Abstracts of Dissertations
June 2004 Exit Assessment Exercise

INTRAVENOUS IMMUNOGLOBULIN TREATMENT FOR STEVENS-JOHNSON SYNDROME AND TOXIC EPIDERMAL NECROLYSIS

Dr Yeung Chi Keung, Department of Medicine, Queen Mary Hospital (June 2004 Dermatology and Venereology Exit Assessment Exercise)

Background Toxic epidermal necrolysis (TEN) and Stevens-Johnson syndrome (SJS) are acute, life-threatening cutaneous reactions mostly related to medications. Up-regulation of keratinocyte FasL expression appears to trigger keratinocyte death in TEN. The Fas blocking antibodies in intravenous immunoglobulin (IVIG) that block Fas-FasL interaction may inhibit the disease process.

Objectives To evaluate the effect of IVIG therapy in TEN and SJS on disease progression and mortality.

Design & Outcome measures A prospective open trial of 6 TEN and SJS patients who received IVIG compared with 10 historic controls. A TEN-specific severity-of-illness score (SCORTEN), a validated prognostic score to predict mortality, was used to compare the actual mortality. Objective responses to IVIG, survival at day 45, IVIG tolerance were assessed.

Interventions Six consecutive patients (TEN=4 and SJS=2) with mean body surface involvement 45% (range: 10-90%) received IVIG treatment 1g/kg daily for 3 days at a mean of 3.3 days after onset.

Results One patient died (mortality 16.7%) in intervention group while the SCORTEN predicted 2.3 deaths (37.6%). Interruption of further skin detachment occurred 4.6±0.9 days and complete wound healing took an average of 9.6±2.2 days after IVIG started. In the control group (4 TEN and 6 SJS) with mean body surface area detachment 25% (range: 10-60%), the cessation of further detachment occurred 5.3±1.6 days and complete wound healing took an average of 11.2±3.3 days after admission.

Conclusion A reduction of mortality in TEN and SJS patients receiving IVIG was noted, with faster cessation of progression and healing. IVIG seems to be useful and safe therapy for TEN and SJS.

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A RETROSPECTIVE ANALYSIS OF LIVER ABSCESS IN A DISTRICT HOSPITAL IN HONG KONG

Dr David Alan Chow, Department of Medicine, Tseung Kwan O Hospital (June 2004 Gastroenterology and Hepatology Exit Assessment Exercise)

A retrospective analysis of 35 patients with liver abscess over a 3-year period was performed. Majority (34 patients, 97%) was pyogenic liver abscess, and one case of amoebic liver abscess was found. The estimated annual incidence was 21 per 100,000 hospital admissions (or 3.6 per 100,000 populations per year). The median age was 63, and male to female ratio was 1.7: 1. The median duration of symptoms before hospitalization was 7 days. The commonest presenting symptoms were fever (94.3%), chills (57.1%), and right upper quadrant or

epigastric pain (45.7%). Nine patients (25.7%) had underlying diabetes mellitus or impaired glucose tolerance. Patients typically presented with mild anaemia, leucoytosis, elevated ESR, and elevated ALP or GGT. Ultrasound was able to detect liver abscess in 97% of the cases. Most lesions were solitary (71%), and in the right lobe (71%). *Klebseilla pneumoniae* was the commonest organism isolated in pyogenic liver abscess. Half of all cases of pyogenic liver abscess were associated with biliary tract abnormalities, including 6 patients (17.6%) with history of biliary-enteric anastomosis. Treatment was successful using image-guided percutaneous needle aspiration or catheter drainage with systemic antibiotics. ERCP with deep cannulation was successfully performed in 22 patients and abnormalities were found in 45.5% of cases, leading to endoscopic procedures in 13 patients. The overall hospital mortality rate was 2.9% (1/35), and morbidity was uncommon.

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RISK OF COLONOSCOPIC POLYPECTOMY BLEEDING WITH ANTI-COAGULANTS AND ANTI-PLATELET AGENTS: AN ANALYSIS OF 1657 CASES

Dr Hui Aric Josun, Department of Medicine and Therapeutics, Prince of Wales Hospital (June 2004 Gastroenterology and Hepatology Exit Assessment Exercise)

Anti-coagulants and anti-platelet agents are commonly used in patients with cardiovascular and cerebrovascular diseases. There are scanty existing data on the safety of using these drugs before colonoscopic polypectomy.

Method This is an audit of consecutive cases of colonoscopy and polypectomy in a 2-year period. Patient demography, site and size of polyps, the use of anti-coagulants and anti-platelet agents were documented from hospital on-line database. Bleeding episodes were classified as immediate or delayed; and graded as mild, moderate or severe. Risk factors associated with post-endoscopy bleeding were analyzed by multivariate logistic regression analysis.

