Abstracts of Dissertations
December 2005 Exit Assessment Exercise

PROGNOSTIC VALUE OF CARDIAC TROPONIN T IN ACUTE STROKE: A LOCAL EXPERIENCE

Dr Cheung Chi Yeung, Department of Medicine, North District Hospital (December 2005 Advanced Internal Medicine Exit Assessment Exercise)

Background   Cerebral vascular accident (CVA) is one of the most common diseases encountered in our daily practice with significant mortality and morbidity.   Sudden death in acute stroke patients is not a rare consequence but the cause of death is not well understood. Previous studied on cardiac Troponin T (cTnT) as a prognostic indicators showed conflicting results.

Objective   To assess the correlation between serum cardiac troponin T and stroke severity and the predictive value on mortality in acute stroke patients.

Design   Prospective observational study

Setting   North District Hospital, Hong Kong – a local district hospital

Subjects and Methods   108 patients admitted to Acute Stroke Unit (ASU) during March 2005 to August 2005 with a diagnosis of acute CVA were enrolled prospectively.   Baseline demographic data and cTnT were checked within 72 hours after onset of stroke symptoms. Any cardiac complication was documented during hospitalization.   The primary endpoint is all-cause mortality over 60 days after index stroke.   The null hypothesis is that cTnT is not correlated with stroke severity and has no predictive value.

Results   cTnT was raised in six (5.6%) of patients with acute stroke.   Three (2.8%) patients had low-abnormal (0.03 – 0.1μg/L) while the remaining three patients had high-abnormal (>0.1μg/L) values.   There was significant association between cTnT and age, fasting blood sugar, renal function test, Glasgow Coma Scale score and modified Barthel index on admission. Eighteen (16.7%) patients died within 60 days after index stroke, four (22.2%) patients had raised cTnT level.   cTnT was found to be one of the distinctive predictors of mortality after adjustment for age and baseline GCS on admission.

Conclusions   Cardiac troponin T can be a useful indicator for myocardial injury in acute stroke patients and has positive predictive value for adverse outcome.

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REVIEW OF 53 PATIENTS WITH FIRST EPISODE OF INFECTIVE ENDOCARDITIS: ASSOCIATED FACTORS OF MORTALITY

Dr Cheung Shu Ming Aaron, Department of Medicine, Hong Kong Buddhist Hospital (December 2005 Advanced Internal Medicine Exit Assessment Exercise)

Background Despite the relative low incidence of infective endocarditis (IE), and the advances in diagnosis and management, it still has significant mortality. There is scarce published data in our locality.

Objective   To identify clinical characteristics associated with mortality in infective

endocarditis in our locality.

Methods   A retrospective study was performed   nalyzing patients treated for infective endocarditis at medical department in Queen Elizabeth Hospital, between Jan 2002 and December 2003. Duke criteria were used to evaluate the diagnosis of IE in these cases. Demographic data, clinical features, laboratory data, and treatment were collected to assess their relationship with in-hospital mortality and mortality up to 6 months. Subgroup analysis was done on patients with native valve endocarditis, prosthetic endocarditis and intravenous drug addict patients. Data were analyzed by using multinomial logistic regression models.
Results: 53 patients were labeled as first episode of definite or possible IE.   17 (32%) were intravenous drug user (IVDA), 26 (49%) had native valve endocarditis not related to IVDA, 10 (19%) had prosthetic heart disease.   The incidence of IE was calculated as 5.3 per 100,000 populations in this study. Fever (72 %) was the primary presenting symptom, while murmur (49%) was the most common physical finding.   Blood cultures were positive in 75 percent of cases and the most common organism identified was *Staphylococcal aureus* (43 percent in culture positive case).   Fifteen percent of cohort was managed with surgery.   Mortality at discharge was 9.4% and at six months 13%.   After multinomial logistic regression analysis, valvular abscess and abnormal creatinine were found as independent associated factors of in hospital mortality.   Confusion, hypoalbuminaemia, and valvular abscess were related to 6 month mortality.

Conclusion   Simple readily available clinical characteristics that reflect the host-pathogen interaction are associated with in-hospital and 6 months death.   These factors may identify those patients with IE for more aggressive treatment.

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CLINICAL PREDICTORS OF UNPLANNED READMISSION IN PATIENTS WITH CONGESTIVE HEART FAILURE: TARGETS FOR OPTIMAL PATIENT CARE
Dr Cheung Wing Kin, Department of Medicine, Pamela Youde Nethersole Eastern Hospital (December 2005 Advanced Internal Medicine Exit Assessment Exercise)

Background   Congestive heart failure (CHF) is a common and serious condition accounting for 1.43% of public hospital admission in Hong Kong. A high 3-month readmission rate of about 30% was reported. It causes considerable morbidity and mortality, and results in a high health cost. As population ages, the incidence of heart failure and its mortality rates will continue to increase. Better understanding of the patient characteristics of these patients admitted for CHF allows modification of the tactic of management, potentially improves the quality of life and survival of those patients, and reduces health cost.

Aims The study aims at identifying the factors associated with patient admission for congestive heart failure and the clinical predictors of readmission, and to formulate a strategy to reduce readmission.

Methods   A prospective observational study of patient admission with CHF as the primary diagnosis in a single centre (Department of Medicine, Pamela Youde Eastern Nethersole Hospital) in Hong Kong over a period of ten weeks was conducted. The underlying etiology of heart failure, acute precipitants of CHF exacerbations, patients' associated co-morbidity, functional status on admission, and level of home care were studied.

We determined outcomes within 3 months after discharge, including all- cause readmission, heart failure-related readmission and death.

Results   A total of 223 verified congestive heart failure admission episodes occurred in 185 patients during the 10-week recruitment period. In 42 patients, heart failure was newly diagnosed. Among 164 survived patients, the rate of readmission for CHF or death within 3 months was 39%. The combined rate of all-cause readmission rate or death was 57.3%. The commonest etiology of heart failure is ischaemic heart disease (89 patients, 54.3%). Hypertensive heart disease and valvular heart disease as the etiology of heart failure constitutes 31.7% (52 patients) and 15.2% (25) respectively. The commonest identified precipitating factor for decompensated heart failure was infection (28%), followed by non-compliance to diet or drugs (20.1%). In 37.2% patients, no obvious precipitating factors were identified. Four independent patient and clinical factors were identified as predictors of readmission within three months after hospital discharge in patients with heart failure. They were prior admission for heart failure within three months, presence of chronic renal impairment, hypoalbuminaemia and heart failure precipitated by acute coronary syndrome.

