Abstracts of Dissertations
June 2005 Exit Assessment Exercise

RISK OF SUBACUTE STENT THROMBOSIS AFTER DRUG-ELUTING STENT IMPLANTATION: A COMPARISON WITH BARE-METAL STENTS

Dr. Kum Chi Chiu, Leo, Department of Medicine & Therapeutics, Prince of Wales Hospital (June 2005 Cardiology Exit Assessment Exercise)

Objective We directly compared subacute stent thrombosis (SAT) risk between drug-eluting stents (DES) and bare metal stents (BMS) under same clinical setting and examined the predictors of SAT.

Background There is concern about the potential higher risk of SAT after DES implantation.

Method This is a single centre study from cardiovascular catheterization laboratory, Brigham and Women's Hospital, Boston, MA, USA. This centre is a tertiary referral centre and provides 24-hour emergency services for primary angioplasty. All coronary interventions involving DES from 25th April, 2003 to 1st July, 2004 were reviewed for occurrence of SAT. BMS study period included all coronary interventions used BMS from 1st July 2002 to 25th March,2003.

Results A total of 1770 DES procedures and 1335 BMS procedures were performed during the two study periods. SAT occurred in 11 DES patients (0.62%) and 5 BMS patients (0.37%)(NS). The mean time to SAT occurrence was 6.0 days in the DES group and 7.6 days in the BMS group (NS). Both groups had similar pre-procedural clinical and lesion characteristics. The total stent length and the minimal luminal diameter of the stents post-procedure were 20.7mm and 2.82mm in the DES SAT group and 29.2mm and 2.90mm in the BMS SAT group (NS). Using a logistic model, three factors influenced the occurrence of SAT in DES cases: 1. Presentation with index AMI (OR 3.48, p=0.056); 2. Stent diameter <3.0mm (OR 2.75, p=0.114); 3. Inability to take ASA or clopidogrel (OR 3.83, p=0.095).

Conclusions SAT occurred in 0.62% of cases after DES implantation and was similar to BMS. Our dataset suggested presentation with index AMI, stent diameter <3.0mm and inability to take dual anti-platelet therapy may predict SAT occurrence.

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STUDY ON THE PREVALENCE OF SKIN DISEASES AMONG ELDERLY HOMES RESIDENTS AND THE POSSIBLE USE OF STORE-AND-FORWARD TELEDERMATOLOGY IN THIS GROUP OF PATIENTS

Dr Chan Wen, Department of Medicine & Therapeutics, Prince of Wales Hospital (June 2005 Dermatology & Venerology Exit Assessment Exercise)

Background Skin problems are common in the geriatric population. There was no previous data on the prevalence of skin problems in local geriatric community. Teledermatology had been shown to have potential benefits in various aspects in dermatology services. Elderly homes residents tend to have more difficulty in seeking specialist care and are suitable cases for the study of the use of teledermatology.

Objectives I. To estimate the prevalence of skin diseases in residents living in local elderly homes. II. To establish the intra-dermatologist`s consistency of store-and-forward teledermatology in diagnosing skin diseases and attempt to establish the usefulness of teledermatology in elderly homes.

Methods I. Two hundred and fifty-seven elderlies staying in four elderly homes were visited and undergone screening of skin diseases II. History and clinical photographs using digital camera of seventy-nine patients (with eight-six skin conditions) were sent to the investigator by nurses of the Community Geriatric Ambulatory Care Team. Preliminary diagnoses were made based on the clinical photographs. There would be compared to face-to-face consultations made within two weeks for intra-observer consistency.

Results I. The average age of the elderly was eighty-six. 55.6% of them had some sort of dermatology diagnoses made during screening while 44.4% had no clinically obvious skin problems. There was no difference between male and female residents. The commonest problem was xerosis followed by onychomycosis. II. The intra-observer consistency of the diagnoses between the two methods was 58.1% and 93% if differential diagnoses were included. This result was comparable to previously published data. Discrete lesions such as common wart and venous ulcer tended to have the better consistency.

