Abstracts of Dissertations
December 2003 Exit Assessment Exercise

GRANULOMA ANNULARE: REVIEW OF CASES IN THE SOCIAL HYGIENE SERVICE AND A CASE-CONTROL STUDY OF ITS ASSOCIATION WITH DIABETES MELLITUS

Dr Chan Po Tak, Social Hygiene Service, Department of Health (December 2003 Dermatology & Venereology Exit Assessment Exercise)

The study included thirty-one granuloma annulare (GA) cases. Male to female ratio was 1.82:1. Age of onset was distributed bimodally in both sexes, with a median age of onset of 45 in male and 61 in female. 38.7% had onset of disease in the first three decades. Localized, generalized, perforating and subcutaneous GA accounted for 67.8%, 25.8%, 3.2% and 3.2% of cases respectively. They were mostly found on distal extremities (excluding palms and soles). A predominantly annular morphology was the commonest (48.4%). In most cases, symptoms were absent (77.4%) and no precipitating factors could be identified (90.3%). Over 80% of GA cases were followed up for more than two years. Three localized GA resolved within one month after skin biopsy. Complete remission (CR) was achieved in 17 GA cases by either topical steroid alone (16 cases) or together with intralesional steroid (one case). Another generalized GA had CR after six months of oral isotretinoin. Dapsone was tried in one case but failed and CR was finally achieved after topical and intralesional steroid. Seven cases had persistent disease after topical steroid. The median time for first remission for localized and generalized GA were 39 months and 54 months respectively, but the difference was not statistically significant. Age, sex and DM status did not affect duration of disease. 33.3% of remitted cases had disease recurrence after a median time of 9.5 months.

Pre-existing diabetes mellitus (DM) was present in four cases before GA (median three years), DM occurred after GA in three cases (median five years) and impaired fasting glucose was detected 2.5 years after GA in one case. Twenty two GA cases, with enough age and sex matched controls in a 1 to 3 ratio, were used in a case-control study on the association of GA with DM and the result was not statistically significant.

Keywords: granuloma annulare, diabetes mellitus, case-control study

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PEMPHIGUS FOLLIACEUS – A STUDY OF 32 CASES IN HONG KONG

Dr Cheung Hing Cheong, Social Hygiene Service, Department of Health (December 2003 Dermatology & Venereology Exit Assessment Exercise)

This is a cross sectional, retrospective study of thirty two Chinese patients with pemphigus foliaceus from the year of 1993 to 2003. There was an average of 1.64 pemphigus foliaceus cases per 10,000 new skin cases in the Social Hygiene Service. Based on this figure, the average incidence was 0.69 per million inhabitants per year in Hong Kong. There were 24 males and 8 females and the mean onset age was 55.

The average duration from the disease onset to diagnosis was 10.07 months and the average duration from the presentation to diagnosis was 1.67 months. The average time to the first remission was 1.58 months and the mean duration of the first remission was 16.75 months. The ratio of total remission time during follow up versus duration of follow up was 0.6. The

average number of relapses per patient year was 1.03. The following correlations were noted: time to first remission versus presentation to treatment interval and anti-skin titre versus disease severity. The average duration of follow up was 30.95 months. The coexistence with other diseases was described and transition to pemphigus vulgaris was also noted. Histology and direct immunofluoresence were diagnostic.

All our patients were treated with topical steroids. Five responded to this modality. The rest required oral prednisolone with a mean dose of 36 mg daily for the first disease remission. The average duration to the disease remission was 1.23 months. The ratio of the average duration of steroid treatment versus the duration of follow up was 0.81. There were 11 patients treated by adjuvants and the most common ones employed were dapsone and azathioprine. Treatment complications were common for corticosteroids (70%), dapsone (75%) and azathioprine (67%). When azathioprine was used as an adjuvant, the mortality and remission rates were 0% and 40% respectively.

At the time of the interview, 40% were treated with systemic therapy for active disease. 31% were in remission with no treatment. 16% required systemic treatment for disease remission. 13% were deceased. For the deceased, half was due to the disease or treatment complications. The average onset age for those who passed away was 73.73, in sharp contrast with the age of 52.43 for the survivors.

Keywords: Pemphigus foliaceus; Social Hygiene Service, Hong Kong.

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THE EFFECT OF LIFESTYLE AND HORMONAL FACTORS ON BONE MINERAL DENSITY AND FRACTURE RISK IN CHINESE MEN

Dr Cheung Yun Ning, Elaine, Department of Medicine & Geriatrics, United Christian Hospital (December 2003 Endocrinology, Diabetes & Metabolism Exit Assessment Exercise)