Conclusions   Congestive heart failure is a growing health problem. It carries high morbidity and mortality, and has large impact on health care system.
Four clinical predictors of readmission and death in patients with CHF were found. This would be useful for identifying a high-risk group of patients who may benefit from intensive intervention to improve their outcomes.

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POST ERCP COMPLICATIONS: PATIENT RELATED RISK FACTORS
Dr Leung Wai Yiu, Department of Medicine & Geriatrics, Caritas Medical Centre (December 2005 Advanced Internal Medicine Exit Assessment Exercise)

Since the introduction of endoscopic retrograde cholangiopancreatography (ERCP) into clinical practice since 1968[1], many attempts have been made to identify the mechanisms and conditions that may place patients at increased risk of post ERCP complications. The post ERCP complication varies in different centers and patient population. ERCP complication rate varies from less than 1% up to 40%, in which the rate of post ERCP pancreatitis varies between 1-9 % in Western countries and USA[2-7]. However, different criteria for defining post ERCP complication and methods of data collection, together with differences in patient populations are factors that may affect the varying rate of post ERCP complications. In Hong Kong, the local data are scarce and there was only one clinical audit performed by Dr Szeto[8] analyzed the ERCP complication rate.

Because of the complexity of ERCP, the complications are more frequent than other endoscopic procedures. Many studies have been done with an aim to reduce post-ERCP complications by modification of using different technical means, pharmacological prophylaxis, or patient selection. However, it is of paramount importance that we accurately identify which patients will go on to develop post-ERCP complication. Early detection of those patients who may develop moderate or severe post-ERCP complications can guide decisions regarding aggressive management. This study aims at identifying the risk factors of post ERCP complication in order to offer aggressive prophylactic treatment in the high- risk population in the pre ERCP period.

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CUTANEOUS MANIFESTATIONS OF SYSTEMIC LUPUS ERYTHEMATOSUS AND THEIR RELATIONS TO DISEASE ACTIVITY
Dr Hau Ka Lam, Social Hygiene Service, Hong Kong (December 2005 Dermatology & Venereology Exit Assessment Exercise)

Aim   Cutaneous manifestation is an important aspect of Systemic Lupus Erythematosus (SLE) disease. This study intended to study to the cutaneous manifestation of SLE patients from the Chinese population in Hong Kong. Its relationships with disease activity and its representation in ACR (American College of Rheumatology) criteria were examined.

Method   This is a cross-sectional study based on Gilliam's classification. Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) was used to measure the disease activity.

Results   Of 115 patients recruited from three major rheumatological centres in Hong Kong, 92.2% were women. More than half of the patients (53%) presented with two mucocutaneous lesions according to ACR criteria. Telogen effluvium (27.8%), Raynaud's phenomenon (14.8%), periungual telangiectasia (13.0%) and urticaria (9.6%) were the most common LE-nonspecific skin diseases at interview. Localized acute cutaneous lupus erythematosus(ACLE, 38.3%), discoid lupus erythematosus(9.6%) and subacute cutaneous lupus erythematosus (9.6%) were the most common LE-specific skin diseases at interview. The prevalence of anti-Ro antibody was 70.1%. ACLE, telogen effluvium, cutaneous vasculitis, vasculopathy, periungual telangiectasia, Raynaud's phenomenon and the presence of photosensitivity were significantly associated with higher SLEDAI ($p < 0.05$). Apart from ACLE and photosensitivity, telogen effluvium and periungual telangiectasia were significantly associated with higher ACR criteria number ($p < 0.05$). Both the number of LE-specific and LE-nonspecific skin diseases correlated significantly with higher SLEDAI and higher ACR criteria number ($p < 0.05$).

Conclusion   Telogen effluvium and ACLE were the most prevalent cutaneous manifestations. Skin lesions other than those listed in the SLEDAI can be the clinical markers of disease activity. Both the type and number of skin lesions can have significant contribution in the ACR criteria.

Key words: SLE, Systemic lupus erythematosus, Chinese, cutaneous manifestations, SLEDAI, disease activity

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NON-GONOCOCCAL URETHRITIS: A STUDY OF THE PREVALENCE OF UREAPLASMA UREALTICUM AND ITS ASSOCIATION WITH NON-GONOCOCCAL URETHRITIS IN MEN

Dr Wong Mon Ching, Social Hygiene Service, Hong Kong (December 2005 Dermatology & Venereology Exit Assessment Exercise)

Background   Non-gonococcal urethritis (NGU) is the commonest sexually transmitted infection seen in male patients attending government social hygiene clinics. The commonest cause of NGU is Chlamydia trachomatis but in many cases the infectious agents are unidentified. The other possible and commonly suggested aetiological agent is Ureaplasma urealyticum.

Objectives   The main objectives are to determine the prevalence of Ureaplasma urealyticum in NGU and their association by PCR method, perform a semi-quantitative culture of Ureaplasma urealyticum by commercial kit and study the antimicrobial susceptibility of this organism. The other objectives are to collect the epidemiological data of NGU, measure the agreement between PCR and culture results for Ureaplasma urealyticum and compare the symptoms between patients with chlamydial NGU and those infected with Ureaplasma urealyticum.

Methods   Patients were recruited in Yaumatei Male Social Hygiene Clinic from 1st August 2004 to 30th April 2005. The prevalence of Ureaplasma urealyticum in 145 patients with NGU (NGU group) was compared with that in 149 patients who were asymptomatic of urethritis (control group).

Results   Among the 145 patients with NGU, 43.4% were positive for Chlamydia trachomatis. The prevalence of Ureaplasma urealyticum in the NGU group (22.1%) was significantly higher than that in the control group (10.1%). Ninety percent of the organism was susceptible to doxycycline. The agreement between PCR and culture results for Ureaplasma urealyticum was fair. Patients with chlamydial NGU were more likely to present with frequency than those infected with Ureaplasma urealyticum.

Conclusion   The results showed a significant association between Ureaplasma urealyticum and NGU. Doxycycline is effective as the first line treatment for Ureaplasma urealyticum-associated NGU.