Conclusions Teledermatology gave a reasonably diagnostic consistency in this setting. With further study and improvement, it could prove to be a potential aid in triage or management of patients in elderly homes in the future.

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WHETHER SELF MONITORING OF BLOOD GLUCOSE (SMBG) CAN REFLECT GLYCEMIC CONTROL IN TYPE 2 DIABETES MELLITUS USING GLYCOXYLATED HEMOGLOBIN HBA1C AS GOLDEN STANDARD?

Dr Hung Chi Sang, Department of Medicine & Geriatrics, United Christian Hospital (June 2005 Endocrinology, Diabetes & Metabolism Exit Assessment Exercise)

Objective To investigate the relationship between self monitoring of blood glucose (SMBG) and glycosylated hemoglobin (HbA1c) in type 2 diabetes mellitus patients in a regional hospital, followed by review of the limitations of these measures in the monitoring of glycemic control.

Research Design and Method Glycemic profile by SMBG at fasting, pre-lunch and pre-dinner were obtained in 53 type 2 diabetes mellitus patients in an ambulatory setting. The total plasma glucose exposure was calculated by area-under-the-curve model and the mean plasma glucose level calculated by dividing the total plasma glucose exposure over time. The plasma glucose values at different time points and the mean plasma glucose value were correlated with HbA1c.

Results The lowest plasma glucose time point was fasting in the morning and the highest plasma glucose time point was the pre-dinner time. Pre-lunch plasma glucose and mean plasma glucose correlated significantly with HbA1c. Linear regression analysis demonstrated linear relationships: 1) between pre-lunch plasma glucose and HbA1c ($r=0.545$, $p<0.001$), and 2) between mean plasma glucose and HbA1c ($r=0.365$, $p=0.007$). The stronger correlation was between pre-lunch plasma glucose and HbA1c. Collinearity was noted between pre-lunch plasma glucose and mean plasma glucose. After multiple regressions analysis with stepwise elimination, the only independent factor retained in the final model was the pre-lunch plasma glucose level.

Conclusion Despite the small sample size, pre-lunch plasma glucose and mean plasma glucose correlated significantly with HbA1c. Pre-lunch plasma glucose was the only independent predicting factor for HbA1c. Prediction of HbA1c from SMBG was not feasible due to the limitations of the study and the large prediction interval. Nevertheless SMBG conveys important unique information not available in HbA1c measurement and is an essential component in the monitoring and management of type 2 diabetes mellitus.

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THE ASSOCIATION BETWEEN THE LEVEL OF CARBOHYDRATE INTOLERANCE AND ADVERSE MATERNAL AND NEONATAL OUTCOMES IN PREGNANCY

Dr Ma Pui Shan, Department of Medicine & Geriatrics, Tuen Mun Hospital (June 2005 Endocrinology, Diabetes & Metabolism Exit Assessment Exercise)

Introduction Gestational diabetes mellitus (GDM) is defined as any degree of glucose intolerance with onset or first recognition during pregnancy. It is considered as one of the commonest causes of complicated pregnancy. Standard recommendations generally suggest tight control for all GDM mothers irrespective of their degree of carbohydrate intolerance. However, local data on the characteristics and management outcomes of GDM among Hong Kong Chinese is insufficient. Besides, the available data are inconclusive to tell whether the degree of carbohydrate intolerance will affect clinical outcomes despite the institution of a tight management program.

Methods This was a retrospective study 119 women with gestational diabetes mellitus (GDM) who had been followed at the GDM clinic and delivered in a Hong Kong regional hospital, Tuen Mun hospital (TMH), from September 2003 to December 2004. Using the 75 gram Oral-Glucose tolerance test (OGTT) and World Health Organization (WHO)/ 2-hour diagnostic criteria, 87 gestational impaired-glucose-tolerance (gIGT) and 32 gestational DM (gDM) women's antenatal and hospital records were retrieved and analyzed. The incidence of various adverse maternal and neonatal outcomes was compared between the two groups. 165 women with normal glucose tolerance (NGT) after 75 gram OGTT were randomly selected from the name list of the post-partum wards of TMH. Their basal characteristics and pregnancy outcomes were also analyzed and compared with the gIGT and gDM groups respectively.