Osteoporotic fractures are increasing at a rapid pace among Asian populations. To determine the hormonal and environmental risk factors for osteoporosis and low trauma fractures in Asian men, 407 community dwelling southern Chinese men aged 50 years and above were studied. Medical history and lifestyle habits were obtained using a structured questionnaire. Dietary calcium and phytoestrogen intake were assessed by a semi-quantitative questionnaire. Bone mineral density (BMD) at the spine and hip were measured by DEXA. Fasting blood was analysed for 25(OH)D, PTH, total and bioavailable estradiol (bio-E) and testosterone (bio-T). Subjects were analysed according to whether they had a history of low trauma fracture occurring after the age of 50. The mean age of the cohort was 68.42±10.4 (50-96) yrs. Age, total hip BMD, serum bio T, PTH and weight bearing exercise were significant risk factors for low trauma fractures after multiple regression analysis. Each standard deviation reduction in total hip BMD was associated with a 2.8 fold increase risk of fracture. In the linear regression model, weight, age, height, bio E, cigarette smoking and weight bearing exercise were important determinants of total hip BMD. Among these, body weight was the most important determining factor. With age and weight adjustment, bio T and flavonoid intake were identified as additional determinants for total hip BMD.

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URSODEOXYCHOLIC ACID TREATMENT FOR PRIMARY BILIARY CIRRHOSIS

Dr Chan Chun Wing, Department of Medicine, Yan Chai Hospital (December 2003 Gastroenterology and Hepatology Exit Assessment Exercise)

Background Whether ursodeoxycholic acid (UDCA) slows the progression of primary biliary cirrhosis (PBC) is uncertain according to 2 meta-analyses. However, the randomized trials evaluated have only a median follow-up of 24 months. Our aim was to evaluate the potential long term effect of UDCA in PBC.

Methods We evaluated 209 consecutive PBC patients including 69 compliant with UDCA and 140 untreated (mean follow up 5.79 [sd=4.73] and 4.87 [sd=5.21] years respectively) seen between 1989 and 2001, in whom all complications during follow up were documented prospectively. Comparison was made following adjustment for differences in baseline characteristics according to Cox modelling, and the Mayo and Royal Free prognostic models. A sensitivity analysis for low dose 7-12mg/kg/day (n=25) and standard/high dose UDCA 13-22mg/kg/day (n=44) was performed.

Results Bilirubin and alkaline phosphatase concentrations significantly improved with UDCA (at 36 months, P=0.007 and 0.018 respectively) and unadjusted Kaplan-Meier analysis showed benefit (P=0.028), as 44(31%) untreated and 15(22%) UDCA patients died or had liver transplantation. However, after adjustment by Cox modelling (P=0.267), Mayo model (P=0.698) and Royal Free model (P=0.559), there was no difference. The standard/high dose UDCA versus untreated group had no differences. There were no differences with respect to the advent of any complications including new pruritus or fatigue, either before or after adjustment for baseline characteristics.

Conclusion Long-term treatment with UDCA does not alter disease progression in PBC patients despite a significant improvement in serum bilirubin and alkaline phosphatase consistent with and similar to those seen in UDCA cohorts in previous randomized trials.

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NATURAL HISTORY OF NON-NSAID, NON-HELICOBACTER PYLORI BLEEDING ULCER: A PROSPECTIVE COHORT STUDY

Dr Hung Cheung Tsui, Department of Medicine & Therapeutics, Prince of Wales Hospital (December 2003 Gastroenterology and Hepatology Exit Assessment Exercise)

Background Ulcers unassociated with non-steroidal anti-inflammatory drugs (NSAIDs) or *Helicobacter pylori* (HP) infection are being diagnosed with increasing frequency. The natural history of these “non-NSAID, non-HP ulcers” is unknown. This study assessed the incidence and long-term outcome of non-NSAID non-HP bleeding ulcers in Hong Kong.

Methods We prospectively studied consecutive patients with bleeding gastroduodenal ulcers from January 2000 to December 2000 and compared this cohort with patients who presented similarly from September 1997 to August 1998. Non-NSAID non-HP ulcer was defined as negative tests for HP (biopsy urease test and histology), no NSAIDs exposure within the previous 4 weeks, and absence of other identifiable causes of ulcer. Following ulcer healing, patients in the Year 2000 cohort were followed up regularly for 12 months without anti-ulcer medications. Endoscopy was repeated if patients experienced severe dyspepsia, haematemesis, melaena, or a fall in haemoglobin of ≥2 g/dL.

Results The overall annual incidence of bleeding ulcers decreased by 29% (954 cases in 1997-98 vs. 675 in 2000). Pure HP-associated bleeding ulcer decreased from 50.3% to 33.4% and the incidence of non-NSAID non-HP bleeding ulcer rose from 4.2% (40 patients) to 18.8% (120 patients) (P<0.001). In the Year 2000 cohort, 61 patients (50.8%) had severe co-morbidities and 35 (29.2%) died within 6 months. Twelve patients (10%) had recurrent

ulcer bleeding within 12 months with 10 (8.3%) of them being non-NSAID, non-HP ulcers.

Conclusion The annual incidence of non-NSAID non-HP bleeding ulcers has increased by 4.5 times over the last 3 years in Hong Kong. Patients with non-NSAID non-HP ulcer bleeding had a substantial risk of recurrent bleeding.