Results A total of 5593 cases were reviewed in which polypectomies were performed in 1657 patients. There were 37 cases of polypectomy bleeding (2.2%), of which 32 cases were immediate bleeding and 5 delayed bleeding. Multivariate analysis showed that warfarin use, after adjustment for the effects of each of the other factors, was an independent risk factor of bleeding with an odds ratio of 13.37 (95% CI 4.10-43.65). Age, location and size of polyp, the use of aspirin, NSAIDs and other anti-platelet agents were not associated with a higher risk of polypectomy bleeding.

Conclusion Anti-platelet agents prescribed during the polypectomy were not associated with an increase in post-polypectomy bleeding. In contrast, warfarin should be discontinued, as there was a significant increase in post-polypectomy bleeding.

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REVIEW OF USE OF ENDOSCOPY SHORTLY BEFORE AND AFTER ACUTE CORONARY SYNDROME: SAFETY, USEFULNESS AND REVIEW OF POSSIBLE MANAGEMENT PLAN

Dr Leung Cheuk Sun, Department of Medicine, Yan Chai Hospital (June 2004 Gastroenterology and Hepatology Exit Assessment Exercise)

Background There is no data concerning the risk and benefit of endoscopy done shortly after acute coronary symdrome (ACS) with high troponin level. There is also no data concerning

planned delayed endsocopy after 6 weeks from acute coronary syndrome, or characteristics of patients with acute coronary syndrome after endoscopy done within 6 weeks.

Aim (1) To investigate on the risk and benefit of endsocopy done within 6 weeks after acute coronary syndrome. (2)To study the risk and benefit for planned delayed endoscopy done more than 6 weeks after acute coronary syndrome. (3)To review the characteristics of patients with acute coronary syndrome occurring within 6 weeks after endoscopy.

Method Patients with abnormal cardiac troponin I (cTnI) from July 2000 to December 2002 were searched. They were entered into Part I if endoscopy was performed within 6 weeks after ACS, or they had a planned delayed endoscopy as recorded in case notes even endoscope were planned more than 6 weeks later. Patients' data would be collected if endoscopy was performed 6 weeks or shorter before ACS.

Results *(*Part I) There were 45 patients with 54 endoscopies done within 6 weeks after ACS. Most (81.5%) were esophagogastroduodenoscopy (OGD). The most common indications were overt gastrointestinal bleeding (GIB)(51.9%), occult GIB(18.5%) and anaemia(16.7%). Therapeutic procedure was done in 14.8% only and only 5.7% had bleeding lesions found. Most of them were not useful (51%), and hemostasis was done in 3.8%. Complication rate of OGD, colonoscopy, endoscopic retrograde cholangiopancreatography (ERCP) and percutaneous endoscopic gastrostomy (PEG) were 9.1%. 40%, 0% and 100 % respectively. Risk factors for OGD complications were oxygen dependency, ventricular fibrillation or tachycardia on presentation of ACS, ST elevation and Q wave myocardial infarct. Planned delayed endoscopy was not useful and it is not as safe as assumed. (Part II) Classic features of acute myocardial infarct (AMI) were not common in patients within 6 weeks after endoscopy. Many of them had normal creatinine phosphokinase (CK), electrocardiogram (ECG) or even just presented as dizziness or epigastric without chest pain.

Conclusions Endoscopy can be safe on low risk patients. However, in high risk patients, risk and benefit have to be balanced and carefully explained to patients. This group of patients has multiple risk factors with high morbidity and mortality even without endoscopy. As randomized controlled studies are not available, this article hopes to review different management strategy and their risk and benefit so that better options can be made and explained to our patients. Moreover, this study also found that classic features of acute myocardial infarct was not present and so nonspecific symptoms and signs should be taken seriously and more careful testing may be needed in high risk patients.

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EPIDEMIOLOGICAL STUDY: NONALCOHOLIC FATTY LIVER DISEASE (NAFLD) IN HONG KONG CHINESE

Dr Yiu Chi Him, Desmond, Department of Medicine and Therapeutics, Prince of Wales Hospital (Gastroenterology & Hepatology Exit Assessment Exercise)

Background and Aims Epidemiologic data of nonalcoholic fatty liver disease (NAFLD) is lacking in Chinese. The aim of this study was to determine the prevalence and causative factors in Hong Kong Chinese adults.

Methods 1627 Chinese adults (age range 20-65 years) visited our hospital outpatient clinic with abdominal ultrasound performed between January and June 2003. After excluding history of alcohol excess and other causes of liver disease, 258 cases of nonalcoholic fatty liver were identified based on ultrasonographic criteria. Their clinical characteristics were compared with 340 consecutive controls.

Results The overall prevalence of nonalcoholic fatty liver was 15.9%. The mean age was 49 (SD 8.7) years. 128 (50%) were male. Hypertension and obesity were present in 99 (38.3%) and 75 (29.1%) cases, respectively. Mean body mass index was 27.7 (SD 3.9), with 55 (32.4%) overweight and 106 (58.2%) obese. A total of 73 (30.9%) patients had elevated liver enzyme tests, with elevated serum ALP in 28 (11.8%) and elevated serum ALP in 57 (24.2%) patients. 46 (32.4%) patients had hypertriglyceridemia, 29 (20.6%) had low HDL-cholesterol and a total of 60 (42.6%) patients had dyslipidemia (either hypertriglyceridemia or low HDL-cholesterol. Multivariate regression analysis demonstrated that dyslipidemia (OR 2.62), overweight (OR 4.41) and obesity (OR 25.7) were independent predictors of NAFLD.