Results The gDM mothers had the highest pre-pregnancy body-mass-index (gDM 26.34 kg/m2, gIGT 23.99 kg/m2 and NGT 22.42 kg/m2, $P<0.001$) but they gained significantly less weight during their pregnancy (gDM 7.65 kg, gIGT 9.30 kg and NGT 13.84 kg; $p<0.001$). The various maternal and neonatal complication rates did not differ between the gIGT and gDM groups when they were both subjected to a close monitoring protocol. In the subgroup analysis of six-week postpartum diabetic and non-diabetic among the gDM patients, no significant difference in the occurrence of adverse maternal and neonatal outcomes was observed. When comparing gIGT and gDM with NGT mothers respectively and adjusted for pre-pregnancy body-mass-index (BMI), weight gain during pregnancy and other confounding factors, the odds ratios (OR) for neonatal complication in gIGT group was 3.342 (95%CI 1.623-6.991) ,and, in gDM was 2.296 (95%CI 1.353-3.897). Both gIGT and gDM groups had positive association with neonatal hypoglycaemia (in IGT, OR 3.339, 95% CI 1.231-9.061; in gDM, OR 2.158, 95% CI 1.100-4.233). Body weight gain during pregnancy was also positively associated with maternal complication and Caesarean section rate. Furthermore, parity was inversely correlated with maternal complication rate and assisted delivery.

Conclusion This study had reflected that a tight management protocol including a restricted

calorie diet and mandatory self-blood glucose monitoring was associated with a significant reduction in weight gain during pregnancy, irrespective of the initial BMI of pregnant women. GDM status was predictive of overall neonatal complication and neonatal hypoglycaemia. Weight gain during pregnancy was also positively associated with overall maternal complications. Large-scale cohort study was needed to firmly demonstrate the association between level of carbohydrate intolerance and adverse clinical outcomes.

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THE CLINICAL FEATURES, BIOCHEMICAL PARAMETERS, AND VIROLOGICAL DATA OF PATIENTS WITH HEPATOCELLULAR CARCINOMA IN HONG KONG

Dr Cheung Ting Kin, Private Practice (June 2005 Gastroenterology & Hepatology Exit Assessment Exercise)

In summary, HCC is a major problem worldwide, especially in HBV endemic areas including Hong Kong. Understanding the epidemiology, aetiology, pathogenesis, clinical presentation, biochemical and virological data will help to design better staging systems and improve the screening programmes. Newer treatment modalities, prevention and treatment of viral hepatitis should have an impact on the incidence and survival of patients with HCC.

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A RETROSPECTIVE REVIEW OF PYOGENIC LIVER ABSCESS: EXPERIENCE OF A REGIONAL HOSPITAL IN HONG KONG

Dr Li Chak Wah, Department of Medicine, Yan Chai Hospital (June 2005 Gastroenterology & Hepatology Exit Assessment Exercise)

Background Pyogenic liver abscess is still a major hepatobiliary infection with significant morbidity and mortality despite the advent of more potent antibiotics, modern imaging techniques and non-surgical interventions. According to current literatures, the mortality ranges from 6 to 25%. In this review, 53 patients with pyogenic liver abscess managed in Yan Chai Hospital over a period of 8 years were studied.

Method Fifty-three patients diagnosed to have pyogenic liver abscess at Yan Chai Hospital between January 1997 and December 2004 were included. Their medical records were retrieved to obtain the demographic, clinical, laboratory, microbiology and radiological data. Their treatment and the final outcomes were also reviewed.

Results Fever and chills, abdominal pain and general malaise were the most common presenting symptoms. Elevated erythrocyte sedimentation rate, hypoalbuminemia and leucocytosis were the most common laboratory features. *Klelsiella pneumoniae* and *E. coli* were the most common etiological bacteria. 52.8% of liver abscess are cryptogenic in origin and 42.8% had biliary pathology identified. The mortality rate was 7.5%. Diabetes mellitus and multiple co-morbidities were associated with poorer prognosis.