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MANAGEMENT OF GASTROESOPHAGEAL VARICEAL BLEEDING - CRITICAL REVIEW AND LOCAL PERSPECTIVE

Dr Hung Hiu Gong, Department of Medicine, North District Hospital (December 2003 Gastroenterology and Hepatology Exit Assessment Exercise)

Gastroesophageal variceal bleeding is the most frequent severe complication of portal hypertension and a leading cause of death in patients with cirrhosis. Current literature indicates that the mortality rate of each variceal bleeding episode is 30-50%, and as many as 70 percent of survivors have recurrent bleeding after a first variceal hemorrhage. However, over the last decade, there have been significant developments in the management of portal hypertension and variceal bleeding. The patient outcomes after an episode of acute bleeding indeed are improving. However, how the results of randomized controlled trials apply to clinical care, to what extent they affect the pattern of acute bleeding management and subsequent care, and what about the clinical outcomes outside the clinical trials are largely unknown.

In this dissertation, a retrospective study was conducted in a district hospital (NDH) to define the outcomes of variceal bleeding, the risk factors for rebleeding and mortality, and the patterns of practice in the management of variceal bleeding will also be described. Current literatures and guidelines on variceal bleeding management will be critically reviewed.

Study methods All patients with documented acute variceal bleeding hospitalized to North District Hospital (NDH) from June 98 to June 2003 were included. The medical records of eligible patients were reviewed to obtain necessary demographic, clinical, endoscopic and follow up data. Patients were followed until death or study closure data, on 30 June 2003.

Results A total of 97 patients were included in the study. Upper endoscopy was done in 96.9% of patient within 24 hours with haemostasis rate of 89.7%. Antibiotics and octreotide were given in 42.3% and 74.2% of patients respectively. The inpatient rebleeding and total rebleeding during follow up were 21.6 % and 36.1 % respectively. The inpatient mortality, 6 weeks mortality and total mortality were 19.6%, 24.7% and 43.3% respectively. The predictors of total rebleeding were failed endoscopy haemostasis and follow up by surgical team after acute bleeding. Child's score of B and C at admission and lack of prophylactic treatments were predictors of total mortality.

Conclusion This study suggests that there has been a significant reduction in bleeding related mortality in patients with portal hypertension. The advance in therapeutic modalities for the management of acute variceal bleeding and subsequent care may offer an explanation for the improved survival.

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GASTROINTESTINAL STROMAL TUMORS (GISTs) A SYSTEMIC REVIEW AND RETROSPECTIVE COHORT STUDY OF PROGNOSTIC FACTORS IN CHINESE

PATIENTS WITH GISTs IN A SINGLE TERTIARY MEDICAL CENTRE

Dr Lau Siu Fai, Department of Medicine and Geriatrics, Tuen Mun Hospital (December 2003 Gastroenterology and Hepatology Exit Assessment Exercise)

Systemic Review Gastrointestinal stromal tumors (GISTs) are non-epithelial mesenchymal tumors that occur predominantly in the gastrointestinal (GI) tract. They only account for 0.1-3% of all primary GI tumors. The key distinctive feature is the near-universal expression of the KIT protein (CD 117 antigen) at immunohistochemistry analysis. The pathogenesis most commonly involved a mutation in the *c-Kit* proto-oncogene, leading to ligand dependent auto-activation of the KIT receptor. Clinicopathologically, there is no consensus regarding the classification of biologic behaviour of GISTs. Some investigators suggested that the term "benign" and "malignant" should be replaced by low, intermediate or high risk for malignancy. The most consistent variables historically used to predict aggressiveness have been tumor size and mitotic index. The mainstay of treatment continues to be complete surgical resection. Recent studies showed that the new agent, tyrosine kinase receptor inhibitor may be beneficial in metastatic or unresectable cases.

The Chinese GISTs study

Objectives To characterize the clinical and pathological features of GISTs in Chinese patients and to evaluate the possible prognostic factors of GISTs.

Method Between years 1996-2002, thirty-one Chinese patients, who were diagnosed to have both *c-Kit* positive and histologically compatible GISTs were identified retrospectively from the computer database of a single tertiary medical centre--National Taiwan University Hospital (NTUH). All patients underwent surgical resection of their primary GISTs. Recurrence-free survival is measured from the time of first presentation to the time of first recurrence or last follow-up. The clinicopathologic and treatment-related variables were analyzed for their impact on recurrence-free survival.

Results Univariate analysis revealed that *tumor size (stratified as<10cm versus >10cm), mitotic index (stratified as <5/50HPF versus > 5/50HPF), evidence of local invasion, tumor behaviour grading, histologic cell types, cell nuclear pleomorphism and completeness of surgical resection* were significant prognostic factors of GISTs. Multivariate analysis showed that *tumor size, mitotic index and completeness of surgical resection* were the 3 independent prognostic indicators. The estimated overall disease specific recurrence-free survival rate was 86.7% at 1 year, 61.9% at 2 years and 30.9% at 3 years. 35.5% patients with GISTs recurred within a median follow-up time of 17 months.