Conclusions In our study population, 15.9% had nonalcoholic fatty liver diagnosed by USG.. Dyslipidemia, overweight and obesity are the independent risk factors. Obesity was more strongly associated with NAFLD, suggesting its greater role in pathogenesis of the disease.

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MULTIPLE MYELOMA – A LOCAL EXPERIENCE

Dr Chan Chi Chung, Department of Medicine, Queen Elizabeth Hospital (June 2004 Haematology and Haematological Oncology Exit Assessment Exercise)

Background Muoltiple myeloma (MM) is a highly treatable but rarely curable haematological malignancy. Conventional chemotherapy has been the standard treatment over the last three decades until the recent development of high-dose therapy and autologous stem cell transplantation (ASCT). MM is well characterized in western population, but the situation in local population has not been well documented. **Objectives and Methods** The clinical characteristics, outcomes and prognostic factors of local MM patients in Queen Elizabeth Hospital, Hong Kong were retrospectively studied. Patients with MM diagnosed between January 1998 and December 2003 were reviewed.

Results A total of 91 MM patients were reviewed. 81 patients had received conventional chemotherapy, their median age was 65 years. 48 percent of them showed a $\geq$ 50 percent reduction in M-protein, and the median survival was 33 months. Ten patients had undergone high-dose therapy with ASCT, their median age was 50 years. The median time from diagnosis to transplantation was 7 months, and the mean number of CD34+ cells re-infused was 7.7×10^6/kg body weight. The rate of complete response was 10 percent after induction chemotherapy, and was increased to 50 percent after ASCT. No transplantation related mortality was noted; the median progressive-free survival (PFS) was 25 months, and the median overall survival (OS) was 41 months. Univariate survival analysis showed the prognostic significance of β_2-microglobulin (β_2M), lactate dehydrogenase, creatinine, Durie-Salmon stage, and M-protein subtype. Multivariate analysis showed that only β_2M had independent prognostic significance. The median survival was 38 months for β_2M < 4 mg/l versus 26 months for β_2M $\geq$ 4 mg/l (P = 0.002).

Conclusion In comparison with results from other centres, local MM patients who had received conventional chemotherapy showed a similar median OS of 33 months. Local patients who had received ASCT showed a high complete response rate of 50%, with PFS of 25 months and longer OS of 41 months. Serum β_2M measured at diagnosis is shown to be a powerful predictor of survival in local MM patients.

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LIVER GRAFT-VERSUS-HOST DISEASE (GVHD) AFTER HAEMATOPOIETIC STEM CELL TRANSPLANTATION (HSCT): DIAGNOSIS, PATTERN AND PROGNOSIS

Dr Ma Shing Yan, Lawrence, Department of Medicine, Queen Mary Hospital (June 2004 Haematology and Haematological Oncology Exit Assessment Exercise)

Derangement of liver function test (LFT) following haematopoietic stem cell transplantation (HSCT) is a very common clinical problem. Liver graft-versus-host disease (GVHD), being the commonest cause, can often be diagnosed clinically when accompanied by cutaneous and/or gut GVHD. Problems emerge when (1) there is only isolated liver GVHD (2) the patient is a hepatitis B virus (HBV) carrier and (3) there is concurrent sepsis. Liver biopsy is an important but risky procedure in the diagnosis, prognostication and disease monitoring in liver GVHD but its role in our high HBV prevalent area is not defined. After reviewing the indications and results of 75 liver biopsies, we concluded that a satisfactory diagnosis of LFT derangement post-SCT might often be reached on clinical grounds and a liver biopsy is most informative and necessary when underlying infective causes, particularly reactivation of HBV and HCV, are suspected. In contrast to the classical liver GVHD with cholestatic LFT derangement, a new entity called hepatitic-variant liver GVHD has recently been reported. It is clinically manifest as increased serum transaminase levels to 10-20 times normal post-HSCT or shortly after donor lymphocytes infusion (DLI), with viral or drug etiologies having been excluded. However, its clinical features and prognostic implications have not been well defined. We showed that hepatitic-variant GVHD might not be uncommon, as 38/106 (36%) of all our liver GVHD cases were hepatitic-variant, but its clinical course and treatment outcome did not appear to be different from classical liver GVHD. Moreover, the prognosis of hepatitic-variant GVHD post-HSCT and post-DLI were similar in our cohort. In HBV prevalent areas, differentiation between HBV reactivation and hepatitic-variant GVHD is very important, in view of the different treatment that should be given. Finally, because only few cases of hepatitic-variant GVHD have been reported, the prognostic impact of a predominant hepatitic LFT derangement should be further clarified.

