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Achike FI, Kwan CY. Characterisation of a novel tetrandrine-induced contraction in rat tail artery. *Acta Pharmacol Sinica* 2002; 23(8):698-704

## Characterisation of a novel tetrandrine-induced contraction in rat tail artery

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### Abstract

#### Aim:

In an attempt to pharmacologically characterize the Chinese antihypertensive drug, tetrandrine, we observed in rat-tail arteries, an unusual contraction in tissues that were stimulated with high [KCl] and not those stimulated with phenylephrine. The characteristics of this contraction were studied.

#### Methods:

Segments of perfused ventral rat-tail arteries (RTA) were contracted with a depolarizing concentration (120 mmol/L) of KCl or with phenylephrine (3.0  $\mu$ mol/L). At peak contraction, they were exposed to tetrandrine (40  $\mu$ mol/L), which caused marked relaxation in each case. Washing the RTA led to an unusual, slowly-declining contraction, hereafter referred to as tetrandrine-induced contraction (TIC) which was also observed when the tissues were exposed to 80  $\mu$ mol/L, but not 10  $\mu$ mol/L or 20  $\mu$ mol/L of tetrandrine.

#### Results:

Pretreatment with phentolamine (non-selective  $\alpha$ -adrenoceptor antagonist), prazosin (selective  $\alpha$  1-adrenoceptor antagonist) or 6-hydroxydopamine (for denervation), but not rauwolscine or atropine abolished the TIC. Treatment with ouabain ( $\text{Na}^+/\text{K}^+$ -ATPase inhibitor) did not sustain the contraction. Changing the depolarizing concentrations of KCl to 80 mmol/L or 100 mmol/L did not alter the TIC, but at 60 mmol/L, it was abolished.

#### Conclusion:

The data show that tetrandrine induces a  $\text{K}^+$ -dependent contraction of the RTA through a neuronal mechanism involving  $\alpha_1$ -adrenoceptors. It is speculated that this contraction may be a factor in the reported absence of postural hypotension in the clinical use of tetrandrine.

**Key words:** tetrandrine; vascular smooth muscle; muscle contraction; artery; alpha adrenergic receptors

Bossart KN, Wang LF, Flora MN, Chua KB, Lam SK, Eaton BT and Broder CC. Membrane fusion tropism and functional activities of the Nipah virus and Hendra virus envelope glycoproteins. *J Virol* 2002; 76: 11186-11198

## **Membrane fusion tropism and heterotypic functional activities of the Nipah virus and Hendra virus envelope glycoproteins**

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### **Abstract**

Nipah virus (NiV) and Hendra virus (HeV) are novel paramyxoviruses from pigs and horses, respectively, that are responsible for fatal zoonotic infections of humans. The unique genetic and biological characteristics of these emerging agents has led to their classification as the prototypic members of a new genus within the Paramyxovirinae subfamily called Henipavirus. These viruses are most closely related to members of the genus Morbillivirus and infect cells through a pH-independent membrane fusion event mediated by the actions of their attachment (G) and fusion (F) glycoproteins. Understanding their cell biological features and exploring the functional characteristics of the NiV and HeV glycoproteins will help define important properties of these emerging viruses and may provide new insights into paramyxovirus membrane fusion mechanisms. Using a recombinant vaccinia virus system and a quantitative assay for fusion, we demonstrate NiV glycoprotein function and the same pattern of cellular tropism recently reported for HeV-mediated fusion, suggesting that NiV likely uses the same cellular receptor for infection. Fusion specificity was verified by inhibition with a specific antiserum or peptides derived from the  $\alpha$ -helical heptads of NiV or HeV F. Like that of HeV, NiV-mediated fusion also requires both F and G. Finally, interactions between the glycoproteins of the paramyxoviruses have not been well defined, but here we show that the NiV and HeV glycoproteins are capable of highly efficient heterotypic functional activity with each other. However, no heterotypic activity was observed with envelope glycoproteins of the morbilliviruses Measles virus and Canine distemper virus.