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INTESTINAL TUBERCULOSIS IN A REGIONAL HOSPITAL IN HONG KONG: 10 YEARS' EXPERIENCE

Dr Law Siu Tong, Department of Medicine and Geriatrics, United Christian Hospital (December 2005 Gastroenterology and Hepatology Exit Assessment Exercise)

Aim   To study the clinical characteristics, diagnostic methods, pathological features, and treatment response of patients with intestinal tuberculosis.

Materials and methods   Twenty-two patients with intestinal tuberculosis diagnosed between January 1995 and December 2004 at United Christian Hospital were evaluated retrospectively.

Results   The median age of patients (13 males, 9 females) was 53 years (range 12-81 years). Of the 22 patients, 18 (82%) had a definitive diagnosis of intestinal tuberculosis made histologically and/or microbiologically. The remaining four patients (18%) were diagnosed by the co-occurrence of non-caseating granulomas in histology and a positive response to anti-tuberculous treatment. The most frequent symptom was abdominal pain (82%), and about half of the patients had fever, anorexia and weight loss. Four patients (18%) presented with acute abdominal pain mimicking acute appendicitis, three presented with intestinal obstruction, and two with intestinal perforation. Four (18%) patients had concomitant active pulmonary TB. Laboratory abnormalities were non-specific and non-diagnostic, including anemia (45%), leukocytosis (45%), elevated erythrocyte sedimentation rate (41%) and hypoalbuminemia (36%). The commonest site of involvement was in the ileocaecal region which was involved in 18 patients (86%). Colonoscopy was carried out in 12 patients, and intestinal tuberculosis was suspected before colonoscopy in only three patients. The most common endoscopic finding was ulcers which were present in all cases, but the diagnosis of tuberculosis was still not suspected in five cases after colonoscopy. None of the 11 patients who underwent laparotomy had tuberculosis suspected preoperatively, and the diagnosis of intestinal tuberculosis was only considered in three cases after laparotomy.. Twenty patients completed anti-tuberculous treatment, and the mean duration of treatment was 9.8 months (range, 6-12 months). All patients had resolution of abdominal symptoms after anti-tuberculous treatment, and there was no mortality from tuberculosis.

Conclusion   Our study highlights the difficulty in diagnosis of intestinal tuberculosis. An

increase awareness, coupled with knowledge of the pathophysiology, diagnostic methods and treatment should shorten the diagnostic time required, increase the number of cases diagnosed and thus the outcome of the patients.

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ULCERATIVE COLITIS – IDENTIFYING RISK FACTORS FOR DISEASE FLARE

Dr. Ma Yiu Keung, Department of Medicine, North District Hospital (December 2005 Gastroenterology and Hepatology Exit Assessment Exercise)

Background With increasing affluence of many Asia Pacific countries and associated changes in lifestyle and eating habits, many diseases that used to be rare have become more prevalent. Inflammatory bowel diseases including ulcerative colitis (UC) are one of them. However, local data concerning its clinical pattern is lacking.

Aim To describe the clinical pattern of UC in Hong Kong Chinese and compare those reported in the west and in China.

Patients and Methods 15 patients with the diagnosis of UC were followed up in Gastroenterology Clinic of North District Hospital. Their demographic, clinical, laboratory, endoscopic and follow up data of the disease in remission and of each disease flare were retrieved and analyzed. The results were compared with the largest series published in China with reference to the figures from the west. Potential risk factors for disease flares were identified and discussed.

Results There were 6 males and 9 females (M:F = 1:1.5) who had the diagnosis of UC. The mean age of presentation was 42.1 years (range: 17-69 years). The mean duration between the onset of symptoms and the time of diagnosis was 11.9 months (range: 1-60 months). Among a total of 61.75 patient-year of follow up, there were 42 flares identified, giving an average of 0.68 flare per patient per year of follow up. 14 out of 15 patients had at least 1 flare during an average of 52.7 months follow up (range: 22–92 months). The positivity rate of p-ANCA was 53%. The extent of the disease as defined by colonscopy were: proctosigmoiditis (5, 33%), left-sided colitis (1, 7%), extensive (9, 60%). The severity of flare were mild (25, 58%), moderate (15, 35%) and severe (3, 7%). The average dosage of 5-aminosalicylic acid that a patient was taking shortly before he/she experienced disease flare was sulphasalazine 2735mg/day or Salofalk® 2131mg/day. More than half of the disease flares (24/42, 57%) were preceded by a decrease in the dosage of maintenance therapy. Disease flare is associated with increased erythrocyte sedimentation rate (ESR), C-reactive protein (CRP) and platelet, and decreased haemoglobin (Hb). ESR is an independent risk factor for disease flare.

Conclusion The clinical pattern of UC in Hong Kong Chinese resembled more of our western counterparts than those reported in China. Patients who presented with extensive colitis were more likely to have multiple disease flares. A number of patients taking the recommended dose of sulfasalazine and Salofalk® still experienced disease flares. These flares were preceded by a reduction in the dosage of maintenance therapy. It may be more appropriate to use the same dosage of 5-aminosalicylate acid that was used to induce remission as maintenance therapy.

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EFFECT OF ENHANCED HOME & COMMUNITY CARE SERVICES ON NEWLY DIAGNOSED DEPRESSIVE SYMPTOMATOLOGY

Dr Chan Lung Tat, Andrew, Department of Medicine, Queen Elizabeth Hospital (December 2005 Geriatric Medicine Exit Assessment Exercise)

Background Depression in the elderly is frequently overlooked and under-treated. Despite Enhanced Home and Community Care Service (EHCCS) has been established for more than 4 years, little is known about the prevalence of depressive symptoms among the older home care adults in Hong Kong.

Objectives To evaluate the prevalence of depressive symptomatology, the role of EHCCS in identifying new patients with depressive symptomatology and also the clinical outcome after commencement of drug treatment.

Methods A retrospective descriptive study on the EHCCS older adults recruited to the service during the period from 1st January 2001 to 31st December 2004 was performed.