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FIVE-YEAR EXPERIENCE OF PYOGENIC LIVER ABSCESS IN A REGIONAL HOSPITAL

Dr Chan Kai Ming, Department of Medicine, Tuen Mun Hospital (June 2004 Infectious Disease Exit Assessment Exercise)

Objectives Pyogenic liver abscess is an uncommon infection that carries significant morbidity and mortality. It is a well-recognized complication in patients with underlying biliary tract pathology. The most frequent type was polymicrobial infection with *Streptococcus milleri* group bacteria as the chief pathogens. With the advances in both the diagnostic and treatment modalities, there is an expected change in pattern of the disease. The purpose of this study was to analyze our experience over five years in a regional hospital in Hong Kong.

Design Retrospective review of patient records

Methodology Records of patients treated in Tuen Mun Hospital in the period from July 1998 to June 2003 were studied. Background epidemiological data, clinical features, laboratory data, imaging results and microbiological findings were reviewed. Therapeutic interventions were assessed. Outcome variables like duration of hospitalization, fever days accountable by the infection caused by the abscess, and time to diagnosis were analyzed. Risk factors for complicated clinical course, significant complication and mortality were examined.

Results A total of 97 episodes of liver abscesses were identified in 33 females and 59 males. They accounted for an annual incidence of 50.5 per 100 000 admission to surgical and medical wards through emergency department, or an estimated annual incidence of 2.1 per 100 000 persons per year. The commonest clinical symptoms on admission were fever (88%), abdominal pain (57%), chills and rigors (52%). The commonest abnormal laboratory findings were leucocytosis (84%), normochromic normocytic anemia (46%), elevated alkaline phosphatase on presentation (87%) and the development of hypoalbuminemia after admission (99%). Most of the abscesses were localized at the right lobe (68%). Most of the cases were treated with a combination of antibiotics and drainage by imaging guidance or open method. Monomicrobial *Klebsiella pneumoniae* infection is the commonest type of infection (47%). In multivariate analysis, high peak white cell count was identified as the single important predictive factor for complicated clinical course and significant complications.

Conclusion Pyogenic liver abscess is still a disease with significant morbidity and mortality. *Klebsiella pneumoniae* bacteria became the most common etiological pathogen. The early diagnosis and prompt treatment are the keys to success of management.

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CLINICAL PRESENTATIONS AND OUTCOMES OF PENICILLIUM MARNEFFEI INFECTIONS IN IMMUNOCOMPROMISED PATIENTS

Dr Wu Tak Chiu, Department of Medicine, Queen Elizabeth Hospital (June 2004 Infectious Disease Exit Assessment Exercise)

Penicillium marneffei is a thermally dimorphic fungus which is endemic in Southeast Asia, including Hong Kong. The disease affects mostly patients with impaired cellular immunity, particularly AIDS patients. In the pre-HAART (highly active antiretroviral therapy) era, life-long itraconazole was recommended for HIV-infected patients to prevent relapse of the disease. A retrospective study was conducted to review the clinical presentations and outcomes of the immunocompromised patients with disseminated P. marneffei infections. The impact of HAART on the management in HIV-infected patients with penicilliosis was evaluated as well. Forty-seven cases (including 44 HIV-infected patients and 3 non-HIV-infected patients) of disseminated P. marneffei infections were assessed. Fever, anemia and generalized lymphadenopathy were the commonest presentations. Most of diagnosis of penicilliosis was made from positive blood cultures and/or lymph node biopsies. There were only 6 cases of fatal outcomes. All but one were attributable to penicilliosis. The baseline CD4 cell count of the HIV-infected patients at the time of the diagnosis of penicilliosis was very low (median 20/mm^3). All surviving HIV-infected patients were taking HAART and low dose of oral itraconazole (i.e. 200mg daily) as the secondary prophylaxis after completion of treatment for penicilliosis. The prognosis was very good for those in whom the diagnosis could be made before death and received appropriate antifungal therapy. Twenty-nine surviving HIV-infected patients discontinued itraconazole maintenance therapy with a median CD4 cell count of 200 cells/mm^3. The median duration of follow-up after stopping itraconazole in this group of patients was 30 months and the median CD4 cell count at final visit was 315 cells/mm^3. Relapse of the disease was rarely seen in the study (1 patient only). Discontinuation of antifungal maintenance therapy appears to be safe for HIV-infected patients with previously treated disseminated penicilliosis and sustained immunologic response (i.e. CD4 cell count of >100 cells/mm^3) to HAART.

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PREVALENCE OF OSTEOPOROSIS IN PATIENTS AFTER RENAL TRANSPLANTATION: RESULT FROM A SINGLE CENTER PERSPECTIVE AND REVIEW OF LITERATURE

Dr Wong Ho Sing Joseph, Department of Medicine, Queen Elizabeth Hospital (June 2004 Nephrology Exit Assessment Exercise)

Renal osteodystrophy is a common complication of chronic renal failure. It is associated with disturbance in calcium and phosphate metabolism, abnormal calcium regulating hormone level and changes in bone structure and metabolism(1).