Chandra Jutti R, Subramaniam R, Davaraj B, Qureshi MA. Sonographically guided removal of a double “J” Ureteric stent in an infant. J Clin Ultrasound 2002;30:232–235

## **Sonographically guided removal of a double “J” Ureteric stent in an infant**

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### **Abstract**

A 2-month-old male infant with a prenatally diagnosed obstruction of the ureteropelvic junction underwent a dismembered Anderson-Hynes pyeloplasty. A transanastomotic double J ureteral stent was placed between the renal pelvis and the urinary bladder. This report describes the subsequent removal of the double J ureteral stent from the patient's urinary bladder without the aid of a cystoscope: a rigid biopsy forceps was introduced trans-urethrally into the urinary bladder, and the stent was removed with sonographic guidance. Removal of a ureteral stent with sonographic guidance has not been previously reported in infants. This technique may be particularly useful in developing countries, where appropriate-sized cystoscopes and accessories may not be available.

**Key words:** ureteropelvic junction obstruction; pyeloplasty; ureteral stent; double J stent; ultrasonography

Chu WL, Afnani A, Phang SM. Phycoerythrin production by a marine Oscillatoria (Cyanophyta). Malaysian J Sci 2002; 21:69-75

## Phycoerythrin production by a marine **Oscillatoria** (Cyanophyta)

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### Abstract

The production of the commercially important pigment phycoerythrin by the marine cyanobacterium *Oscillatoria* UMACC 216 was investigated. The cultures from different stages of growth (day 2, 4, 6, 8 and 10) were harvested for the determination of phycoerythrin. Cells from the exponential phase contained the highest amounts of phycoerythrin (66.7 mg g<sup>-1</sup> dry weight). The cultures changed from red to green then yellow colour after attaining stationary phase. A separate batch of cultures was grown at salinities ranging from 5, 10, 15, 20 to 25 (control) parts per thousand (ppt). Cells grown at 15 ppt contained the highest amounts of phycoerythrin (114.7 mg g<sup>-1</sup> dry weight). The phycoerythrin content of *Oscillatoria* UMACC 216 was much higher than that reported for other cyanobacteria. Further studies to optimise phycoerythrin production by this alga are worthwhile.

**Key words:** oscillatoria, phycoerythrin, cyanobacteria, carotenoids, salinity

Chu WL, Phang SM, Miyakawa K, Tosu T. Influence of Irradiance and Inoculum density on the pigmentation of *Spirulina platensis*. Asia-Pacific J Mol Biol Biotechnol 2002; 10(2): 109 – 117

## Influence of Irradiance and Inoculum density on the pigmentation of *Spirulina platensis*

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### Abstract

The effects of irradiance and inoculum density on the growth and pigmentation, especially carotenoid composition of *Spirulina (Arthrospira) platensis* UMACC 160 were investigated. The cultures were grown at three irradiance levels (50, 105 and 160  $\mu\text{mol m}^{-2} \text{s}^{-1}$ ) using two inoculum densities ( $\text{OD}_{620} = 0.2$  and 2.0). Biomass and pigment contents throughout the growth cycle were determined. The low-density inoculum cultures attained higher specific growth rates ( $\mu$ ) based on dry weight ( $0.54 \text{ day}^{-1}$ ) than the high-density inoculum cultures ( $0.26 \text{ day}^{-1}$ ). For the low-density inoculum cultures, specific growth rate ( $\mu$ ) increased with increasing irradiance. Maximum biomass attained under the various culture conditions reached  $1363 \text{ mg dry weight L}^{-1}$ . The contents of phycocyanin, chlorophyll *a* and carotenoids varied markedly, ranging from 1.1 - 127.0, 7.2 - 32.2 and 3.30 - 12.19  $\text{mg g}^{-1}$  dry weight respectively. The highest yield of phycocyanin ( $919 \text{ mg L}^{-1}$ ) was attained by the low-density inoculum cultures grown at the lowest irradiance, while the highest yield of carotenoids ( $8.50 \text{ mg L}^{-1}$ ) was attained by the high-density inoculum cultures grown at the highest irradiance, both at stationary phase. The carotenoids consisted of  $\beta$ -carotene ( $5.50 \text{ mg g}^{-1}$  dry weight), myxoxanthophyll ( $4.62 \text{ mg g}^{-1}$  dry weight), zeaxanthin ( $2.52 \text{ mg g}^{-1}$  dry weight) and oscillaxanthin ( $1.14 \text{ mg g}^{-1}$  dry weight); the content of each constituent varied with culture age and irradiance, and was dependent on the inoculum density used. Irradiance, inoculum density and culture age are three important factors to be considered for optimisation of pigment production by *S. platensis*.