Conclusion Prognostic indicators of GISTs among Chinese patients are consistent with western populations. Tumor size, mitotic index and completeness of surgical resection for primary tumors are the 3 independent prognostic indicators for risk stratification. A multiparametric analysis would be the most effective way of predicting the clinical behaviour of GISTs.

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PREDICTORS OF OUTCOMES IN CHRONIC PERITONEAL DIALYSIS IN A SINGLE CENTRE

Dr Lee Hoi Kan, Achilles, Department of Medicine and Geriatrics, Tuen Mun Hospital (December 2003 Nephrology Exit Assessment Exercise)

Background During the past decade, there was an increase in number of patients on renal replacement therapy in Hong Kong. It resulted from inclusion of more elderly patients and

patients with more comorbidities. It is important to evaluate the factors predicting the clinical outcomes of the renal replacement therapy.

Method All patients who started peritoneal dialysis from Jan 1995 to Dec 1996 at the renal unit in Tuen Mun Hospital were studied. Their medical records were reviewed to determine the variables including: age, sex, premorbid status, dialysis details, initial serum albumin, serum creatinine and blood hemoglobulin; presence of diabetes mellitus, cardiovascular disease and other baseline comorbidities. The baseline comorbidities were scored by dividing into seven separate disease domains. A total comorbidity score was calculated. The clinical outcomes of interest were mortality, survival months and the switch to renal transplantation or to hemodialysis. All the factors were subjected to univariate analysis followed by mutivariate analysis to establish the relative importance of predicting the survival. A combination predictive score was constructed from the 3 most predictive variables.

Results On univariate analysis, comorbidity, plasma albumin and premorbid status are the 3 most powerful predictive factors of clinical outcomes. A combination predictive score was constructed from these 3 factors. Multivariate analysis indicated that the score is the single predictive factor with highest correlation to survival with $R^2 = 0.448$ ($P < 0.001$) among all significant variables. In practice, stratification of the combination predictive score to 3 risk groups is convenient for prediction of the clinical outcomes for peritoneal dialysis patients before renal replacement therapy.

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A LONGITUDINAL STUDY OF PERITONEAL TRANSPORT IN PATIENTS ON CONTINUOUS AMBULATORY PERITONEAL DIALYSIS: EXPERIENCE IN A SINGLE CENTER

Dr Leung Kay Tai, Franky, Department of Medicien & Geriatrics, Tuen Mun Hospital
(December 2003 Nephrology Exit Assessment Exercise)

Background Peritoneal dialysis (PD) is an established modality of treatment of end stage renal failure. The long-term use of PD is limited by acute peritonitis and ultrafiltration (UF) failure. The peritoneal equilibration test (PET) is a useful procedure in measuring the peritoneal membrane transport. Raised peritoneal membrane permeability is associated with technical failure and increased morbidity and mortality. However, the data concerning the longitudinal change of small solute transport yielded conflicting results.

Methods A retrospective cohort study of patients on continuous ambulatory peritoneal dialysis (CAPD) was conducted to study the change in peritoneal small solute transport over time in a single dialysis center. Peritoneal equilibration test was performed to study peritoneal transport characteristic. Peritoneal transport of small solutes was expressed as dialysate-to-plasma ratio of creatinine at 4 hours (D/Pcr).

Results Sixty-four patients were recruited in the study, of whom 30 were male and 17 were diabetics. No significant change in peritoneal transport was observed (D/Pcr 0.70 +/- 0.11 vs 0.69 +/- 0.11, p=0.426). A centripetal change in peritoneal transport over time was observed. The change in peritoneal transport did not correlate with duration of dialysis (p=0.917), diabetes mellitus status (p=0.229), peritonitis rate (p=0.964) or daily dialysate protein loss (p=0.82). A trend of higher daily dialysate protein loss in patients with diabetes mellitus was observed (10.17+/- 1.33 vs 9.33 +/- 2.11 gm/day, p=0.065).

Conclusion The present study suggests a centripetal change in peritoneal transport over time, which may reflect a regression-to-mean phenomenon. In recent years, clinical and

morphological studies of the peritoneal membrane have emerged. Several mediators have been implicated in the pathogenesis of peritoneal membrane failure in CAPD patients. Therapeutic approaches are evolving to maintain the integrity of the membrane.

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CLINICAL COURSE AFTER PARATHYROIDECTOMY IN HAEMODIALYSIS PATIENTS

Dr Yue Tak Tai, Department of Medicine, Yan Chai Hospital (December 2003 Nephrology Exit Assessment Exercise)

Background Secondary hyperparathyroidism is very common in dialysis population. Despite advances made in the diagnosis and treatment of secondary hyperparathyroidism, parathyroidectomy is needed in 5% of patients. Secondary hyperparathyroidism has also been implicated in the pathogenesis of hypertension, anaemia and vascular calcification in dialysis patients. Long term data on the effects of parathyroidectomy on parathyroid function, blood pressure, haemoglobin and radiological features like vascular calcification are scanty.