Renal transplantation has become an established therapy for end stage renal disease. Renal transplantation corrects disturbance of calcium and phosphorus metabolism. The restoration of vitamin D synthesis, clearance of phosphorus and reduction of parathyroid hormone are all beneficial to the bone after transplantation. On the contrary, immobilization in the immediate post-operative period and use of immunosuppressive agents pose deleterious effects on bone mass.

Post-transplantation osteopenia or osteoporosis remains an important problem(2). Studies demonstrated a rapid and significant bone loss within the first postoperative year(3,4,5) .

It is initially thought that bone loss after transplantation is primarily related to glucocorticoids. Glucocorticoids decrease absorption of calcium from intestine and increase its elimination via the kidneys. They affect PTH secretion, change the bone protein matrix, increase osteoclastic activity and decrease protein synthesis, leading to reduction in bone mass (6).

Use of cyclosporine and tacrolimus permit lower dosage of glucocorticoids. However, they did not retard the rapid bone loss(7,8,9). In vivo and in vitro studies on action of CsA on bone yielded conflicting results because CsA acts via intermediates altering the bone-resorbing cytokines. A number of studies showed the association of high-turnover osteoporosis with CsA while others did not (10,11). Both cyclosporine and tacrolimus have specific adverse effects upon skeletal integrity. Their independent and interrelated skeletal effects with glucocorticoids lead to a form of bone disease characterized by rapid bone loss and high rate of fracture.

Pathogenesis of post transplantation osteoporosis is complex. The impact on skeleton is a continuous process both before and after transplantation. The clinical information on post-transplant bone loss in Chinese population is lacking. In the first part of this dissertation, I shall review the literature on osteoporosis, pre-transplantation and post-transplantation bone disease, their prevention and treatment. In part two, I shall describe the results of the study on post renal transplantation bone loss in my centre and the various factors that may influence such results.

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CLINICAL COURSE OF CAPD PERITONITIS DUE TO E.COLI

Dr Yip Pok Siu Terence, Department of Medicine, Tung Wah Hospital/Queen Mary Hospital (June 2004 Nephrology Exit Assessment Exercise)

Objective To determine the clinical course and outcomes of CAPD peritonitis due to *E. Coli*.

Patient and Method All episodes of CAPD peritonitis in our unit from October 1994 to August 2003 were reviewed.

Over the ten-year study period, 123 episodes of *E. Coli* peritonitis were recorded. The demographic data, underlying medical conditions, recent gastric acid inhibitors (including

H2-antigonist and proton pump inhibitor) and recent antibiotic therapy, antibiotic regimen for the peritonitis episodes, sensitivity test results of the *E. Coli* isolated, requirement of Tenckhoff catheter removal and clinical outcomes were examined.

Results Among the 123 episodes of *E. Coli* peritonitis, 88 episodes (72%) were single-organism. Nine episodes (7%) were relapsing peritonitis while 26 episodes (21%) were polymicrobial peritonitis involving *E. Coli*. For single-organism *E. Coli* peritonitis, treatment failure rate was 17%, mortality rate due to sepsis was 2.3%. Treatment failure was associated with longer duration on dialysis (70.2±52.4 vs. months, $P = 0.04$) and more often with ESBL producing *E. Coli* (5 in 15 vs. 6 in 73 episodes, $P = 0.02$). For relapsing *E. Coli* peritonitis, treatment failure rate was 11.1%. Mortality rate was also 11.1%. Clinical outcomes were similar to single-organism *E. Coli* peritonitis. For polymicrobial *E. Coli* peritonitis, treatment failure rate was 38.5% and mortality rate due to sepsis was 11.5%. Treatment failure rate was significantly higher in polymicrobial group than in single-organism group (10 in 26 (38.5%) vs. 15 in 88 (17%), $P= 0.03$). 13 cases of ESBL producing *E. Coli* peritonitis had been identified. Recent use of cephalosporins and gastric acid inhibitor were associated with the development of ESBL producing *E. Coli* peritonitis. Treatment failure rate and mortality rate were significantly higher than that of non-ESBL producing *E. Coli* peritonitis.

Conclusion Duration on dialysis and the isolation of ESBL producing *E. Coli* are associated with worse clinical outcomes. The use of cephalosporins and gastric acid inhibitors may be important predisposing factors of developing ESBL producing *E.Coli* peritonitis. We should, therefore, alert to the above observations and avoid overuse of cephalosporins to prevent the emergence of this multi-antibiotic resistant organism.

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REHABILITATION OF OLDER STROKE PATIENTS IN HONG KONG CHINESE – ARE THERE ANY DIFFERENCES FROM THE YOUNG?

Dr Luk Ka Hay James, Geriatrics Unit, Grantham Hospital/TWGH Fung Yiu King Hospital
(June 2004 Rehabilitation Exit Assessment Exercise)

Objectives To examine the age differences in characteristics, rehabilitation outcomes and predictors of outcomes amongst the stroke patients.