**Key words:**  $\beta$ -carotene, carotenoids, chlorophyll *a*, irradiance, phycocyanin, *Spirulina platensis*



Foo ST, Chu WL, Phang SM. Tolerance of four Malaysian chlorophytes to nitrate and ammonium pollution. *Malaysian J Sci* 2002, 20: 15 -20

## **Tolerance of four Malaysian chlorophytes to nitrate and ammonium pollution**

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### **Abstract**

Microalgae tolerant to high levels of NaNO<sub>3</sub> and NH<sub>4</sub>Cl have the potential for use in bioremediation of nitrogen-rich agro-industrial wastewaters and as bioindicators for nitrogen enrichment in tropical freshwater environments. Four indigenous chlorophytes from Malaysia, namely *Chlorella vulgaris* UMACC 001, *Scenedesmus quadricauda* UMACC 039, *S. quadricauda* UMACC 041 and *Ankistrodesmus convolutus* UMACC 101 were grown at NaNO<sub>3</sub> and NH<sub>4</sub>Cl levels ranging from 2.9 (control), 50, 75, 120, 170 to 250 mM. The control contained the level of nitrogenous compound found in Bold's Basal Medium. Of the four chlorophytes, *C. vulgaris* UMACC 001 was most tolerant to NaNO<sub>3</sub> and NH<sub>4</sub>Cl as the cell number and final biomass were much higher when grown at increased levels (> 2.9 mM) of these nitrogen sources. In contrast, *S. quadricauda* UMACC 041 and *A. convolutus* UMACC 001 were sensitive to high levels of NaNO<sub>3</sub> and NH<sub>4</sub>Cl as indicated by the very low cell number at levels above 75 mM as compared to the control. Within the range of NaNO<sub>3</sub> levels tested, the four chlorophytes grew best at 50 mM. For the range of NH<sub>4</sub>Cl levels tested, *C. vulgaris* UMACC 001 grew best at 75 mM whereas the other chlorophytes grew best at 50 mM. Based on the growth responses to the varying levels of nitrogen, *C. vulgaris* UMACC 001 may be a potential species for treatment of agro-industrial wastewaters and as bioindicator for nitrogen pollution.

**Key words:** chlorophytes, bioindicators, bioremediation, nitrate, ammonium, *Chlorella vulgaris*; *Scenedesmus quadricauda*, *Ankistrodesmus convolutus*

George PP. Current trends in the management of schizophrenia. Med J Malaysia 2002; 57: 1

## **Current trends in the management of schizophrenia**

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### **Abstract**

Schizophrenia is a common and devastating illness. Patients with schizophrenia may develop many disabilities both due to the disease process as well as due to side effects of the medication used. There are many advances in the treatment of schizophrenia, which can effectively reduce many of these disabilities. Treatment of schizophrenia is a primary health care responsibility and thus all health care personnel need to equip themselves with the latest knowledge on management issues. This article outlines the current management issues in schizophrenia.

**Key word:** Schizophrenia, Management, Primary care

Harjit K, Kandasami P, Hanafiah H. Bleeding peptic ulcer: experience with endoscopic therapy. Med J Malaysia 2002; 57:154-160

## **Bleeding peptic ulcer: experience with endoscopic therapy**

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### **Abstract**

Bleeding is a serious complication of peptic ulcer and mortality rate has remained at approximately 10% or more. Traditionally surgeons selected patients who were at significant risk of continued or re-bleeding and advocated early surgery. However, patients with bleeding peptic ulcers are generally elderly with coexisting medical illness and surgery results in significant morbidity and mortality. In the last decade, endoscopic haemostatic therapy has been effective in arresting the bleeding with surgical option considered only after endoscopic treatment has failed. We report the outcome of 196 patients who were endoscopically diagnosed to have bleeding from peptic ulcers. One hundred and thirty patients were diagnosed to have active bleeding or recent bleeding from the ulcer. Endoscopic adrenaline injection therapy was used in 53 patients who had active bleeding ulcers and another 77 patients with endoscopic evidence of recent bleed. The injection therapy was successful in 127 (97.7 %) patients. The treatment failed in three patients and they underwent urgent surgery. Re-bleeding occurred in 26 (20.5%) patients and endoscopic adrenaline therapy was repeated in these cases. Haemostasis was achieved in 19 patients, however 7 patients continued to bleed and required surgery. There were 3 deaths, principally from advanced age and coexisting medical illness. Endoscopic therapy for bleeding peptic ulcers is simple to apply, safe and effective. In cases of re-bleeding after initial endoscopic hemostasis, re-treatment is a preferable alternative to surgery. The role of surgery is limited to bleeding that is refractory or inaccessible to endoscopic control.