Results There were altogether 660 patients. Eighty-six (13%) of them were found to have new-onset depressive symptoms. Majority (N=81, 94%) of the patients were identified by EHCCS geriatricians. Depressed patients had similar sociodemographic characteristics, clinical and functional factors, medical and mental comorbidities as compared with the non-depressed patients. However, they were more often frequent users of health care resources 12 months prior to the diagnosis of depressive symptoms. They had frequent accident and emergency department visits (≥ 3 /year) (p=0.02). There was also a trend that they had repeated hospitalizations (≥ 3 /year) and prolonged hospital stay (≥ 50 days /year) (p>0.05). After the diagnosis and treatment of depressive symptoms, they had no difference in survival (p=0.47) and rate of nursing home admission (p=0.31) as compared with the non-depressed patients.

Conclusions Depressive symptoms were common in Chinese home care elderly patients. Frequently the symptoms were unrecognized and depression was untreated. Comprehensive geriatric assessment was an essential tool to identify home care patients with depressive symptoms. We concluded that EHCCS had been successful and geriatric input was important in identification and treatment of depressive symptoms in this medically and functionally compromised population. This model may be useful in reducing the mortality and admission to old-aged home of the depressed home care elderly patients.

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THE ROLE OF HELICOBACTER PYLORI AND ASPIRIN/NSAID IN ELDERLY CHINESE WITH PEPTIC ULCERS
Dr Hoffmann Choi Tsun Wai, Department of Medicine & Geriatrics, Caritas Medical Centre (December 2005 Geriatrics Medicine Exit Assessment Exercise)

Background Helicobacter pylori (HP) infection and the use of non-steroidal anti-inflammatory drugs (NSAIDs) are the major causative factors of peptic ulcer. However, local data on the rate of peptic ulcer disease (PUD), HP infection and use of NSAID and the clinical presenting symptoms in elderly Chinese are limited.

Objectives To evaluate the rate of H pylori infection, the rate of use of aspirin/NSAID and the clinical features of PUD of the elderly as compared with the younger counterparts.

Method This was a retrospective study of all PUD diagnosed by endoscopy and with biopsy done in the Department of Medicine and Geriatrics, Caritas Medical Centre in 2004. Patients were divided into Younger Group (age < 65) and Elderly Group (age $\geq$ 65). Demographic data,

presenting symptoms, usage of aspirin/NSAID, histological findings were collected and analyzed.

Results   A total of 2069 upper endoscopies were done for 1525 adult patients in 2004. PUD was diagnosed in 345 patients (22.5%). The PUD was detected in 27.4% in the Elderly Group (vs 15.8% in the Younger Group). HP infection rate was 42% in the Elderly Group and 73% in the Younger Group (P < 0.001). 47% of DU and 37% of GU in the Elderly Group were infected with HP (81% of DU and 56% of GU in the Younger Group). 51.5% of the Elderly Group used aspirin/NSAID (compared with just 20% in the Young Group P < 0.001). Non-HP, non-aspirin/NSAID peptic ulcers were found in 26% in the Elderly Group and 16% in the Younger Group. Majority of the elderly had no symptoms of epigastric pain or dyspepsia (72% vs 40% in the Younger Group, P < 0.001) and 73% of them presented with gastrointestinal bleeding (GIB).

Conclusion   H pylori infection rate and aspirin/NSAID usage among the elderly with PUD were very different from the younger counterparts in a district hospital. Our elderly with PUD had distinct characteristics of lower HP infection rate, higher usage rate of aspirin/NSAIDs and a quarter had non-HP, non-aspirin/NSAID related ulcers. Majority had no ulcer pain and dyspepsia but rather GIB as the presenting symptom. Ulcer prophylaxis before starting aspirin/NSAID needs to be considered

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USE OF PHYSICAL RESTRAINTS IN ACUTE CARE: CLINICAL CHARACTERISTICS, RISK FACTORS AND CAREGIVERS' PERCEPTION

Dr Lam Ping Ping, Department of Medicine and Rehabilitation, Tung Wah Eastern Hospital (December 2005 Geriatric Medicine Exit Assessment Exercise)

BACKGROUND cognitive impairment, behavioural problems, and high risk of falls are associated with the application of physical restraints, especially in hospitalized elderly patients from nursing home. Recent literatures conclude the improper use of restraints brings unnecessary sufferings to patients. More effort has been implemented to minimize its use. However, there is a lack of such restraint-related research data in Hong Kong.

OBJECTIVES to compare clinical characteristics of restrained and non-restrained patients, to identify risk factors associated with the physical restraint use in acute medical care setting, and to review healthcare professionals' perceptions and understandings on this issue.

STUDY DESIGN prospective observational cohort study and questionnaire-format survey study.

PARTICIPANTS   378 adult patients and 141 healthcare professionals in medical unit.

SETTING   acute medical wards in a regional hospital.

METHODS   patients admitted from Accident and Emergency Department were enrolled into the study. Data of demographic characteristics and status of restraint use were collected. Clinical features of restrained patients have been further evaluated. This group of patients would be reassessed two days after admission for restraint-related outcomes. Risk factors were identified by multivariate logistic regression. Categorical variables were compared by chi-square tests. In second part of the study, there was a questionnaire with 16 questions on healthcare professionals' perception and common practice of physical restraint use. Information was analyzed and tabulated.

RESULTS 261 (69%) of 378 patients were elderly patients aged 65 or older. 159 (42%) patients had experienced some kinds of physical restraint use. 95% nursing home residents had been put on restrainers. Multivariate logistic regression analysis showed that cognitively impaired patients (OR 7.043, p<0.001), poor walking ability (OR 3.452, p<0.001), previous fall history (OR 1.755, p=0.025), underlying sensory neuropathy (OR 3.734, p=0.002) and cerebrovascular diseases (OR 5.523, p=0.005) had a higher risk of being restrained during their hospitalization in acute medical care setting. Seventy-five percent of patients had a comprehensive assessment upon admission for any reason. Common indications for restraint orders in this study were those patients with high risk of falls (74%), followed by agitated behaviour or impaired cognitive function (62%). Non-restraining alternatives had been attempted in about one-fourth of restrained patients. Not surprisingly, bedrail as a restrainer was the commonest device (89%), followed by safety cloth (50%), seen in medical wards. Majority of restrained patients was complicated with further declination in functional status (83%). Negative impact on patient's psychological aspects (64%) was not uncommon. Up to one-fifth restrained patients had developed various mechanical injuries to certain extent. Around 60% of restrained patients were found to have restraint in-situ for more than two days. Concerning the survey study on healthcare professionals' perceptions of physical restraint use, the results reflected that although 64% of them had heard of the Guideline by the Hospital Authority, only one-fourth (24%) had read the guideline. Ensuring patient's safety was the most common attributing factor in over 70% of restraint prescriptions. Finally, 45% of healthcare workers thought his/her knowledge was inadequate and nearly all (91%) in this group agreed that further education would be useful.