Conclusion Due to frequently non-specific presentations of pyogenic liver abscess, high index of suspicion is required to diagnose the condition promptly. Image-guided percutaneous drainage is a safe and effective modality of treatment.

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A RETROSPECTIVE STUDY ON THE INCIDENCE OF STATIN-INDUCED LIVER DERANGEMENT IN CHINESE PATIENTS

Dr Sze Wan Chee, Department of Medicine & Geriatrics, Caritas Medical Centre (June 2005 Gastroenterology & Hepatology Exit Assessment Exercise)

Background Several studies have been published to state the safety of statins in terms of liver toxicity in the Caucasian population. On the other hand, this issue has not yet been addressed among Chinese population.

Objective To analyse the incidence of deranged liver biochemistry among patients taking statin in a local regional hospital. The physician's clinical practice in following the guidelines in monitoring liver biochemistry was examined.

Methods This study was a retrospective study of all adult patients treated with statin during the last quarter of year 2003. In addition to hospital record review, territory-wide electronic database was used to retrieve relevant data for analysis. This included demographic data, statin dosage, hepatitis B and C status, lipid level and liver chemistry before and after starting statin.

Results A total of 522 subjects were analysed. The incidences of statin-induced liver derangement was 3.5% and 7.0% in those with normal and elevated baseline alanine aminotransaminase respectively. Two patients stopped statin because of statin-induced liver derangement, i.e. 0.38%. No patients suffered from acute liver failure or death after statin use. 94% of patients had their liver chemistry monitored after statin use with a median time lapse of 8 months. Only 10.9% of them had their first liver chemistry checked within 12 weeks after initiation of statin therapy according to FDA guideline.

Conclusion This study showed that statin was safe in our local population. Those patients with elevated baseline ALT did not have a higher risk for statin-induced liver derangement. Though majority of patients had their liver chemistry monitored, many of them were not checked within the recommended period after initiation of statin. Although severe hepatotoxicity was uncommon, there is no room for complacency. Any patient started on statin should be monitored for possible hepatotoxicity.

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TO EVALUATE THE ROLE OF COLONIC TRANSIT STUDY IN MANAGEMENT OF PATIENTS WITH FUNCTIONAL CONSTIPATION

Dr Wong Wing Hang, Department of Medicine & Geriatrics, Princess Margaret Hospital (June 2005 Gastroenterology & Hepatology Exit Assessment Exercise)

Background According to the position statement of American Gastroenterological Association on diagnosis and management of refractory constipation, chronic constipation can be divided into 4 subgroup : normal transit constipation, slow transit constipation, pelvic floor dysfunction, and pelvic floor dysfunction with slow transit constipation. Colonic transit test is one of the important tools to study these subtypes. The gold standard of colonic transit test is dual scintigraphy.

Aim The aim of the present study is to develop scintigraphy for colonic transit study in Princess Margaret Hospital and to evaluate the usefulness of this test in Chinese patient with functional constipation.

Method From August 2004 onwards, patients who fulfilled the Rome II criteria for

functional constipation and had fewer than 3 bowel motions per week were invited to undergo scintigraphy study.

Approval of the study was obtained from the Kowloon West Cluster ethics committee.
The inclusion and exclusion criteria were shown in Table 3
Scintigraphic study was performed according to the protocol in Mayo clinic
Radioactive InCl (0.1mCi) is placed into a size 1 gelatin capsule, coated with Eudragit L100-55.Marker were placed on the anterior superior iliac spines of the subjects to facilitate identification of the cecum. Anterior and posterior gamma camera images were obtained at 6, 24, 48 and 72 hours after radioactive InCl ingestion. Indium was quantified by using a 20% window around the 247-KeV peak. Scintigraphy pattern of these patients will be evaluated.

Result Studies were successfully completed and interpretable in 20 of 25 patients (80%). In this study, 4/20 (20%) patients had normal scintigraphic result, 6 patients (30%) had delay oro-cecal transit, 11 patients (55%)had colonic inertia, 4 patients (20%) had pelvic floor dysfunction and 4 patients (20%) had colonic inertia and delay orocecal transit. In patients with delayed orocecal transit, only the symptom of epigastric distending discomfort significantly associated with delay oro-cecal transit. The results of our study demonstrate that scintigraphy often has a significant impact on patients care, in that both the diagnosis and treatment.