**Key words:** Bleeding peptic ulcer, Adrenaline injection, Haemostasis, Simple and effective

Hla-Yee-Yee, Gregory J.S.Tan. Changing trends in the teaching of Physiology in Malaysian medical schools. J Med Edu 2002; 6: 492-499

## **Changing trends in the teaching of Physiology in Malaysian medical schools**

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### **Abstract**

With the changing role of Physiology in medical curricula, delivery and assessment are also undergoing change worldwide. In order to ascertain the extent of change and the direction to which teaching of Physiology in Malaysian medical schools is turning, a questionnaire was sent to Professors / Heads of six medical schools in Malaysia viz. Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM), University Malaysia Sarawak (UNIMAS), Universiti Islamic Antarabangsa (UIA) and the International Medical University (IMU). These senior people are the helmsmen in the way Physiology is taught in the respective institution. All schools considered themselves hybrid. There is some horizontal synchronization if not true integration, but vertical integration is minimal. Input into the clinical years is absent in all schools. Didactic lectures still form a very important tool of delivery in all schools, rating 3-5 in an ascending scale of 1-5. PBL has been introduced into all schools, in varying degrees. Schools with less tutorials (IMU and USM) utilize more CAL. Assessment of attitudes (assignments, seminars) is minimal. Portfolios have not been introduced into any school. OSPEs have replaced traditional type practicals in all schools. The consensus is that Physiology is not losing its importance and that the input is adequate to form a solid basis for clinical training. Replacing MCQs with PBL questions and bench-type practicals with CAL were not welcomed. All agreed that Physiology should spiral into the clinical years. Five out of six respondents felt that student-centered learning cannot replace teacher-centered learning without compromising standards.

**Key words:** Integrated learning, changing role of physiology, Malaysian medical schools

Hla-Yee-Yee, Mala-Maung. Triggering successful Problem-based Learning sessions. *J Med Edu* 2002; 6(2): 194-7

## Triggering successful Problem-based Learning sessions

Hla-Yee-Yee; Mala-Maung

### Abstract

Problem-Based learning is double-edged swords: they can be highly effective or downright damaging, depending on the agility with which the tool is used. The facilitators' role has been highlighted frequently, but the trend is now shifting towards the "Tutorless PBL". Our own experience at International Medical University (IMU) has shown that senior students (semesters 4 and 5) are able to run PBL tutorials on their own, even if the facilitator could not show up. Often, facilitators find their role to be minimal with senior students. Whether tutorless or otherwise, the triggers (case) need to be thoroughly prepared, relevant, timely and should cover the right scope. Triggers that try to cover too much learning objectives result in students dividing the issues up amongst themselves. Some trigger are too fundamental and boring. During the Gastrointestinal Course, a questionnaire was distributed to Semester 3 students of the IMU. One of the issues addressed was that of the quality of triggers. Six PBL triggers were used for the 6-week course viz. dysphagia, peptic ulcer, diarrhoea, carcinoma of colon, jaundice and knife wound in the abdomen. Five of the triggers were of the usual type with objectives covering the basic and clinical sciences. The last trigger was designed specifically to "force" students into learning Anatomy in detail. The strengths and weaknesses of each trigger and the ways of improving them are addressed.