CONCLUSION relatively high prevalence rate of restraint use in the hospital-setting environment, but over 50% of restraint orders were not inevitable. Meanwhile, our local data in term of risk factors and complications were comparable with Western Countries'. Insufficient dissemination of the guideline information to frontline health caregivers may prone to inappropriate application of physical restraints. Further education for the restraint use on high-risk patients is implicated. More researches, on minimizing the physical restraint order, and establishing a restraint-free environment as an endpoint, would be appreciated.

KEYWORDS acute care, dementia, falls, perception, physical restraints, tertiary hospital

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PROTEIN-ENERGY MALMUTRITION IN OLDER ADULTS
Dr Lee Cheung Kei, Department of Medicine, Pamela Youde Nethersole Eastern Hospital
(December 2005 Geriatric Medicine Exit Assessment Exercise)

Protein-energy malnutrition (PEM) is the most common and important nutrition problem in older adults. PEM is known to be associated with high morbidity and mortality, decrease of quality of life, and increase of health care costs. A critical literature review of the prevalence, nutritional assessment and intervention of PEM among older adults in the western countries and Hong Kong society was performed. The current issues of debate regarding the ethical concerns about nutrition at the end of life were discussed. Although available data have failed to show that tube feeding for older adults with advanced dementia is effective, it is illegal and unethical to starve the older adults with advanced dementia to death in Hong Kong. Local experiences and anthropometric data of a total of more than two thousand and three hundreds institutionalized and community-dwelling older adults in Hong Kong were presented. Anthropometric parameters may be utilized to evaluate the nutritional status of older adults in the Hong Kong society. In summary, nutritional screening and assessment should be part of the comprehensive geriatric assessment in older adults. Early detection of older adults with risks of malnutrition is important because it may be difficult to correct once severe malnutrition

develops and all older adults should deserve the optimal nutritional care irrespective of age. A trial of nutritional intervention should be provided for all malnourished older adults. Our aim of nutritional care in older adults should focus on particularly independence and good quality of life rather than extension to longevity with dependent years.

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READMISSIONS: IS GDS AN INDEPENDENT PREDICTOR?
Dr Wong Tze Wing, Department of Medicine & Geriatrics, Tai Po Hospital (December 2005 Geriatric Medicine Exit Assessment Exercise)

Objective. Unplanned readmissions following discharge from hospitals are frequent and are costly events. The objective of this study was to evaluate the relationship between unplanned readmissions and geriatric depression scale (GDS) in Chinese elderly patients aged sixty or above.

Methods. This is a cohort study involving 96 eligible patients who had been admitted to the medical unit of a regional hospital through accident and emergency department.   Fifteen-item geriatric depression scale would be performed for the participants. They were followed up for 90 days. Unplanned readmissions within 30 days and 90 days after discharge would be recorded.

Results. Among the 96 subjects, 18 had been readmitted within 30 days and 38 within 90 days. Kaplan-Meier Analysis demonstrated higher risk of readmission for male patients with GDS greater than or equal to 8 ($p = 0.041$). On the other hand, multiple logistic regression showed that readmission within 30 days was associated with serum albumin level ($p = 0.036$) and GDS score ($p = 0.046$) in male subjects.   None of the parameters investigated were found to be related to readmissions in female subjects.

Conclusion. Readmission within 30 days after discharge was associated with lower serum albumin level and increased GDS in male Chinese elderly subjects.

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THE PROGNOSTIC FACTORS AND OUTCOME OF OPERATED HIP FRACTURE IN OLDER ADULTS
Dr Yeung Chui Yan June, Department:of Medicine & Geriatrics, Kwong Wah Hospital (December 2005 Geriatric Medicine Exit Assessment Exercise)

Background   Hip fracture is a major health care problem. This problem has become quite serious and accounts for a large proportion of health care expenditure in countries with large geriatric populations.

Objective   To determine the prognostic indicators and outcome of operated hip fracture in ambulatory elderly patients.

Design and setting   Retrospective cohort study

Methods   All ambulatory patients aged 65 or above admitted to the Orthopedic department of Kwong Wah Hospital from 1st January 2003 to 31st December 2003 with a diagnosis of operated traumatic hip fracture were included. Demographic data, mobility status, medical and surgical information were collected retrospectively from medical records. Patients were

contacted by phone 1 year after the hip fracture to assess their mobility and record the place of residence. Outcome measures included mortality rate and ambulatory level. The risk factors associated with the adverse outcome were identified.

Results   There were 232 subjects recruited in the study. The mean age was 81.31(+/-7.15SD) and 77.2% were female. The most common perioperative complications were acute retention of urine (21.1%), urinary tract infection (12.9%) and pressure sore (8.2%). In- hospital and 1-year mortality rate were 4.7% and 13.3% respectively; 34% of patients were not ambulatory at 1 year. Male gender (HR=2.3; CI=1.1-4.9) and medical complications such as pneumonia (HR= 6.1; CI=2.2-16.6), stroke (HR= 17.2; CI=3.7-79.) and cardiovascular complications (HR= 5.7; CI=1.9-17.2) were strong predictors of mortality. While premorbid functional status-Katz index (OR= 0.5; CI=0.3-0.7), use of psychiatric drugs (OR= 10.7; CI=1.4-73.4), pre-fracture old aged home residents (OR =4; CI=1.4-10.8), use of restrainer during admission (OR= 3.7; CI=1.4-9.7) and age >85 year (OR =4.1; CI=1.7-10.3) were significant predictors for patients become bed-chair bound after 1 year of hip fracture. Charlson comorbidity index was a significant predictor in both mobility outcome (OR=1.5; CI=1.0-2.3) and mortality (HR=1.9; CI=1.6-2.4). There was marked increase in the number of patients living in old aged home after 1 year of the study (26% to 46.6%).