Conclusion The colonic transit study is a clinically useful and well tolerated test in patients complaining of constipation. Orocecal transit time can be assessed and subgroup of constipation can be differentiated. This study demonstrated that upper GI transit abnormalities are often found in patients with constipation and associated with the symptom of distending epigastric discomfort. Colonic transit scintigraphy led to a better understanding of the physiology of constipation and management in patients with constipation.

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POTENTIAL ROLE OF LMO4 IN THE PATHOGENESIS OF LMO2-INDUCED T-CELL ACUTE LYMPHOBLASTIC LEUKAEMIA

Dr Tse Wai Choi, Eric, Department of Medicine, Queen Mary Hospital (June 2005 Haematology & Haematological Oncology Exit Assessment Exercise)

Chromosomal translocations are recurring features of human acute leukaemias and majority involve genes encoding for transcription factors important for mammalian development. In T-cell acute lymphoblastic leukaemia (T-ALL) with translocation t(11;14)(p13;q11) or t(7;11)(q35;p13), a LIM-only protein, LMO2 is ectopically expressed in early immature T-cells. This results in a characteristic abnormal T-cell differentiation that precedes overt leukaemia development. A sequestration model has been proposed as the mechanism of Lmo2-induced T-ALL. It is hypothesized that Ldb1-Lmo4 protein complex plays an essential role in normal T-cell differentiation and the disruption of this function, due to sequestration of Ldb1 by Lmo2, results in a block in the T-cell differentiation which precedes overt T-ALL development in patients. In this thesis, a mouse model system is employed to define the role of Lmo4 in Lmo2-induced T-ALL. Using chimaeric mice deriving from *Lmo4* null murine embryonic stem (ES) cells, it showed that deficiency of Lmo4 did not result in the characteristic T-cell differentiation block seen in enforced Lmo2 expression. Furthermore, using *rag* complementation experiments, it was confirmed that Lmo4 did not play an essential role in lymphopoiesis. It is therefore concluded that Lmo4 does not play a role in Lmo2-induced T-ALL, although the sequestration hypothesis cannot be completely rejected.

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ANALYSIS OF FACTORS INFLUENCING HEMOGLOBIN LEVEL IN CAPD PATIENTS IN A LOCAL CENTRE IN HONG KONG

Dr Chan Ching Kit, Department of Medicine, Pamela Youde Nethersole Eastern Hospital (June 2005 Nephrology Exit Assessment Exercise)

Background The treatment of recombinant human erythropoietin (r-Hu-EPO) has been clearly shown to improve anaemia in continuous ambulatory peritoneal dialysis (CAPD) patients. The aim of this study is to identify factors associated with anemia in CAPD patients. Optimizing these factors might improve the cost effectiveness in using recombinant human erythropoietin.

Methods Continuous ambulatory peritoneal dialysis (CAPD) patients in a local dialysis centre were recruited and their records were reviewed. Baseline demographic data, laboratory data (hemoglobin level (Hb), albumin, calcium and phosphate level, parathyroid hormone and iron profile), dialysis adequacy (Kt/V_{total} and $Kt/V_{peritoneal}$), residual renal function (RRF), normalised protein catabolic rate (nPCR)), as well as dosages for oral iron supplement and r-Hu-EPO were all recorded for statistical analysis, in order to delineate acting on erythropoiesis in CAPD patients. Co-administrations with other medication such as anti-platelet agents, warfarin, angiotensin converting enzyme inhibitors (ACEi) and angiotensin receptor blocker (ARB) were recorded to look for their effect on hemoglobin and hematocrit levels, as well as to the r-Hu-EPO requirement.

