by the Ministries of Education and Health (rationalized in 2001) independently became more influential in medical education. In particular the network of governmental medical schools has been restructured, merged and privatized since 2001. In the 1990s several private medical schools developed distinctive curricula including problem-based learning (PBL), the objective structured clinical examination (OSCE) and introduction to clinical medicine (ICM). The curriculum for clinical medicine is still a critical issue and will be a major challenge for the management of each medical school. The effectiveness of the National Model Curriculum consisting of more than 1200 objectives might be questionable but the National Common Achievement Test (CAT) will make a strong impact on the preclinical curriculum. In the future each medical school should adopt an outcome-based education system to close the loop of curriculum development. An evaluation system based on the entire medical school or curriculum will be the key to successful education.

Palayan K, Harjit K, Hanafiah H. Clinical and endoscopic features of peptic ulcer bleeding in Malaysia. *Med J Malaysia* 2004; 59(5):617-622

Clinical and endoscopic features of peptic ulcer bleeding in Malaysia

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Abstract

The characteristics of patients and the endoscopic features of 196 patients with bleeding peptic ulcer in a multi-ethnic population were investigated. There was a male preponderance (M: F= 6.3: 1) and their mean age was 63.5 years. The prevalence of peptic ulcer bleeding in the Malays and Indians was similar to the ethnic distribution of population. However, the Chinese were over represented. Nearly 40% of patients studied had at least one co-existing medical illness. Hypertension and ischaemic heart disease were the most common diseases. History of non-steroidal anti-inflammatory drug usage was identified in 48% of the patients and it was the commonest risk factor associated with bleeding ulcers. More than 80% of bleeding ulcers were located in the duodenum and the pylorus. Endoscopic features of active bleeding or recent bleed were identified in more than 60% of the patients. The study notes that bleeding peptic ulcer is a serious and a potentially life threatening condition. It is a disease of the elderly and, with the steadily increasing elderly population in the country, the admissions rates of peptic ulcer bleeding is expected to rise. There is a need to plan for appropriate technical support, critical care facilities and expertise to avoid unacceptable outcomes.

Phang SM, Chu WL. The University of Malaya algae culture collection (UMACC) and potential applications of a unique strain of *Chlorella* from the collection Jap J Phycology 2004; 52: 221 – 224

The University of Malaya algae culture collection (UMACC) and potential applications of a unique *Chlorella* from the collection

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Abstract

The University of Malaya Algae Culture Collection (UMACC) consists of 150 microalgal strains isolated from various habitats in Malaysia. Recently, 15 isolates of Antarctic microalgae were added into the collection. Various studies to explore the potential applications of the UMACC microalgae were conducted, and these include the following: (i) screening of the microalgae for high-value chemicals such as polyunsaturated fatty acids, carotenoids and phycobiliproteins, (ii) use of the microalgae to treat agro- industrial wastewaters such as rubber and palm oil mill effluents, and sago factory wastewater, (iii) use of the microalgae as biomonitors for heavy metal pollution and nitrogen enrichment in freshwater ecosystems, (iv) use of the microalgae as mosquito larvicidal agents and (v) use of the microalgae as aquaculture feed. Of the UMACC microalgae, *Chlorella vulgaris* UMACC 001 is one of the most well-studied species, and has potential applications in wastewater treatment and removal of heavy metals. *Chlorella vulgaris* UMACC 001 grows well under heterotrophic conditions and at high nitrogen levels. It was successfully grown in rubber effluent in high rate algal ponds, producing high biomass that can be used as animal feed. The system also showed good treatment efficiency in terms of the reduction in ammoniacal nitrogen and phosphate contents, as well as chemical oxygen demand. A further increase in algal biomass was obtained when the rubber effluent was supplemented with molasses and CO₂.