**Key words:** PBL triggers student motivation, integrated curriculum

Kalanithi Nesaretnam, Radhakrishnan AK, Kanga Rani Selvaduray, Karin Reimann, Jayalakshmi Pailoor, Ghazali Razak, Mina Mustafa Mahmood. Effect of palm oil carotene on breast cancer tumorigenicity in nude mice. *Lipid* 2002; 37: 557-60

## Effect of palm oil carotene on breast cancer tumorigenicity in nude mice

Kalanithi Nesaretnama<sup>1\*</sup>, Ammu Radhakrishnan<sup>2</sup>, Kanga Rani Selvaduray<sup>1</sup>, Karin Reimann<sup>1</sup>, Jayalakshmi Pailoor<sup>3</sup>, Ghazali Razak<sup>1</sup>, Mina Mustafa Mahmood<sup>4</sup>, and Jasbir Singh Dahliwal<sup>5</sup>

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### Abstract

Biological therapies are new additions to breast cancer treatment. Among biological compounds,  $\beta$ -carotene has been reported to have immune modulatory effects, in particular, enhancement of natural killer cell activity and tumor necrosis factor- $\alpha$  production by macrophages. The objective of this study was to investigate the effect of palm carotene supplementation on the tumorigenicity of MCF-7 human breast cancer cells injected into athymic nude mice and to explore the mechanism by which palm carotenes suppress tumorigenesis. Forty-eight 4-wk-old mice were injected with  $1 \times 10^6$  MCF-7 cells into their mammary fat pad. The experimental group was supplemented with palm carotene whereas the control group was not. Significant differences were observed in tumor incidence ( $P < 0.001$ ) and tumor surface area and metastasis to lung ( $P < 0.005$ ) between the two groups. Natural killer (NK) cells and B-lymphocytes in the peripheral blood of carotene-supplemented mice were significantly increased ( $P < 0.05$  and  $P < 0.001$ , respectively) compared with controls. These results suggest that palm oil carotene is able to modulate the immune system by increasing peripheral blood NK cells and B-lymphocytes and suppress the growth of MCF-7 human breast cancer cells.

## Rural healthcare in Malaysia

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<sup>1</sup>Klinik Kamil Ariff, Perlis and <sup>2</sup>International Medical University, Negeri Sembilan Darul Khusus, Malaysia

### Abstract

Malaysia has a population of 21.2 million of which 44% resides in rural areas. A major priority of healthcare providers has been the enhancement of health of 'disadvantaged' rural communities particularly the rural poor, women, infants, children and the disabled. The Ministry of Health is the main healthcare provider for rural communities with general practitioners playing a complimentary role. With an extensive network of rural health clinics, rural residents today have access to modern healthcare with adequate referral facilities. Mobile teams, the flying doctor service and village health promoters provide healthcare to remote areas. The improvement in health status of the rural population using universal health status indicators has been remarkable. However, differentials in health status continue to exist between urban and rural populations. Malaysia's telemedicine project is seen as a means of achieving health for all rural people.

**Key words:** healthcare; infrastructure; Malaysia; morbidity; rural

Lai LC. Roles of steroid hormones and growth factors in breast cancer. Clin Chem Lab Med 2002; 40: 969-74

## **Role of steroid hormones and growth factors in breast cancer**

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### **Abstract**

Breast cancer is the most common cancer in women worldwide and its incidence is increasing. Oestrogens and mitogenic growth factors may play an important role in the development of breast cancer, whereas inhibitory growth factors may prevent the development of breast cancer. Only about 5 to 10% of cases of breast cancer are due to inheritance of mutations in the BRCA1 or BRCA2 tumour suppressor genes. Mutations in the p53 tumour suppressor gene are commonly found in sporadic breast cancers. Retinoic acid and carotenoids may play a protective role in breast cancer since they inhibit the growth of the oestrogen receptor-positive MCF-7 breast cancer cell line. The presence of oestrogen and progesterone receptors predicts the likelihood of benefit from hormonal therapy. Amplification of the c-erbB2 oncogene in breast cancers is associated with a poor prognosis. It is now apparent that there is a complex, productive cross-talk between oestrogen-directed and growth factor-directed pathways which are believed to markedly reinforce their individual cellular effects on growth and gene responses.