Results Two hundred fifty-nine patients (134 male and 125 female patients) were recruited. The mean age was 64 +/- 12 years. They were on peritoneal dialysis for a median period of 28 months (3 to 113 months). Diabetes mellitus was present in 139 patients (53.7%) of the cohort. Thirty four patients (13.5%) were completely anuric, 125 patients with residual glomerular filtration rate of less than 1 ml/min/1.73m^2, 60 patients in the range of 1-2ml/min/1.73m^2, 38 patient with more than 2 ml/min/1.73m^2. The mean hemoglobin (Hb) was 9.0 +/- 1.6g/dL, with hematocrit (Hct) of 0.263 +/- 0.05. Eighty patients (30.9%) were on r-Hu-EPO, 132 patients (51.0%) were on oral iron supplement. The mean dosages for r-Hu-EPO and elemental iron supplement were 4863 +/- 3344 unit/week, and 120 mg +/- 37.0 mg daily respectively.

Correlation analyses revealed positive correlation between hemoglobin (or hematocrit) and residual renal function ($p < 0.05$). In addition, residual renal function was negatively correlated with r-Hu-EPO requirement ($p< 0.01$). Negative correlation was found between elemental iron supplement and hemoglobin (or hematocrit) levels ($p<0.05$). Multi-variate analyses confirmed that residual renal function was the single predictor for hemoglobin level (or hematocrit) and r-Hu-EPO requirement. Anuric patients tended to have a lower hemoglobin level ($p<0.05$) and required more r-Hu-EPO ($p=0.000$). Patients with Kt/V_{total} of more than 2 required less r-Hu-EPO ($p=0.01$) compared to those with Kt/V_{total} of less than 2. Patients on CAPD for long duration required higher r-Hu-EPO dose ($p=0.000$). Regression analyses showed inverse relation between residual renal function and r-Hu-EPO requirement.

Conclusion Maintaining CAPD patients with adequate dialysis and preserving residual renal function might be helpful to improve anaemia and reduce r-Hu-EPO requirement.

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LATE NEPHROLOGISTS REFERRAL BEFORE INITIATION OF DIALYSIS WAS ASSOCIATED WITH POOR PROGNOSTIC OUTCOME AND INCREASED MEDICAL COST

Dr Shum Hoi Ping, Department of Medicine, Pamela Youde Nethersole Eastern Hospital (June 2005 Nephrology Exit Assessment Exercise)

Background Caucasian studies have shown that late referral of patients with advanced renal failure to dialysis programme were invariably associated with increased morbidity and mortality when compared to those who entered dialysis programme early in their course of disease. Though a similar trend may be extrapolated to Chinese patients, few studies have been performed to demonstrate this effect. The present study aimed to evaluate prospectively the effect of late referral (LR) and early referral (ER) of local Chinese patients with advanced renal disease to continuous ambulatory peritoneal dialysis (CAPD) programme, on short and long term morbidity, survival and cost implication.

Methods Design – prospective cohort study in a renal unit of a regional hospital of Hong Kong
Patients – newly recruited Chinese patients into CAPD programme from 1 Jan 2002 to 30 Apr 2003. Patients who were referred to the renal unit more than 4 months before starting dialysis were defined as early referral (ER) and those were considered late referral (LR) if they were referred within 4 months before starting dialysis. ER group was further divided into those being started on dialysis at appropriate time based in clinical judgment (ER-AT) and those insisted on delaying initiation of dialysis till urgent needs occur (ER-DD).

Monitoring – Patient's baseline characteristic, associated co-morbidity, dialysis related length of stay and complications were recorded. They were followed up for one year after completed CAPD training and their subsequent clinical courses were evaluated. The major associated costs including outpatient visit, in-patient hospital care and day ward haemodialysis service were calculated. Chi square test and student t test were used as appropriate for comparison between groups. Patient's survival was estimated by Kaplan Meier method with comparison between survival curves made by log rank test.