Conclusion   Medical disease and complications are strong predictors of mortality and adverse outcomes of geriatric hip fracture. The mortality rate was low when compared with other countries, but the institutionalization rate was higher. Otherwise, the mobility outcomes were similar to other studies.

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SURVEY ON RITUXIMAB (MABTHERA) IN HONG KONG CHINESE PATIENTS WITH NON-HODGKIN LYMPHOMA

Dr Cheung Ka Chun Stanley, Department of Medicine & Geriatrics, Tuen Mun Hospital (December 2005 Haematology and Haematological Oncology Exit Assessment Exercise)

Introduction   Non-Hodgkin's lymphoma (NHL) is one of the commonest haematological malignancies in Hong Kong. The use of monoclonal antibody Rituximab (Mabthera) targeting CD20 antigen on lymphoma cells has rapidly emerged as a significant therapeutic agent and gained satisfactory results in various well-designed randomized prospective trials. However, local data is lacking and the aim of this survey is to investigate the efficacy and safety of Rituximab in the local Chinese population.

Methods   This was a multi-centre retrospective survey of forty-five patients enrolled from July 2002 to December 2004 from three different institutions in Hong Kong. Fifteen patients with indolent lymphoma and thirty patients with aggressive lymphoma were given rituximab or rituximab plus chemotherapy at diagnosis (75%) or progressive disease (25%). Data were recorded from retrospective review of hospital records and computer database from patients who had been given Rituximab for treatment of NHL.

Results   The overall response rate was 69.8% (complete remission 12/45, partial remission 19/45) with the three-year overall survival and event free survival were 69% and 68% respectively. The adverse event rate was 20% with the majority being neutropenic fever which resolved on conservative treatment. Thirteen patients were positive for hepatitis B surface antigen and all patients received lamivudine for prophylaxis, only one patient had reactivation of hepatitis after ceasing lamivudine.

Conclusion   Rituximab is a safe and with comparable efficacy in treatment of NHL in local Chinese. However, there were limitations in the survey and author suggested a well-designed prospective study with longer follow-up would better define the efficacy and safety of Rituximab in treatment of Chinese patients with NHL.

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IS PHASE ANGLE A PROGNOSTIC MARKER IN CHINESE HIV PATIENTS IN HAART ERA?
Dr. Lam Bing, Department of Medicine, Queen Mary Hospital (December 2005 Infectious Disease Exit Assessment Exercise)

Background   Weight loss and tissue wasting are common in patients with human immunodeficiency virus (HIV) infection, particularly in the later stages of the disease. Body-composition studies done with bioelectrical impedance analysis (BIA), identified phase angle as an adverse prognostic marker.

Objective   To evaluate whether phase angle is a prognostic marker in Chinese HIV patients and whether it retains its role in patients on highly active anti-retrovirus treatment (HAART).

Methods   Consecutive subjects who attended Integrated Treatment Centre were recruited from 1st January 2003 to 31st March 2005. Inclusion criteria included Chinese HIV patients with documentation of HIV RNA level, CD4 lymphocyte count, asymptomatic at the time of recruitment, not on HAART and had BIA within 2 weeks of consultation. Patients were excluded if they had opportunistic infection within 3 months of BIA measurement. Clinical condition at the end of 31st May 2005 were traced and the role of baseline phase angle in predicting disease progression were analyzed the Kaplan-Meier method analysis. Proportional hazards were calculated in mono- and multivariate Cox models.

Results   151 Chinese patients fulfill the inclusion and exclusion criteria and 95 did not receive HARRT during the study period. Significant correlations between CD4+ cell count, viral load, and the phase angle were found. In patient not on HAART treatment, CD4, viral load, phase angle and age of the subjects were of prognostic value in predicting disease progression. In multivariate Cox models, time to clinical progression, in patients not on HAART, was predicted only by HIV viral load (p=0.0018), and phase angle (p=0.0124). None of the factors identified in patients not on HAART was of prognostic value in patients who were on HAART.

Conclusion   In Chinese HIV patients, phase angle has a role in predicting clinical progress, though this is only limited to patients not on HAART therapy.

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EMERGENCE AND CONTROL OF MULTIDRUG-RESISTANT PSEUDOMONAS AERUGINOSA
Dr Wilson Lam, Department of Medicine, Queen Elizabeth Hospital (December 2005 Infectious Disease Exit Assessment Exercise)

Background   Increased incidence of multidrug-resistant *Pseudomonas aeruginosa* (MDRPA), defined as a combination of resistances to ceftazidime, ciprofloxacin, imipenem and amikacin, was observed in the Queen Elizabeth Hospital (QEH).

Objectives   To study the epidemiology, clinical features, and the influences of

antipseudomonal antibiotics on the emergence and spread of MDRPA in the hospital.

Methodology A retrospective descriptive study was performed for all cases with MDRPA identified from July 1998 to November 2003. Pulse-field gel electrophoresis (PFGE) was performed in selected patients. A matched case-control study was done to study the influences of antipseudomonal antibiotics on the risk of MDRPA acquisition.

Results   128 cases were identified to have MDRPA who were mostly old age (mean age 71 years) with multiple comorbidities and under the care of the medical unit (71.9%). The most common body sites affected were the respiratory tract (43%), urinary tract (31%), and wound (12%). Bacteraemia occurred in 3.1% of patients. Most of the affected patients did not have corresponding signs/symptoms with respect to MDRPA isolation. PFGE showed evidence of clonal spread in the later phase of the outbreak. Antipseudomonal antibiotics associated with significantly increased risk of MDRPA acquisition included piperacillin/tazobactam (OR 6.1; 95%CI=1.1-34.0), third-generation cephalosporins (OR 7.7; 95%CI=1.4-41.6), and carbapenems (OR 12.4; 95%CI=1.4-113.0).

Conclusion   Emergence of MDRPA was contributed by selective pressure promoted by use of various antipseudomonal antibiotics, suboptimal level of infection control practices and increasing number of patients with risk factors for acquisition of drug-resistant organisms. Without effective antibiotic treatment, the only means to combat against MDRPA are to reinforce infection control practices and appropriate cohort isolation, and rational use of antibiotics.