Objective To study the effect of parathyroidectomy on parathyroid function, blood pressure, haemoglobin level and radiological features in haemodialysis patients with secondary hyperparathyroidism.

Methods We conducted a retrospective analysis of ten haemodialysis patients in Yan Chai Hospital who had undergone parathyroidectomy. Data were retrieved at four different time intervals (before operation, 4-6 months, 1-2 years and 3-5years or more afterwards).

Results Six male and four female patients with mean age of 44.8+/- 6.61 years were followed up for 76 +/- 48 months. Eight had total parathyroidectomy with reimplantation done. All of them had a significant sustained reduction in iPTH level 4 to 6 months after the operation. One recurrence was noted. Relative hypoparathyroidism was common but asymptomatic. Serum phosphate levels decreased initially but then gradually rose back to pre-operative level. No significant change in blood pressure or haemoglobin level was noted. Some skeletal abnormalities regressed while vascular calcification tended to progress.

Conclusion Sustained reduction of iPTH was achieved in our patients who received total parathyroidectomy with reimplantation. However, relative hypothyroidism was common though asymptomatic. With the recently reported potential harm of relative hypoparathyroidism, judicious increase in the volume of reimplantation in future operation may need to be considered.

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APHASIA RECOVERY – A STUDY OF POST-STROKE APHASIA

Dr Hon Fong Kwong, Sonny, Department of Medicine, Pamela Youde Nethersole Eastern Hospital (December 2003 Neurology Exit Assessment Exercise)

Aphasia is a common and debilitating problem resulting in significant frustration for both patient and family. With the advance of technology, especially of functional imaging, and improved understanding of the neurocognitive functions, the concept of aphasia as a disorder is evolving. Remarkable neuronal adaptation, reorganization and even neurogenesis had been found to occur after brain injury. Ongoing investigations continue to submit exciting insights into the phenomenon of brain plasticity. Evidences shows that speech therapy is beneficial,

especially with newer technique like the MIT and the Constraint Induction approaches. Data on pharmacological intervention is exciting and promising, but there is not equal evidence to support routine clinical use of any drug for language recovery at the moment.

However, data on aphasia in the Chinese population remains limited; the distribution of aphasia subtypes is poorly characterized. In order to evaluate the character of aphasia affecting the Chinese, we conducted a prospective longitudinal observational study in a cohort of stroke-induced aphasic Chinese in Hong Kong. We screened Cantonese-speaking patients who presented with acute stroke (infarction or hemorrhage) in our hospital and had aphasia as described by the National Institutes of Health stroke scale (NIHSS) from Dec 2002 to May 2003. Patients with preexisting language or cognitive impairment, poor Glasgow Coma Scale (GCS), significant co-morbidity were excluded. Language was assessed with the Chinese Aphasia Battery (CAB), during the acute stage, at 1 week and 3 months after stroke. Computer tomography (CT) brain scan was done in all patients within 24 hours of acute stroke. There were 484 acute strokes in the study period, 73 patients had aphasia; 27 patients were recruited in the study. There were 15 global aphasia (55.6%), 6 transcortical aphasia (22.2%), 4 anomic aphasia (14.8%), 1 Broca's aphasia (3.7%) and 1 conduction aphasia. Twelve (44.4%) patients showed improvement in language function in 3 months time. Among them, 4 (14.8%) showed dramatic improvement from global aphasic to normal or anomic aphasic. Global aphasia was the most important factor for poor outcome. 66.7% of global aphasic patients had poor outcome. All the 3 mortalities in our cohort were globally aphasic. Overall, good prognostic factors for language recovery included anomic aphasia at presentation, higher education level, less severe stroke, lesion restricted to subcortical structure, and possibly hemorrhagic stroke.

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INFECTIONS IN A PALLIATIVE CARE UNIT: RETROSPECTIVE ANALYSIS

Dr Lam Po Tin, Department of Medicine & Geriatrics, United Christian Hospital (December 2003 Palliative Medicine Exit Assessment Exercise)

Background and Objective Infection is common in palliative care. However, there is no local data. This study was taken to review the frequency and characteristics of infections among hospice patients, the prevalence of use of antibiotics and to compare the differences between those who had different outcomes after infection, and those who died with or without infection.

Study design Medical records of all patients with terminal malignancy who were enrolled into palliative care service during the period January 2002 to July 2002 were retrospectively reviewed.

Results Among the eligible 87 patients, 70 had at least one infective episode and accounted for a total of 120 episodes. Sixty eight episodes resulted in survival for > 14 days while fifty two episodes were associated with mortality. The most frequent sites of infection were chest (n=63, 52.5%), followed by urinary tract (n=35, 29.2%) and skin/wound (n=6, 5%). 97.5% (n=117) episodes were prescribed antibiotics. The use of restricted antibiotics was 16.2% (n=19). By multivariate logistic regression analysis, dyspnoea, final choice of antibiotics and route of administration were identified as independent determinants affecting survival after infection.