Methods Retrospective cohort study in Tung Wah Hospital

Results The study had 2 parts.
PART I 165 cases admitted between January to June 2003 were reviewed. The ≥65 (n=129, 76.9%) were less openly employed and educated. They had more hypertension and cerebral atrophy. Cranial nerve palsy, constipation and cognitive impairment were more prevalent after stroke while footdrop and spasticity were less. They needed less social worker and clinical psychologist counseling but more often discharged to institutions.

44 (26.7%) were ≥80 (old-olds). More were women, single, living in institutions and demented prior to stroke. They had more cognitive impairment, urosepsis and bladder dysfunction but less depression after stroke. More old-olds were bedridden and institutionalized on discharge.
PART II Computer records of 878 stroke patients admitted between January to December 2003 were analysed. After rehabilitation, significant improvements in FIM scores were seen in patients <65 (young), ≥65 but <80 (young-olds), and ≥80 (old-olds). Although admission and discharge total FIM and BI(100) scores were lower in the older age groups, no significant difference was observed in the changes of FIM and BI(100) across the 3 age groups. Age was

not an independent predictor for FIM ≥ 90 in any age group. Admission FIM score was the independent predictor for FIM ≥ 90 in all the age groups. Living at home and being employed before stroke were independent predictors for all the 878 subjects. Living alone before stroke was also a predictor in the young-olds. The length of stay in rehabilitation hospital was predictor for ≥80 group only.

Conclusion Some age differences in demography, comorbidity, neural imaging, stroke complications, service requirements and independent predictors of rehabilitation outcomes were observed. Similar to the younger counterparts, older patients could be benefited by rehabilitation after stroke.

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PREDICTING STROKE REHABILITATION OUTCOMES USING BERG BALANCE SCALE AND ELDERLY MOBILITY SCALE

Dr Tse Man Yu Mona, Division of Rehabilitation Medicine, Department of Medicine, Tung Wah Hospital (June 2004 Rehabilitation Exit Assessment Exercise)

Stroke is considered as the most common disabling neurological condition around the world. To be able to provide evidence based criteria used to determine length of stay, functional outcomes and discharge destination is important in prognostication and rehabilitation resources planning. Multitude of factors were identified as possible predictors in stroke outcomes, we conducted this retrospective study recruiting 200 first ever stroke patients tried to assess the predictive value of commonly collected sociodemographic and clinical data and to validate Berg Balance scale (BBS) and Elderly Mobility Scale (EMS)'s function in outcome prediction in terms of Functional Independence Measures (FIM) and Barthel Index (BI). Hospital length of stay (LOS) was found to be lengthened by low admission Mini-Mental State Examination (MMSE), presence of depression and fall and nursing home placement. Best predictors were admission FIM Locomotion and Transfers with 55% of its variation explained by these two factors. Both BBS and EMS have moderate correlation of similar magnitude with LOS with R=0.695 and 0.706 respectively but were inferior to FIM. Combined admission MMSE and FIM best predict total discharge FIM with R=0.870 and R^2=0.756. Both BBS and EMS strongly correlated with discharge FIM, R=0.766 and 0.771 respectively despite having less predictive value. Advancing age, cognitive impairment, being single, incontinence and impaired self care ability measured by FIM all increased one's risk for nursing home placement. Age, marital status, admission FIM on Self care and Sphincter control were the most powerful predictors for discharge destination with 47.4% variation explained. Both BBS and EMS had very similar predictive power comparable to FIM and BI in predicting stroke rehabilitation outcomes, but add no extra predictive information beyond that was provided by FIM. With a more complete picture of various clinical data on stroke rehabilitation outcomes prediction, an evidence based formula can be generated to improve stroke rehabilitation prognostication.

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A RETROSPECTIVE STUDY ON THE CLINICAL PREDICTORS FOR RETURN TO PRODUCTIVE ACTIVITY AND POST-DISCHARGE STATUS AFTER TRAUMATIC BRAIN INJURY REHABILITATION IN A REGIONAL NEURO-REHABILITATION UNIT

Dr Yeung Man Pun, Department of Rehabilitation Medicine, Kowloon Hospital (June 2004 Rehabilitation Exit Assessment Exercise)

Objective: 1.To evaluate the relationship between acute injury characteristics and patients

demographic data with subsequent return to productive activity and post-discharge residential status. 2.To evaluate the relationship between the telephone FIM (Functional Independence Measure) and CIQ (Community Integration Questionaire) at 6 month to 1 year post injury with subsequent return to productive activity. 3.To assess the usage of neuro-psychological test on the subsequent return to productive activity within one month after out of post-traumatic amnesia.