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UTILITY OF MDRD AND COCKCROFT-GAULT FORMULA FOR THE ASSESSMENT AND SERIAL MONITORING OF KIDNEY FUNCTION IN CHINESE KIDNEY TRANSPLANT RECIPIENTS

Dr Chung Kwok-Yi, Department of Medicine & Therapeutics, Prince of Wales Hospital (December 2005 Nephrology Exit Assessment Exercise)

Background The current Kidney Disease Outcomes Quality Initiative (K/DOQI) guideline recommends the use of estimates of glomerular filtration rate (GFR) for assessment of kidney function. However, available formulas have not been validated in Chinese kidney transplant recipients, who have solitary kidney and likely a different body built. We study the accuracy of two prediction equations as compared to the traditional 24-hour urinary creatinine clearance in Chinese kidney transplant recipients.

Methods We reviewed the record of 244 Chinese adult kidney transplant recipients. GFR was estimated by the Modification of Diet in Renal Disease equation (MDRD-GFR) and creatinine clearance was estimated by the Cockcroft-Gault equation (CG-CrCl). The results were then compared to the formal 24-hour urinary creatinine clearance (24h-CrCl) by the Bland and Altman analysis.

Results The mean 24-hour urinary creatinine clearance was 64.1 ± 20.9 ml/min. The daily urinary creatinine output was 117.7 ± 26.8 percent of that predicted value, indicating that most of the urine specimens were complete collection. The bias of MDRD-GFR and CG-CrCl were −16.4 and −9.6 ml/min respectively, while the limits of agreement were −49.9 to +17.2 and −40.4 to +21.3 ml/min respectively. When the changes in MDRD-GFR and CG-CrCl were compared to the change in 24h-CrCl, the bias were both +0.1 ml/min, while the limits of agreement were −14.7 to +14.9 −14.9 to +15.2 ml/min respectively.

Conclusion Our results suggested that Chinese kidney transplant recipients are highly reliable in 24-hour urine collection, and 24-hour urinary creatinine clearance probably remains the desirable method for the assessment of renal function in this group of patients. Nephrologists should be cautious when applying prediction equations to assess the renal function in transplant recipients.

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PREDICTIVE VALUE OF CONVENTIONAL AND EMERGING RISK FACTORS ON CARDIOVASCULAR MORTALITY IN A COHORT OF PERITONEAL DIALYSIS PATIENTS WITHOUT PRE-EXISTING CARDIOVASCULAR DISEASES

Dr. Liu Yan Lun Allen, Department of Medicine, Queen Elizabeth Hospital (December 2005 Nephrology Exit Assessment Exercise)

Background Patients with end-stage renal disease face a particularly high risk of cardiovascular disease and overall mortality. Mortality in end-stage renal failure patients has been reported to be at least 5-fold greater than in age-matched controls, among which cardiovascular deaths account for more than 40% of the total mortality.

The increased risk is partly due to a higher prevalence of established risk factors, such as arterial hypertension, diabetes mellitus, smoking, and anaemia. Hypertension and diabetes mellitus have a very high prevalence in dialysis population and play a major role in their high mortality and morbidity. Increase in C-reactive protein (CRP), hyperhomocysteinaemia, nutritional status and disordered lipid metabolism represent factors that are recently emerged as cardiovascular risk factors of paramount importance.

Objectives and Design This is a prospective, observational study and the objective of this study is to determine the predictive value of traditional and emerging risk factors on cardiovascular mortality in a cohort of peritoneal dialysis patients without preexisting cardiovascular disease.

Study Population A prospective follow-up of 186 patients with end-stage renal disease without preexisting cardiovascular diseases receiving peritoneal dialysis between year 2001 and 2004 were carried out. Initial measurement of serum CRP, homocysteine level, nutritional data (body mass index, serum albumin and lipid profile), demographic data and preexisting diseases (history of diabetes mellitus, hypertension and smoking) were obtained at the start of the cohort study. Cardiovascular and all-cause mortality were determined during the 4-year follow-up period.

Results By Cox regression multivariate analysis, every 1 mg/L increase in CRP was independently predictive of a 3 percent increase in cardiovascular (95% CI, $1.00 - 1.05$; $P < 0.05$) and 1 percent increase in overall mortality (95% CI, 1.01-1.02, $P < 0.001$). Every one year increase in age was independently associated with 7% increase in cardiovascular (95% CI, 1.03-1.12; $P = 0.001$) and 5% increase in overall mortality (95% CI, $1.03 - 1.07$; $P < 0.0001$). History of diabetes mellitus was also an independent risk factor predictive of cardiovascular as well as overall mortality. In contrast, plasma concentration of homocysteine level, body mass index, plasma cholesterol and triglyceride levels were not associated with the different causes of mortality.

Conclusion In this study, we conclude that history of diabetes mellitus and plasma CRP level were independently associated with cardiovascular and overall mortality in a group of peritoneal dialysis patients without preexisting cardiovascular disease. While hyperhomocysteinaemia, dyslipidaemia and body mass index did not predict cardiovascular or

overall mortality on multivariate analysis.

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ONE-YEAR EXPERIENCE IN THROMBOLYTIC THERAPY FOR MIDDLE CEREBRAL ARTERY TERRITORY INFARCTION IN A REGIONAL HOSPITAL

Dr Chan Lok Yiu Eric, Department of Medicine & Geriatrics, Tuen Mun Hospital (December 2005 Neurology Exit Assessment Exercise)

Title of Study One year experience in thrombolytic therapy for middle cerebral artery infarction in a regional hospital

Aim To review the experience of practices of the thrombolytic therapy for future protocol setup

Methodology During the period from 1/4/2004 to 31/3/2005, we actively screen eligible case for thrombolytic therapy either intravenous rtPA with 3 hour time window or intraarterial urokinase with 6 hour time window through consultation from accident and emergency department after noticing them the availability of such service and through the recording of timing of stroke events while in phone booking of acute stroke bed.

Result Total 66 middle cerebral artery territory infarction cases are identified. Only 7 are given thrombolytic therapy, 3 intraarterially and 4 intravenously. All the 3 intraarterial cases show significant improvement both in short term and long term outcome but not the intravenous ones. There are mild asymptomatic haemorrhage cases seen in both IV and IA groups. A significant proportion of the nonthrombolytic group are eligible for such therapy but limited by the timing problem including the arrival time, out of the service hours with limited resources and the logistics difficulties like the arrangement of very quick CT scan.