Conclusion Dyspnoea and final choice of antibiotics were possibly associated with prognosis in infections in palliative care. Further studies are encouraged to verify this. The bioethical principles on the use of antibiotics as a life-sustaining treatment and palliative treatment should be followed.

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A COMPARISON OF CONTINUOUS SUBCUTANEOUS INFUSIONS OF FENTANYL AND MORPHINE IN SYMPTOM CONTROL IN TERMINALLY-ILL CANCER PATIENTS: A PROSPECTIVE RANDOMISED TRIAL

Dr Lam Wai Man, Department of Medicine, Haven of Hope Hospital (December 2003 Palliative Medicine Exit Assessment Exercise)

BACKGROUND Morphine is the mainstay of management of moderate to severe cancer pain and has proven effectiveness in management of dyspnea in cancer patients, but may cause intolerable side effects. Subcutaneous fentanyl infusion has been suggested as an alternative opioid but literature is scarce.

DESIGN This study is a randomised prospective comparison of continuous subcutaneous infusion of fentanyl and morphine in advanced cancer patients in management of pain and dyspnea in a palliative care ward of a regional rehabilitation hospital in Hong Kong. Forty-one patients who required conversion to subcutaneous opioid for symptom management were randomised into receiving continuous subcutaneous infusion of morphine (20 patients) or fentanyl (21 patients). A conversion ratio of 10 mg morphine equivalent to 150 mcg fentanyl was used. Pain and dyspnea control as assessed by a numerical rating scale, Palliative Performance Status, side effects profile including delirium, nausea, vomiting, constipation, fatigue, respiratory depression, myoclonus, and local reaction were assessed daily for up to 7 days or till death if less than 7 days.

FINDINGS Pain and dyspnea control were comparable with subcutaneous infusion of fentanyl and morphine as assessed by median daily pain and dyspnea scores on day 1 and day 2, degree of improvement in pain and dyspnea scores on day 1 and day 2, median dosage of opioids used, number of breakthrough injections, and proportions of patients achieving satisfactory symptom control. No significant difference was observed in the occurrence of side effects including delirium, nausea, vomiting, constipation, respiratory depression, and myoclonus. No local reaction was observed with fentanyl. A statistically significant difference in the occurrence of early deaths was observed with a greater proportion of early deaths in the fentanyl group, while the long-term survival did not differ significantly. This is related to the higher proportion of patients in the fentanyl group entering into the terminal phase at enrolment.

CONCLUSION Continuous subcutaneous infusion of fentanyl is as effective as morphine in controlling pain and dyspnea in advanced cancer patients and their side effects profiles are similar.

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MANAGEMENT OF URINARY RETENTION DURING HIP FRACTURE REHABILITATION – A PROSPECTIVE RANDOMIZED TRIAL

Dr Chu Chun Kwok, Angus, Department of Rehabilitation Medicine, Kowloon Hospital (December 2003 Rehabilitation Exit Assessment Exercise)

Objective To describe the incidence of urinary retention in patients receiving hip fracture rehabilitation and to evaluate different methods of catheter management for urinary retention in this group of patients.

Design Prospective randomized 2-treatment-arms clinical trial.

Subjects and method Postvoid residual urine (PVRU) for consecutive patients admitted for hip fracture rehabilitation was assessed via a bladder scanner within 72 hours of admission. Patients with significant retention were randomized to receive either indwelling catheter (IDC) or intermittent catheterization (IMC).

Results The incidence of urinary retention was 19.8%. Thirty one percent of patients were asymptomatic when they were detected to have significant residual urine. Patients with urinary retention were older and had lower admission score on Functional Independence Measure™. By multivariate logistic regression model, only age remained predictive to the development of urinary retention. Urinary retention was associated with higher chance of having urinary tract infection, deteriorated functional mobility level and institutionalized after discharge. Majority of patients can regain self-voiding within a mean period of 33 days. There was no significant difference between IDC and IMC in terms of proportion of patients successfully weaned off from catheter and the mean duration to regain self-voiding but IDC was less labour intensive.

Conclusion Urinary retention during hip fracture rehabilitation is a significant problem. Aggressive preventive measures and vigilant surveillance for the condition should not be understressed. Temporary use of IDC with regular trial of weaning is the recommended strategy in the rehabilitation setting.

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FUNCTIONAL OUTCOME AFTER STROKE IN PATIENTS WITH PERITONEAL DIALYSIS

Dr Kwok Tsz Kin, Division of Rehabilitation, Tung Wah Hospital (December 2003 Rehabilitation Exit Assessment Exercise)

Literature review End stage renal failure patients (ESRF) experienced high morbidity and mortality due to arteriosclerostic cardiovascular diseases (CVD). This is because the co-morbidities intrinsic to ESRF are risk factors for CVD. Furthermore, ESRF itself is also an independent risk factor for CVD. Dialysis does not alter this saturation, so high prevalence of CVD still observed in dialysis patients. Stroke is one of the common CVD in dialysis patients.