Lee LK. A study on the use of car occupant restraint in Selangor. Med J Malaysia 2002; 57 (3)

## **A study on the use of car occupant restraint in Selangor**

L K Lee

International Medical University, Sesama Centre, Plaza Komanwel, Bukit Jalil, 57000 Kuala Lumpur

### **Abstract**

A survey was conducted in December 1995 to study car occupant restraint usage in Selangor. A total of 1082 car occupants were observed in 536 cars. The results of the study shows that only 57.3% of the car occupants observed were protected by any form of restraints. Most of the cars (99.8%) examined had front seat belts but only 44.2% had rear seat belts. Only 0.6% of the cars were found to have child restraints in the cars. 80.2% of drivers used restraints and only 65.4% of front seat passengers used any forms of restraints. In the case of the rear seat passengers, only 0.42% used an available restraint. More people in the urban areas (84.42%) than in the rural areas (66.51%) used seat belts. Usage of seat belts by car drivers influenced the use of seat belts by front seat passengers. Type of seat belts fitted was associated with usage rate. It is sad to note that 21.9% of the drivers used seat belts incorrectly.

**Key words:** Car occupant restraint, seat belts, child restraints

Nadarajah VD, Ponnudurai G, Chen YS. Monitoring the effectiveness of PBL amongst undergraduate medical students at a Malaysian medical school. J Med Edu 2002; 6: 234-40

## **Monitoring the effectiveness of PBL amongst undergraduate medical students at Malaysian medical school**

V.D. Nadarajah, G. Ponnudurai, Y.S. Chen

### **Abstract**

The Medical Faculty of International Medical University, (IMU) has adopted PBL since it was founded in 1992. A comprehensive monitoring programme on the effectiveness of PBL was initiated recently in IMU to study the students' perception of PBL. Survey forms were distributed to students who have completed semester 1 (half a year), 3 (one and a half years) and 5 (two and a half years) of their medical programme. Feedback was obtained from more than 95% of the students in each semester. Information obtained included the educational background of students, perceived benefits of PBL, participation in PBL and group dynamics, role of the facilitator, the role of PBL in assessment and the average time spent preparing for PBL. This feedback is useful for both the implementers and facilitators, as students have stated reasons for their perception of the PBL programme.

Nafsiah Shamsudin. Can the Neuman System Model be adapted to the Malaysian nursing context? *Int J Nurs Pract.* 2002 Apr;8(2):99-105

## **Can the Neuman System Model be adapted to the Malaysian nursing context?**

Nafsiah Shamsudin

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### **Abstract**

Nursing in Malaysia is still developing as a profession. Issues such as using nursing conceptual models or frameworks in the delivery of nursing care have not been addressed by the majority of nurses. One reason for this has been the level of education and preparation of nurses, while another reason lies with the origins of existing nursing conceptual models. Most nursing conceptual models have their origins in North America. Their utility by nurses of different cultures and academic preparations might not be appropriate. Nursing is a social activity, an interaction between the nurse and the patient. It is carried out in a social environment within a particular culture. Conceptual models developed in one culture might not be readily implanted into another culture. This paper discusses how a conceptual model developed in North America; that is, the Neuman Systems Model, can be adapted into the Malaysian nursing context.

**Key words:** conceptual model, culture, Neuman Systems Model.

Naidu R, Norhanom AW, Yadav M, Kutty MK. Protein expression and molecular analysis of C-MYC gene in primary breast carcinomas using immunohistochemistry and differential polymerase chain reaction (dPCR). *Int J Mol Med* 2002; 9: 189-96

## **Protein expression and molecular analysis of C-MYC gene in primary breast carcinomas using immunohistochemistry and differential polymerase chain reaction**