Key words: culture collection, *Chlorella*, wastewater treatment, rubber effluent, molasses

Phua KL. An exploratory study of noteworthy online versions of Anglo-American intellectual journals of opinion. *Akademika* 64 (Januari) 2004; 143 -148

An exploratory study of noteworthy online versions of Anglo-American intellectual journals of opinion

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Abstract

One of the most important avenues for serious intellectual discourse and presentation and exchange of ideas beside seminar presentations, conference papers, formal academic journals and scholarly books is the intellectual "journal of opinion". In fact, the journal of opinion may actually have a greater impact on society than the other mode. With the appearance of the World Wide Web (commonly called the "Internet"), most intellectual journals of opinion have also developed electronic, on-line versions thus increasing public accessibility to intellectual ideas, even more. In this research note, the writer presents the results of an exploratory study of online versions of Anglo American intellectual journals of opinion that provide either full access or limited access to people who are not-fee-paying subscribers. The main aim is to bring these journals of opinion to the attention of Malaysian and other Southeast Asian, social scientists and intellectuals. The findings show that the number of Anglo-American intellectual journals of opinion available in electronic format through the World Wide Web (or "Internet") is 36 and the majority of these allow full access to non-payers. In Malaysia, it should be noted that think tanks are growing in number but intellectual journals of opinion are few and far between. If Malaysian social scientists wish to influence the direction of public policy in our country, we can learn valuable lessons from the experience of public intellectuals in the United Kingdom and United States.

Phua KL. World Trade Organization (WTO) negotiations: possible effects on health and health services in Malaysia. *Jurnal Kesihatan Masyarakat* 2004;10(1)

World Trade Organization (WTO) negotiations: possible effects on health and health services in Malaysia

Phua KL

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Abstract

The various World Trade Organization agreements, i.e., the General Agreement on Trade in Services (GATS); the Agreement on Trade-Related Intellectual Property Rights (TRIPS); Agreement on Sanitary and Phytosanitary Measures (SPS) and the Agreement on Technical Barriers to Trade (TBT) will be implemented in Malaysia since we are a member state of the World Trade Organization. This article discusses the various agreements and presents an analysis of how their implementation may affect health and health services in Malaysia.

Key words: World Trade Organization (WTO), GATS, TRIPS, SPS, TBT, effects on health and health services in Malaysia

Rohani Ahmad, Chu WL, Zamree Ismail, Lee Han-Lim, Phang SM. Effect of ten chlorophytes on larval survival, development and adult body size of the mosquito *Aedes aegypti*. Southeast Asian J Trop Med Pub Hlth 2004; 35(1): 79 – 87

Effect of ten chlorophytes on larval survival, development and adult body size of the mosquito *Aedes aegypti*

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Abstract

The effect of ten microalgal chlorophytes isolated from mosquito breeding containers on the survival, larval development and adult body size of the mosquito *Aedes aegypti* was investigated. All larvae fed with six of the microalgal isolates died after 7 days. These isolates were found to be resistant to digestion by mosquito larvae. Delayed pupation and body size reduction of the mosquitos fed with *Chlorococcum* UMACC 218 and *Scenedesmus* UMACC 220 were observed. In contrast, larvae fed with *Ankistrodesmus convolutus* UMACC 101 and *Chlorococcum* UMACC 213 were bigger in size than those fed with normal insectory feed. The present study showed that microalgal chlorophytes have the potential to be used as larvicidal agents for mosquitos.

Teoh Ming-Li, Chu WL, Harvey Marchant, Phang SM. Influence of culture temperature on the growth, biochemical composition and fatty acid profiles of six Antarctic microalgae. *J Applied Phycology* 2004; 16:6; 421-430

Influence of culture temperature on the growth, biochemical composition and fatty acid profiles of six Antarctic microalgae