Co-morbidities reported to affect the outcome of stroke rehabilitation include hypertension, diabetes, atrial fibrillation, ischemic heart disease and old stroke. Dialysis patients usually suffer from these co-morbidities. Their multiple co-morbidities and dialysis itself act as confounding factors to stroke rehabilitation of dialysis patients.

Stroke rehabilitation outcome of ESRF patients have been reported to be inferior to normal renal function patients. There were only few studies concerning the stroke outcome of dialysis patients and most of them focused on haemodialysis (HD) patients or patients with renal transplant. Stroke rehabilitation outcome of continuous ambulatory peritoneal dialysis (CAPD) patients have not been investigated in the past.

Case study Study design: A matched case control study to compare the length of stay, discharge destination, Functional Independence Measure (FIM), Barthel Index (BI) and survival of CAPD stroke patients and stroke patients with normal renal function. One year survival rate was calculated.

Results 25 CAPD patients developed stroke from 1998 to 2002 entered the study. 50 carefully matched control patients recruited. The mean length of stay of CAPD stroke patients

(49.2 ± 8.8 days) was longer than control group (30.5 ± 2.2 days) ($p<0.05$, 95% CI 0.1 to 37.3). The initial FIM & pre-discharge FIM of CAPD patients (63.2 ± 7.0/ 76.1 ± 38.7) were significantly lower than control group (82.7 ± 4.1/ 101.5 ± 29.5) ($p<0.05$, 95% CI -36.0 to 3.0/ $p< 0.01$, 95% CI -43.2 to -7.6). The initial BI & pre-discharge BI also significantly lower in CAPD group patients (CAPD: 40.7 ± 31.4/ 56.7 ± 37.4; Control: 57.6 ± 31.3/ 80.0 ± 29.5; $p< 0.05$, 95% CI -32.3 to -1.5/ $p< 0.05$ 95% CI -40.6 to -5.6). But there was no difference of absolute FIM gain & BI gain between the two groups of patients (FIM gain: $p=0.163$, 95% CI -14.2 to 2.5; BI gain: $p=0.192$, 95% CI -16.0 to 3.3). There was no difference of discharge destination between the two groups of patients ($p=0.49$). The one year survival of CAPD stroke patient (0.6) was significantly lower than control group (0.9). The most common cause of death of CAPD stroke patients was CAPD peritonitis.

Conclusion The incidence of stroke in CAPD patient was high. The initial functional level after stroke was low. CAPD stroke patients had lower rehabilitation efficiency and their length of stay was longer. The functional level upon discharge was low and mortality was high especially due to CAPD peritonitis. However the rate of home discharge was as good as control. Early discharge to day rehabilitation center may decrease the cost for rehabilitation and preventing peritonitis can improve survival for these patients.

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EFFECTIVENESS OF CARDIAC REHABILITATION ON PATIENTS WITH A MAJOR CARDIAC EVENT – A LOCAL CENTER EXPERIENCE AND IMPROVEMENTS IN EXERCISE CAPACITY IN DIFFERENT SUBGROUPS

Dr Leung Kai Chi, Department of Medicine and Rehabilitation, Tung Wah Eastern Hospital
(December 2003 Rehabilitation Exit Assessment Exercise)

Objective 1**.** to examine and evaluate improvements in cardiorespiratory fitness, quality of life and risk factors modifications in post acute coronary patients after a comprehensive 3 months exercise rehabilitation program. 2. to study the changes in exercise capacity by using six minute walking (6MW) distance or exercise workloads, expressed in metabolic equivalents (METS) which is deduced from exercise stress test (ETT) following cardiac rehabilitation. Improvements in subgroups were also analyzed.
Design Descriptive study

Methods We retrospectively reviewed data from 100 patients enrolled in a phase II cardiac rehabilitation and exercise program after a major cardiac events

Setting A local hospital based outpatient cardiac rehabilitation center (Tung Wah Eastern Hospital)

Results Overall Cardiac Rehabilitation duration was around 73 days with a high compliance rate. Complication rate during exercise and readmission rate were low as well. There were significant overall improvement in mean exercise capacity : 130 meters for 6MW and 2.39 METs for ETT. We also achieved improvements in most of risk factors after CR – 100 % in smoking abstinence, decrease in mean waist circumference by 1.45 cm, decrease in mean body weight by 0.45 kg, and body mass index (BMI) by 0.22 kg/m^2, decrease in mean systolic blood pressure (SBP) and diastolic blood pressure (DBP) by 2.9 and 3.0 mmHg respectively, decrease in mean total cholesterol level, LDL-C, triglyceride level by 0.59, 0.55, 0.37 mmol/L respectively, increase in mean HDL –C by 0.1 mmol/L, decrease in mean Hba1c level by 0.28 % and fasting blood sugar level by 1 mmol/L. Quality of life score was also increased especially in the physical domain (7.8 points).

Conclusions We proved the effectiveness of an ambulatory phase II CR program in making improvements in cardiopulmonary fitness, quality of life, risk factors modifications in patients with acute coronary events.