Results A total of 130 patients were recruited. Only 55 patients (42.3%) were referred early. Among those ER patients, 38 of them belong to the ER-AT group and 17 of them belong to the ER-DD group. The remaining 75 patients were referred late (LR). For the demographic characteristics (including age, sex, body weight, cause of end stage renal failure, frequency of background hypertension / diabetes mellitus / cardiovascular disease / stroke), there were no significant differences between three groups. However, focusing on the ER-AT and LR groups, there were significant differences between their pre-dialysis albumin level (ER-AT vs LR = 34.2 vs 30.7g/L, p=0.002), potassium level (ER-AT vs LR = 4.2 vs 4.7mmol/L, p=0.005), creatinine clearance (CrCl) as calculated by Cockcroft equation (ER-AT vs LR = 7.9 vs 5.8ml/min, p<0.001), HCT level (ER-AT vs LR = 0.24 vs 0.20L/L, p<0.001), haemoglobin level (ER-AT vs LR = 8.1 vs 7.1g/dL, p<0.001) and calcium phosphate product (ER-AT vs LR = 3.5 vs 4.5mmol^2/L^2), p<0.001). LR group was significantly associated with increased risk of pulmonary edema (p<0.001), need for urgent haemodialysis (p<0.001), longer dialysis related length of hospital stay (ER-AT vs LR = 8.9 vs 17.3 days/patient, p<0.001) and higher initial medical cost (ER-AT vs LR = HKD$42000 vs HKD$72000, p=0.002). All patients will have 4-6 weeks of intermittent peritoneal dialysis in the hospital before receiving training of CAPD technique. On subsequent follow up for one year after started on CAPD, 11 patients received renal transplantation and another 9 patients passed away. There is no significant difference of Kt/v between groups. However, LR group was associated with increased risk of subsequent cardiovascular complication (p=0.02), increased number of renal follow up (ER-AT vs LR = 8.2 vs 9.7 session/year, p=0.004), increased number of post CAPD training hospital stay (ER-AT vs LR = 13.8 vs 25.5, p=0.02) and final medical cost (ER-AT vs LR = HKD$133000 vs HKD$201000, p=0.001). Survival analysis showed significant 1-year survival difference between 2 groups (ER-AT vs LR = 100% vs 89.3%, p=0.04)

Concentrating on those referred early but insisted on delaying initiation of dialysis till urgent needs occur (ER-DD), their CrCl on referral was similar to those ER-AT group (ER-DD vs

ER-AT = 15.9 vs 16.7ml/min, p=NS) but their CrCl on starting of dialysis was much lower compare with ER-AT groups (ER-DD vs ER-AT = 4.6 vs 7.9ml/min, p<0.001). Their haemoglobulin was lower (ER-DD vs ER-AT = 7.0 vs 8.1g/dL, p=0.004) and phosphate was higher (ER-DD vs ER-AT = 2.1 vs 1.8mmol/L, p=0.049). ER-DD group was more likely to have pulmonary edema (p<0.001) and need for urgent haemodialysis (p=0.001), which was similar to those LR group. Moreover, their dialysis related length of stay (ER-DD vs ER-AT = 17.4 vs 8.9 days/patient, p=0.001) and final medical cost (ER-DD vs ER-AT = HKD$176000 vs HKD$133000) was higher.

Conclusion Late nephrologist referral within 4 months of initiation of dialysis was associated with increased short-term and long-term morbidity, lower 1 year survival after CAPD training and higher subsequent medical cost.
For those referred early, delayed initiation of dialysis was associated with poorer short-term morbidity and higher cost.

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THE SIGNIFICANCE OF CARDIAC TROPONIN T LEVELS IN PATIENTS ON CONTINUOUS AMBULATORY PERITONEAL DIALYSIS

Dr Tsui Yee Tuen, Department of Medicine, Alice Ho Miu Ling Nethersole Hospital (June 2005 Nephrology Exit Assessment Exercise)

Objectives The purpose of this study is to evaluate the significance of elevation of serum cardiac troponin T (cTnT) level among end stage renal failure patients who receive continuous ambulatory peritoneal dialysis (CAPD) therapy. The first part of the study is a cross-sectional study to assess the prevalence and to analyse the characteristic of those patient with elevated cTnT. The second part of the study is a prospective study to evaluate the prognostic significance of an elevated cTnT.