Design: Retrospective observational cohort study.
Methods:
Study sample-
All patients, who suffered from traumatic brain injury and being transferred from neurosurgical unit of Queen Elizabeth Hospital (QEH) between 1st April 1999 to 30th September 2002 and required subsequent inpatient rehabilitation in Kowloon Hospital (KH) were enrolled. Patients with age less than 15 years old would be excluded.
Data collection -
All patients' demographic data, post injury Functional Independence measure (FIM), Mini-mental state examination (MMSE) and the results of the neuro-psychiatric tests would be collected from the inpatient record from KH. All acute clinical factors would be collected from the inpatient records from QEH and KH. A telephone follow-up interview would be conducted to all eligible patients and verbal consent would be gained during the telephone interview. The premorbid and current employment status, FIM, CIQs and the missing data in the inpatient record would be obtained during the interview. In the interview, patients' caregiver or next of kin would be asked for the above information in order to avoid the potentially inaccurate results from subjects with persistent cognitive impairment except the patients are living alone and independent after discharged.
Main outcome measure-
Patients would be regarded as successful on return to productive activity when they could return to preinjury-comparable work, full time or part time schooling and homemaking. Post-injury homemaking was defined as a score of 6 or greater on the CIQ home competency subscale. Patients who could live along or live with their family would be regarded as successful on return to home. Standard descriptive statistics were calculated. Univariate logistic regression analyses would be performed to determine the associations of independent variables with return to productive activity and post discharge status. Multiple logistic regression analyses would be applied for adjusted associations. A p value of less than 0.05 was considered statistically significant.

Result There were 86 participants in this study. 47% of the subjects could resume the productivity activities during the telephone interview while 14% of the patients failed to return to home after discharge. Admission, discharge and telephone FIM, MMSE, telephone CIQ, the occupational status at 6 month after the injury, patient's educational level and premorbid neurological disease were found to be associated with RTPA. Patients who had neurological disease or required to stay in KH more than 6 weeks were less likely to return to home after rehabilitation. There is no statistically significant association between the patients' capacity on returning to productive activities and the neuropsychological test performed during the inpatient rehabilitation. The clinical significance of these variables and the limitations of this study would be discussed.

Conclusion :Inpatient FIM, MMSE and post discharge FIM and CIQ score, premorbid educational level and the occupational status 6 month post injury were associated with patients who can return to productive activity. Neuro-psychological tests which were performed within one month after the resolution of post-traumatic amnesia could not predict the patient's capacity on return to productive activities.

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REVIEW OF PRIMARY SYSTEMIC VASCULITIS: A TEN-YEAR RETROSPECTIVE STUDY IN HONG KONG EAST REGION

Dr Chan Ka Yan Helen, Department of Medicine, Pamela Youde Nethersole Eastern Hospital (June 2004 Rheumatology Exit Assessment Exercise)

Primary systemic vasculitides are rare rheumatic diseases with protean presenting features. These diseases could results in significant morbidity and mortality if not recognized promptly. A review of the new developments in pathogenesis, various classification criteria, disparity in epidemiology, variability of clinical expression and usefulness of ANCA will be given. Assessment of disease activity and organ damage, together with updated treatment regimen will be highlighted.

A local study on Chinese patients with primary systemic vasculitis in Hong Kong east cluster would be reported. Cases were identified by a throughout search of computerized hospital discharge coding system, clinic registries of the rheumatology outpatient clinic, death records and records from immunology laboratory. Clinical features and outcome of treatment would be analyzed and compared with existing data in literature.

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GOUT – A REVIEW ON THE CURRENT CONTROL OF GOUT AND HYPERURICEMIA IN A LOCAL HOSPITAL

Dr Lee Man Yee, Department of Medicine and Geriatrics, Tai Po Hospital (June 2004 Rheumatology Exit Assessment Exercise)

Background Gout is a common and well-known disease to physicians. Although gout is easy to diagnose and effective therapies are available, most patients still suffer from recurrent gouty attacks and persistent hyperuricemia. Some patients also have gout complications such as tophi, urolithiasis and renal impairment.

Objective The aim of this study was to review the control of gout and hyperuricemia in patients with chronic gout in a local hospital.

Method This was a retrospective, descriptive study. The clinical records of patients with the diagnosis of chronic gout during 2001-2004 were screened through the Clinical Management System of Alice Ho Miu Ling Nethersole Hospital, Hong Kong. The control of gout and hyperuricemia of each patient was reviewed.

Results A total of one hundred and twenty one patients with chronic gout were reviewed in this analysis. Only sixty-eight patients (56%) were free of gouty attacks during the observation period. Among those not having gouty attacks, only nine patients achieved a desired urate level at or less than 0.36mmol/l. As a result, only 7.4% patients achieved satisfactory control of clinical gout and hyperuricemia. For those patients still having gouty attacks, 73.5% patients had serum urate level at or greater than 0.48mmol/l, 64% patients did not have an increase in the dose of allopurinol by their physicians, 30% patients were not started on hypouricemic therapy and 22.6% patients did not adhere to the drug treatment given. Regarding the control of hyperuricemia, only eighteen out of ninety-five (18.9%) patients achieved the desired urate level after treatment. The mean +/-SD lowest urate level after treatment was 0.51+/-0.16mmol/l. 19.8% and 10.7% patients had tophi and urolithiasis respectively. Only 29.4% patients were given colchicine prophylaxis while they were started on hypouricemic treatment. 7.8% and 20.6% patients experienced adverse events to

allopurinol and colchicine respectively.