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### **Abstract**

Overexpression of c-myc protein and amplification of c-myc were investigated by immunohistochemistry and differential polymerase chain reaction (dPCR) in 440 formalin-fixed primary breast carcinoma tissues, respectively. Overexpression of c-myc was detected in 45% (199/440) and amplification of c-myc was observed in 25% (112/440) of the primary breast carcinomas. Immunolocalization of c-myc oncoprotein was demonstrated in 35% (8/23) of the comedo subtype, 17% (3/18) of the non-comedo subtype, 37% (15/41) of the comedo DCIS and 49% (20/41) of the adjacent invasive ductal carcinomas, 21% (4/19) of the non-comedo DCIS and 37% (7/19) of the adjacent invasive lesions, 49% (133/270) of the invasive ductal carcinomas, 33% (11/33) of the invasive lobular carcinomas, 29% (6/21) of the colloid carcinomas and 47% (7/15) of the medullary carcinomas. C-myc was amplified in 13% (3/23) of the comedo DCIS, 17% (7/41) of the comedo DCIS and 24% (10/41) of the adjacent invasive ductal carcinomas, 30% (82/270) of the invasive ductal carcinomas, 21% (7/33) of the invasive lobular carcinomas, 14% (3/21) of the colloid carcinomas and 24% (4/15) of the medullary carcinomas. Amplification of c-myc was noted in 16% (3/9) of the invasive ductal carcinomas but not in the adjacent non-comedo DCIS lesions. A significant association ( $P < 0.05$ ) was observed between in situ components and adjacent invasive lesions for c-myc expression and amplification. Overexpression of c-myc protein was significantly correlated with poorly differentiated ( $P < 0.05$ ) and high proliferation index (Ki-67) ( $P < 0.05$ ) tumors but not with lymph node metastases ( $P > 0.05$ ), patient age ( $P > 0.05$ ) and estrogen receptor status ( $P > 0.05$ ). Significant relationship was also noted between amplification of c-myc and absence of estrogen receptor ( $P < 0.05$ ), high histological grade ( $P < 0.05$ ) and high proliferation index (Ki-67) ( $P < 0.05$ ). No relationship was seen with nodal status ( $P > 0.05$ ) and patient age ( $P > 0.05$ ). Majority of the Malaysian female patients are from younger age group (<50 years old) but overexpression and amplification of c-myc was not statistically associated with patient age ( $P > 0.05$ ) indicating that these alterations may be independent events of patient age. The above observations suggest that overexpression and amplification of c-myc could play an important role in tumor progression from non-invasive to invasive and, also, it may have the potential as a marker of poor prognosis of breast cancer.

Nurjahan I, Lim TA, Yeong SW, Foong AL, Ware J. Utilization of information technology in medical education: a questionnaire survey of students in a Malaysian institution. *Med J Malaysia* 2002; 57(Suppl E): 58-66

## **Utilization of information technology in medical education: a questionnaire survey of students in a Malaysian institution**

Nurjahan MI, Lim TA, Yeong SW, Foong AL, Ware J.

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### **Abstract**

#### **Objectives:**

The objective of this survey was to obtain a self-reported assessment of the use of Information and Communication Technology (ICT) by medical students at the International Medical University, Malaysia.

#### **Materials and Methods:**

Students' perceived skills and extent of usage of ICT were evaluated using a questionnaire. Chi-square analysis were performed to ascertain the association between variables. Further statistical testing using Chi-square test for trend was done when one of the variables was ordered, and Spearman rank correlation when both variables were ordered.

#### **Results:**

Overall, (98%) of students responded to the questionnaire. Twenty seven students (5.7%) did not use a computer either in the university or at home. Most students surveyed reported adequate skills at word processing (55%), e-mailing (78%) and surfing the internet (67%).

#### **Conclusion:**

The results suggests that in order to increase the level of computer literacy among medical students, positive steps would need to be taken, for example the formal inclusion of ICT instruction in the teaching of undergraduate medicine. This will enhance medical students' ability to acquire, appraise, and use information in order to solve clinical and other problems quickly and efficiently in the course of their studies, and more importantly when they graduate.

Ong CE, Teh LK and Ismail R. Involvement of cytochromes P450 in drug-drug interactions: an overview. *Med J Malaysia* 2002; 57: 251-260

## **Involvement of cytochromes P450 in drug-drug interactions: an overview**

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### **Abstract**

Drug interaction can cause iatrogenic disease. If concurrent medications are taken, the potential exists for a drug interaction to occur. Renewed interest in the topic of drug interactions has been generated by the fatal interactions involving non-sedating histamine H-1 antagonists and the recent introduction of two therapeutic agents, the selective serotonin reuptake inhibitors (SSRIs) and HIV protease inhibitors, for the treatment of depression and AIDS, respectively. These three therapeutic agents have been implicated in clinically significant drug interactions. The consequences of these interactions vary in clinical significance, extent, and effect. Some interactions are theoretical whereas others may lead to severe iatrogenic adverse experiences including lethal consequences. The purpose of this review is to alert the medical practitioner to potential drug interactions that may occur when these drugs are prescribed to patients. The pharmacological basis and clinical significance of these interactions are reviewed. The pharmacological mechanisms underlying these interactions are illustrative of those that maybe be involved for many other medications. Doctors should be aware of the potential pitfalls that may occur when certain groups of drugs are prescribed with concurrent medications.