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Abstract

The growth, biochemical composition and fatty acid profiles of six Antarctic microalgae cultured at different temperatures, ranging from 4, 6, 9, 14, 20 to 30 C, were compared. The algae were isolated from seawater, freshwater, soil and snow samples collected during our recent expeditions to Casey, Antarctica, and are currently deposited in the University of Malaya Algae Culture Collection (UMACC). The algae chosen for the study were *Chlamydomonas* UMACC 229, *Chlorella* UMACC 234, *Chlorella* UMACC 237, *Klebsormidium* UMACC 227, *Navicula* UMACC 231 and *Stichococcus* UMACC 238. All the isolates could grow at temperatures up to 20 C; three isolates, namely *Navicula* UMACC 231 and the two *Chlorella* isolates (UMACC 234 and UMACC 237) grew even at 30 C. Both *Chlorella* UMACC 234 and *Stichococcus* UMACC 238 had broad optimal temperatures for growth, ranging from 6 to 20 C ($= 0.19 - 0.22 \text{ day}^{-1}$) and 4 to 14 C ($= 0.13 - 0.16 \text{ day}^{-1}$), respectively. In contrast, optimal growth temperatures for *Navicula* UMACC 231 and *Chlamydomonas* UMACC 229 were 4 C ($= 0.34 \text{ day}^{-1}$) and 6–9 C ($= 0.39 - 0.40 \text{ day}^{-1}$), respectively. The protein content of the Antarctic algae was markedly affected by culture temperature. All except *Navicula* UMACC 231 and *Stichococcus* UMACC 238 contained higher amount of proteins when grown at low temperatures (6–9 C). The percentage of PUFA, especially 20:5 in *Navicula* UMACC 231 decreased with increasing culture temperature. However, the percentages of unsaturated fatty acids did not show consistent trend with culture temperature for the other algae studied.

Key words: Antarctic microalgae; biochemical composition; *Chlamydomonas*; *Chlorella*; fatty acid profiles; global warming; *Klebsormidium*; *Navicula*; *Stichococcus*; temperature

Teng CL, Achike FI, Phua KL, Norhayati Y, Nurjahan MI, Nor Asiah H, Koh CN. General and URTI-specific antibiotic prescription rates in a Malaysian primary care setting. *Int J Antimicrob Agents* 2004; 24: 496–501

General and URTI-specific antibiotic prescription rates in a Malaysian primary care setting

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²Health Clinic, Seremban, Malaysia

Abstract

Antibiotic prescribing by primary care doctors has received renewed interest due to the continuing emergence of antibiotic resistance and the attendant cost to healthcare. We examined the antibiotic prescribing rate in relation to selected socio-demographic characteristics of the prescribers at the Seremban Health Clinic, a large public primary care clinic, designated for teaching, in the state of Negeri Sembilan, Malaysia. Data were obtained from: (1) retrospective review of prescriptions for the month of June 2002 and (2) a questionnaire survey of prescribers. A total of 10667 prescriptions were reviewed. The overall antibiotic prescribing rate was 15%; the rate (16%) was higher for the general Outpatient Department (OPD) than the 3% for the Maternal & Child Health Clinic (MCH). The antibiotic prescription rates for upper respiratory tract infection (URTI) were 26% and 16%, respectively, for the OPD and MCH. Half of all the antibiotic prescriptions were for URTI making prescribing for URTI an appropriate target for educational intervention. The URTI-specific antibiotic prescription rate did not correlate with the prescribers' intention to specialise, patient load, perceived patient's expectation for an antibiotic, or the score for knowledge of streptococcal tonsillitis. Prescribing behaviours and record-keeping practices requiring correction were identified.