Conclusion The overall control of gout and hyperuricemia was not satisfactory in this group of patients. Most of these patients were managed in the general medical clinic. It is important to increase the education on the management of gout in basic physician training.

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AUTONOMIC DYSFUNCTION IN PATIENTS WITH SYSTEM LUPUS ERYTHEMATOSUS: A CROSS-SECTIONAL STUDY ON PATIENTS IN A HONG KONG LOCAL HOSPITAL

Dr Luk Ming Chi, Department of Medicine, Alice Ho Miu Ling Nethersole Hospital (June 2004 Rheumatology Exit Assessment Exercise)

Objective To assess the prevalence of autonomic dysfunction in patients with systemic lupus erythematosus (SLE).

Methods Twenty-five patients with SLE were assessed (for autonomic dysfunction using 5 non-invasive tests: sympathetic skin response, heart rate response to the valsalva manoeuvre, maximum-minimum heart rate response to deep breathing, heart rate and blood pressure changes in response to standing up. Autonomic dysfunction is defined as abnormal result in at least 2 out of 5 autonomic function tests. Disease characteristics, disease activity index (SLEDAI) and drug history were also documented. Laboratory analysis included complete blood picture (CBP), liver, renal biochemistry (LRFT), anti-dsDNA, C3, C4 level.

Results 10 (40%) out of 25 SLE patients had autonomic dysfunction. No statistical associations were observed between autonomic dysfunction and age, duration of disease, SLEDAI, CBP, LRFT, anti-dsDNA, C3, C4 or concommittent use of prednisolone, azathioprine, or hydroxychloroquine.

Conclusion The prevalence of autonomic dysfunction in SLE using non-invasive tests is high. 40% of our patients had definite autonomic dysfunction. Prospective studies are required to determine the potential effect of autonomic dysfunction in the morbidity of patients with SLE.

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ETHNIC DIFFERENCES BETWEEN CAUCASIAN AND CHINESE SLE PATIENTS WITH PARTICULAR REFERENCE TO VASCULAR RISK FACTORS AND EVENTS

Dr Yip Man Lung, Department of Medicine and Geriatrics, Kwong Wah Hospital (June 2004 Rheumatology Exit Assessment Exercise)

Objective To compare the ethnic differences between 2 groups of SLE patients- Caucasian and Chinese, in particular, with regards to vascular risk factors and clinical vascular events.

Methods SLE patients followed up in St George Hospital in Sydney and Kwong Wah hospital in Hong Kong were reviewed retrospectively. Comparisons were made between Caucasian and Chinese SLE patients on demographic characteristics, autoantibody profiles, inflammatory markers, treatment modalities, disease activity, and disease damage upon last assessment. The prevalence of conventional vascular risk factors including smoking, diabetes, hypertension, hyperlipidaemia, antiphospholipid antibodies, physical activity and presence of clinical outcomes reflecting vascular events- angina, myocardial infarction, transient ischaemic

attack, cerebrovascular accident, claudication and peripheral vascular disease were assessed. Logistic regression was performed to evaluate factors predicting clinical vascular outcomes.

Results Records of 241 SLE patients were assessed. 70 were Caucasians and 161 were Chinese. Disease activity was generally low upon follow up visit (median SLEDAI=0 in Caucasian, median SLEDAI=2 in Chinese). There was a high occurrence of hypertension (47.1 % in Caucasian and 34.8 % in Chinese), diabetes (18% in Caucasian and 13.8% in Chinese), hypercholesterolaemia (44.7% in Caucasian and 36.4 % in Chinese), hypertriglyceridaemia (42.1 % in Caucasian and 38.4 % in Chinese) and obesity (15 %) in both groups of SLE patients, but cardiovascular events occurred less frequently in Chinese patients - angina (3.7% vs 24.3%, $p< 0.001$), myocardial infarction (3.1 % vs 15.7% , $p=0.001$). Age (age per 10 years OR 1.88, 95 % CI 1.32-2.70, $p=0.001$) and ethnicity (Caucasian compared to Chinese, OR 5.25, 95% CI 1.85-14.9, $p=0.002$) are independent predictors of cardiovascular events-angina and/or myocardial infarction. Cerebrovascular events occurred at a similar frequency in both groups. Low prevalence of peripheral vascular disease was detected. (5.7 % in Caucasian and 0% in Chinese)

Conclusion There is a high prevalence of vascular risk factors in SLE patients, though Chinese subgroups had a lower prevalence of cardiovascular diseases. Most SLE patients on follow up had relatively inactive disease- the group to which vascular events poses major risk. Attention to the assessment and management of vascular risk factors should be given as much attention as control of disease activity.

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