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CERVICAL ATYPIA IN SYSTEMIC LUPUS ERYTHEMATOSUS

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(December 2003 Rheumatology Exit Assessment Exercise)

Objective To assess the prevalence of premalignant cervical lesion in systemic lupus erythematosus (SLE) and to determine if SLE itself, the different disease manifestations or the use of immunosuppressive agents were the risk factors. The prevalence of human papilloma virus (HPV) infection were also studied.

Patients & Methods Ninety SLE patients participated in this cross sectional study. A structured questionnaire was administered to the subjects at the time of the Pap smear to ascertain the possible risk factors associated with cervical atypia. Demographic, clinical data and drug history were retrieved by systematic review of the charts. Data from 2,080 healthy female subjects with Pap smears done at the same centre were retrieved for comparison. A cervical sample was collected with Cervex brush (Rovers Medical Devices) from each woman for routine cytologic examination.

Results The mean age in SLE was 41 years old while control was 44 years old. The prevalence of abnormal Pap smear in SLE and control were 21% and 5.7% respectively (p=0.000). Cervical atypia was more commonly seen in SLE compared with control. High grade squamous intraepithelial lesion (HGSIL) was increased up to 9 fold in SLE as compared with control while only 1.5 fold increase in atypical squamous cell of undetermined significance (ASCUS) lesion was noted. The prevalence of HPV infection was also statistically higher in SLE 16.6% as compared with control 7.3% (p=0.000). SLE, history of sexually transmitted disease, sexual partner 4 or more and onset of sexual activity 17 years old or less were the independent risk factors for cervical atypia by logistic regression analysis. However, there was no significant difference between SLE patients with abnormal Pap smear (n=19) and normal Pap smear (n=71) with regard to clinical characteristic features of lupus. Dapsone was found to be significantly associated with higher cervical atypia in SLE (p=0.000) while immunosuppressive agents were not. CONCLUSION: Patients with SLE are more prone to develop cervical atypia with HPV infections. Lupus itself appears to be a risk factor in the development of the condition. The clinical characteristic features of the disease, or treatment associated with the underlying disease have not been found to be the risk factors, except the use of dapsone may be associated with cervical atypia. Regular cervical smear screening is recommended in SLE patients.

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THROMBOEMBOLISM IN SOUTHERN CHINESE PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: A PROSPECTIVE STUDY

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Objectives To study the risk of thromboembolism and its predictive factors in a cohort of southern Chinese patients with systemic lupus erythematosus (SLE).

Study Design Longitudinal observation study of an inception cohort of SLE patients.

Patients and method Patients with newly onset SLE between January 1995 and January 2003 were prospectively followed for the occurrence of thromboembolic events. All patients fulfilled at least 4 of the ACR criteria for SLE. Conventional risk factors and the antiphospholipid (aPL) antibodies (anti-cardiolipin antibodies and lupus anticoagulant) were surveyed. Cumulative risk for thromboembolism was studied using Kaplan-Meier analysis and predictive factors were identified using the Cox proportional hazard model.

Results Two hundred and twenty-three SLE patients were recruited (197 women and 26 men). The mean age at diagnosis was 34.6±13.4 years (range 15-84 years) and the median follow-up time was 42.0 months (range 3 – 102 months). Twenty-six percent of our patients were positive for aPL antibodies. None of the patients received primary prophylaxis with aspirin or anticoagulation. At the time of analysis, 34 patients (15.2%) developed a total of 38 thromboembolic events. Arterial events occurred in 29 patients (cortical or lacunar stroke in 19, transient ischemic attacks in 5, ischemic heart disease in 3, retinal artery thrombosis in 1 and digital gangrene in 1) and venous events occurred in 8 patients (deep vein thrombosis in 5, pulmonary embolism in 1, portal vein thrombosis in 1 and branch retinal vein thrombosis in 1). Three patients developed both arterial and venous thrombotic events and 1 patient had recurrent stroke. Two patients had active lupus at the time of thromboembolism. One patient died of acute myocardial infarction at the age of 45. Thirteen patients (5.8%) had thromboembolic events at the onset of SLE. For the remaining patients, the median time to develop a thromboembolic event was 38.5 months (range 2 – 102 months). The cumulative risks of thromboembolism were 1.9%, 4.2%, 7.0%, 9.6% and 12.2% at 12, 24, 36, 48 and 60 months respectively. By multivariate Cox regression analysis, male sex (HR 6.45 [1.80-23.09]; p=0.004), older age at diagnosis (HR 1.05 [1.01-1.08] per year; p=0.012) and positive family history of thromboembolism (HR 4.95 [1.28-19.23]; p=0.021) were independent risk factors for vascular thrombosis. The lipid profile and the presence of aPL antibodies did not predict thromboembolic events.

Conclusions Thromboembolism is not an uncommon event in our Chinese SLE patients and is not predicted by status of the antiphospholipid antibodies. Conventional risk factors cannot fully explain the increased risk.

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