Conclusion The practice of thrombolytic therapy is still in its dawn locally. Much room for improvement can be done through education and running of protocol. Intraarterial therapy is a potential more advantageous therapy than intravenous therapy and warrant more practical experiences.

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PARTIAL ANTERIOR CIRCULATORY ISCHAEMIC INFARCT- A PROSPECTIVE STUDY OF 20 PATIENTS WITH FIRST EVER STROKE

Dr. Fu Ming Hung, Department of Medicine, Ruttonjee Hospital (December 2005 Neurology Exit Assessment Exercise)

BACKGROUND A detailed study on total anterior ciculation infarct was reported by us in 2003 but no such study on partial anterior circulation infarct had been done in Hong Kong before.

METHODS Twenty first ever stroke patients presenting with the partial anterior circulatory infarct (PACI) syndrome were identified according to the Oxfordshire Community Stroke Project (OCSP) classification. PACI was confirmed by two brain CT performed on admission and 10 days later. Patient demographics were collected. The Glasgow Coma Scale

and the National Institutes of Health Stroke Scale were used to assesss stroke severity on admission. Electrocardiography, transthoraic echocardiography, duplex ultrasound of extracranial carotid arteries, transcranial doppler ultrasound of intracranial arteries and/or magnetic resonance arteriography were performed to study the underlying stroke mechanisms. A stroke mechanism was assigned to each patient according to the TOAST classification. In-hospital treatments and complications were recorded. Outcome was assessed one month, three months and one year after stroke, using the modified Rankin Scale and the National Institutes of Health Stroke Scale.

RESULTS Seven patients had large striatocapsular infarct, six had medium sized cortical infarct, five had borderzone cortical infarct and two had small cortical infarct. The underlying stroke mechanisms were large artery atherosclerosis in one patient, cardioemobolism in five patients and undetermined etiology in 14 patients (no cause found despite complete evaluation in ten, incomplete evaluation in two, multiple potential stroke mechanisms in two). Recurrent ischaemic stroke occurred early in two patients and late in one patient. Although there was no death at three months and only one late vascular related death, 12 and eight patients were still functionally dependent at three months and one year respectively.

CONCLUSION Standard investigations still cannot determine the underlying stroke mechanism in about half of local Chinese patients suffering from PACI. For those with a determined cause, cardioembolism seemed to be more common than large artery atherosclerosis. Although stroke related mortality was very low, the chance of early recurrence was substantial and permanent functional disability was present in a significant proportion of PACI patients.

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DIAGNOSTIC PROFILE OF THE CONSECUTIVE 454 PATIENTS REFERRED FOR COGNITIVE EVALUATION IN MEMORY CLINIC, AND THE IMPACT OF VASCULAR PATHOLOGY ON THE PROGRESSION OF PROBABLE ALZHEIMER'S DISEASE DEMENTIA
Dr Sheng Bun, Department of Medicine & Geriatrics, Princess Margaret Hospital (December 2005 Neurology Exit Assessment Exercise)

Objective Strong interaction exists between vascular and Alzheimer's disease pathology. This study evaluates the disease pattern seen in a multidisciplinary memory clinic and examines the vascular risk factors, prevalence of cerebral ischaemic lesions and their impact on disease progression in dementia patients.

Methods Retrospective case study on the 454 consecutive patients seen in the memory clinic of Princess Margaret Hospital from 1 January 1999 to 30 June 2004. Essential clinical information including diagnosis, investigation, cognitive assessment and progression during follow up was registered according to the clinic protocol. A radiologist blind to the clinical diagnosis reviewed the CT and MRI films. Alzheimer's disease and vascular dementia patients who had followed up for more than 1 year were reviewed for disease progression with regard to different degree of ischaemic involvement using the loss of self independence and institution care as composite outcome end point.

Results Alzheimer's disease and vascular dementia were diagnosed in 48% and 22% of the patients respectively, and 15% did not have dementia. Two third of the demented had moderate to severe disease with MMSE≤17. Hypertension and diabetes mellitus were the two

commonest vascular risk factors identified in dementia, and 60% of Alzheimer's disease patients had cerebral infarction.   Disease progression in 173 Alzheimer's disease and vascular dementia patients were compared according to the severity of ischaemic lesions.   Presence of cerebral ischaemia that fulfilled the operational criteria for vascular dementia, regardless on the clinical diagnosis of Alzheimer's disease or vascular dementia, was the only independent factor for disease progression with a hazard ratio 1.9.

Conclusions   Local dementia patients presented at advanced stage to medical attentions. Cerebral ischaemic lesions were common among Alzheimer's disease patients, and severe cerebral ischaemia was more likely to result in dependency and institution care.

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CAN ORPINGTON PROGNOSTIC SCORE OBTAIN COMPARABLE RESULT IN PREDICTING FUNCTIONAL OUTCOME IN CHINESE STROKE PATIENTS AS NIHSS DOES?

Dr Au Kai-Man Eric, Department of Medicine & Geriatrics, Princess Margaret Hospital (December 2005 Rehabilitation Exit Assessment Exercise)

Stroke is a chronic and disability disease, is heterogeneous in type and severity. It is the third leading cause of death in Hong Kong and is one of the major cause of chronic disability in Hon Kong. A good stroke prognostic scale, like NIHSS which has been well validated, can predict the functional outcome; hence, can guide care givers to formulate an appropriate and realistic plan of management of stroke patients. However, NIHSS is relative time consuming and need special training before it can be correctly administer. A relative more simple, objective, beside evaluation tool, Orpinton Prognostic Score, which is modified from the Edinburgh score, provides a clinically derived baseline assessment of stroke severity that can be used as a predictor of functional outcome in stroke patients. A study was preformed in a regional hospital from 7/2003 to 9/2003 and 97 subjects were included. OPS and NIHSS was performed. The baseline OPS and NIHSS and 3 months Barthel Index were analyzed, using multiple linear regression. OPS, like NIHSS, can explain the variance in BI, 3 months post stroke. Further studies are needed to decide the optimal time to administer OPS in Chinese patient, what items in OPS predicts more on functional outcome and the prognostic ability of OPS in Chinese patient.

Note: For obtaining the full dissertation, please contact the author directly.