Key words: Antibiotic prescription, Primary care, Upper respiratory tract infection

Wong CY, Chu WL, Marchant H, Phang SM. Growth response, biochemical composition and fatty acid profiles of four Antarctic algae subjected to UV radiation stress. *Malaysian J Sci* 2004, 23(2): 103 – 118

Growth response, biochemical composition and fatty acid profiles of four Antarctic algae subjected to UV radiation stress

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⁴International Medical University, Plaza Komanwel, Bukit Jalil 57000, Kuala Lumpur, Malaysia

Abstract

The effect of ultraviolet radiation (UVR) on the growth, lipid content and fatty acid profile of the tropical microalga *Chlorella vulgaris* UMACC 001 was investigated under laboratory and field conditions. The microalga was exposed to 10 days of PAR+UVA+UVB ($117 \mu\text{Wcm}^{-2}$), PAR+UVA ($854 \mu\text{Wcm}^{-2}$) and PAR alone ($42 \mu\text{mol photons m}^{-2}\text{s}^{-1}$) in the laboratory study. The field study was carried out by exposing the cultures to natural environment on the roof top of the Institute of Postgraduate Studies' Building, University of Malaya for 54 hour. UVA radiation did not affect the growth of *Chlorella vulgaris* UMACC 001 in both the laboratory and field studies. In contrast, growth was adversely affected by UVB radiation in the laboratory study. No significant difference was observed in the lipid content of the cultures exposed to UVR compared to PAR alone. *Chlorella vulgaris* UMACC 001 exhibited different response in terms of fatty acid profiles when the cultures were exposed to UVR under laboratory and field conditions.

Key words: ultraviolet radiation, microalgae, *Chlorella vulgaris*, fatty acids, lipids

Yusoff AA, Abdullah J, Abdullah MR, Mohd Ariff AR, Isa MN. Association of p53 tumor suppressor gene with paraclinical and clinical modalities of gliomas patients in Malaysia. *Acta Neurochir (Wien)* 2004; 146:6; 595-601

Association of p53 tumor suppressor gene with paraclinical and clinical modalities of gliomas patients in Malaysia

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Abstract

Background:

Alteration of the tumor suppressor gene p53 is considered to be a critical step in the development of human cancer. Changes in this gene have been detected in a wide range of human tumours, including gliomas. In glioma, the presence of p53 gene alterations has been associated with worse prognosis.

Methods:

Forty-seven Malaysian adult glioma patients of the Malay race were prospectively studied over a period of 3 years where the presence of p53 mutation using cold-SSCP method and their clinical and paraclinical response were correlated.

Findings:

Among these glioma patients, p53 mutations were detected in 12 tumors, an incidence rate of 25.5%. Mutations were found in 2 patients of grade II, and 5 patients both in grade III and grade IV. The sequencing results revealed the presence of base-substitutions (7) (58.3%) and frameshifts mutations (5) (41.7%). Of the base-substitutions, 57.1% were transversions and 42.9% were transitions.

Interpretation:

Our analysis shows that 3 factors were associated with p53 mutations i.e. grade, site and consistency of tumour using univariate analysis although multivariate analysis revealed no positive on predictors of mutation. In conclusion, although p53 genetic alterations are involved in glioma patients in Malaysia, it has no impact on prognosis.

Key words: Gliomas; p53 tumor suppressor gene; prognosis; Malaysian

Zoraini Wati Abas, Nurjahan MI, Radhakrishnan AK, Teng CL, Jutti RC. Faculty perception of online Learning in a medical school in Malaysia. *J Institutional Res South-East Asia* 2004; 2(2): 54-65

Faculty perception of online in a medical school in Malaysia

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Abstract

Members of faculty have an essential role to play in the successful implementation of any educational innovation, in particular, online education. Research indicates that in general, academic staff tends to resist participation in online education. With new information technology (IT) developments, more and more faculty members, however, have been expected to teach in a format that they are not used to. Therefore, this type of learning can be both intriguing and frightening for the faculty.

Recognizing that positive attitudes among academic staff are an essential part in the success of any academic program, this study was conducted at the International Medical University where online education complements classroom education, in particular, the Online Learning Interactive System (OLIS). OLIS is a web-based delivery system, comprising some of the learning resources for medical students. It was first implemented in March 1999. This paper will highlight faculty perception of online learning in general and OLIS in particular at the IMU. The findings will suggest implications to other institutions planning to implement web-based delivery system.