**Key words:** Drug metabolism, Cytochromes P450, Drug interactions

Phua KL. "Worldbeat music": a selective survey and discussion of associated socioeconomic issues. The Social Science Paper Publisher 2002; Vol. 5(2): 35-49

## **"Worldbeat music": a selective survey and discussion of associated socioeconomic issues**

Kai Lit Phua

International Medical University

### **Abstract**

"Worldbeat Music" can be defined as the synthesis or fusion of the indigenous music of non-Western peoples with Western pop music. Worldbeat music is often sung in native tongues (and sometimes in a mixture of English and an indigenous language). This music is a good example of cultural exchange and fusion between the First World and the Third World which is enriching. However, Worldbeat Music can be hijacked by powerful commercial interests and become watered down into a best-selling but musically bland and aesthetically uninspiring mix. Worldbeat musicians from the Third World are susceptible to "cultural imperialism" from individuals and transnational music corporations from abroad. They are seriously hampered by many factors as compared to their counterparts in the rich countries, e.g., lack of financial resources, lack of access to high quality studios, lack of marketing channels, rampant commercial piracy etc. Thus, when Third World musicians manage to tie up with Western musicians, promoters and record companies, they are vulnerable to unsatisfactory treatment and even exploitation. A reaction to domination by foreigners (including cultural domination) would be cultural nationalism and a "return to roots". Furthermore, unlike musicians in the First World, socially-conscious Third World musicians often face the possibility of political repression or even bodily harm from the "authorities" whom they offend.

Phua KL. Commercial health insurance plans in Malaysia: a general analysis. Malaysian J Pub Hlth Med 2002; Vol.2(2):43-46

## **Commercial health insurance plans in Malaysia: a general analysis**

Phua Kai Lit

Community Medicine Section International Medical University

### **Abstract**

Healthcare costs are rising in Malaysia for various reasons. Thus, some people have responded by purchasing private health insurance to protect against catastrophic illnesses and huge medical bills. In this paper, a comparative analysis of private health insurance plans of different types is done to determine if they do provide adequate coverage and adequate protection against heavy financial loss. The results indicate that all of the eight private health insurance plans in this study do not provide adequate coverage and adequate financial protection because of various restrictive terms and conditions.

**Key words:** Healthcare costs; private health insurance, financial protection.



## **Globalisation and public health: economic aspects**

Phua KL

International Medical University

### **Abstract**

Globalisation is affecting all aspects of human society. There is increasing economic integration of the countries of the world through trade and investment flows. There is also the spread of socio-cultural influences through education, the mass media and population movements. Globalisation is also affecting healthcare institutions as well as the health of the public. This paper, will discuss certain economic effects of globalisation that impact upon the health of the public. These include the following: population movements, the pharmaceutical industry, foreign investment in healthcare services, the international drug trade (legal drugs such as tobacco as well as illegal drugs), cross-border pollution and the "export of hazard", the mass media and its effect on health-related behaviour, worldwide weather changes, "structural adjustment programmes" (SAPs) implemented in response to economic crises, and the impact of multilateral organizations on national health policy.

Radhakrishnan AK, Ying-Wei Lum, Kam-Cheong Wong, Jeffrey Goh, Embong M. Compatibility of Omnican® pen needles with the insulin pens, HumaPen® and NovoPen®. J Asean Federation Endocrine 2002; 20: 36-39

## **Compatibility of Omnican® pen needles with the insulin pens, HumaPen® and NovoPen®**

Ammu K. Radhakrishnan<sup>1</sup>, Ying Wei Lum<sup>1</sup>, Kam Cheong Wong<sup>1</sup>, Jeffrey Goh<sup>2</sup> and Mustaffa Embong<sup>1</sup>

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### **Abstract**

This study was carried out to assess accuracy of Omnican® insulin pen needles (29G and 30G) by measuring the weight of insulin delivered in each of 10 depressions of the plunger comparing these using other pen-injectors (Humapen® and Novopen®) for each gauge. We found that the needle-to needle variation was not statistically significant when the needles were used to dispense insulin using either of the insulin pens (Humapen® and Novopen®). HumaPen® insulin pen was found to deliver the insulin closer to set target volume using either gauge (29G and 30G) of the Omnican® needles in some of the insulin ranges used in this study.