Methodology Eighty CAPD patients with no recent history of chest pain and acute coronary syndrome (ACS) were recruited. The cTnT level was determined. A cTnT value > 0.1ng/ml, a conventional cut-off level for patient with normal renal function, was regarded as elevated. The patients were divided into two groups according to the cTnT level and comparison was made between them regarding the biochemical and demographic characteristics. Nineteen CAPD patients with documented ACS were selected from the hospital record, comparison was made between those patiens with and without ACS. We also monitor the non-ACS patients for 6 months to see their clinical progress and cardiovascular events. Comparison were also made between those patient with and without acute coronary syndrome (ACS)

Results The cTnT level of the 80 non-ACS CAPD patients was 0.06 ± 0.12ng/ml (range 0 to 0.73ng/ml). There was 15 out of the 80 subjects (18.8%) had elevated cTnT level. The patients with elevated cTnT had a significant higher prevalence of diabetes mellitus (DM) (p=0.009), and Left ventricular hypertrophy (LVH) (p=0.046). Our data also show that 40% of the DM CAPD patients and 30% of the LVH CAPD patients had elevated cTnT level. Moreover, a significant higher cTnT levels was noted in the DM patients than the non-DM counterpart (p=0.003). In addition, significant higher serum intact parathyroid hormone level (p<0.001) and calcium-phosphorus product (p=0.002) was also found in the patients with elevated cTnT. The cTnT level of the 19 ACS patients was 1.14 ± 1.77ng/ml (range 0.18 to 7.15ng/ml). The cTnT levels of CAPD patients who had suffered from ACS were significantly greater than that of the CAPD patient without ACS, and there was also more patients with DM (p<0.001) and LVH (p=0.038). After the 6-month cohort, there was no statistical significant difference in the cardiovascular event, cardiovascular related hospitalisaton, all-cause hospitalisation, as well as the mortality between non-ACE patient with normal cTnT level and the non-ACS patient with

elevated cTnT level.

Conclusion Elevated cTnT levels is common in asymptomatic CAPD patient. Using a conventional cut-off value of 0.1ng/ml may lead to a false positive diagnosis of ACS. The false positive rate may be even higher for DM patients and patients with LVH. A higher cTnT levels is also demonstrated in the ACS CAPD patient suggesting cTnT is still useful in diagnosing ACS, however, a higher cut-off value to increase the specificity of the test might be required. An elevated cTnT level may not associated with a short-term outcome difference. Further study to recruit more patient and to have longer cohort period are warranted to confirm the finding.

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LITERATURE REVIEW ON ANTINEUTROPHIL CYTOPLASMIC ANTIBODY-ASSOCIATED VASCULITIS WITH LOCAL EXPERIENCES FROM KWONG WAH HOSPITAL

Dr Wong Yuk, Department of Medicine & Geriatrics, United Christian Hospital (June 2005 Nephrology Exit Assessment Exercise)

Antineutrophil cytoplasmic antibody (ANCA) -associated vasculitis is the most common cause of rapidly progressive glomerulonephritis. Its life-threatening natural course may be modified substantially by current immunosuppressive therapies. Current treatment is associated with toxicity and contributes to morbidity and mortality. Much of the evidence supporting therapeutic decisions derives from small prospective studies or larger, usually single centre, retrospective experiences. More recently, consensus discussions have contributed to evidence on classification and existing treatment practice. In Hong Kong, few reviews and studies of this disease have been performed, although the disease is not very rare in our locality. We performed literature review and retrospectively studied the clinical features, treatment and outcome of 15 patients with ANCA-associated vasculitis in our centre in recent six years. Renal manifestations were the most common presentations, followed by neurological diseases. In our patients, the remission rate and relapse rate after standard therapy with oral cyclophosphamide-corticosteroid regimen were 100% and 7%, respectively. The overall mortality due to active vasculitis and its treatment-related complications was 20%. However, about fifty percent of the overall mortality was related to possible immunosuppressive therapy-related pneumonia. Maintenance therapy with azathioprine, as compared to cyclophosphamide, were associated with a trend of lower infection-related mortality. Appropriate usage of intravenous pulse cyclophosphamide as induction may further decrease the treatment-related toxicity. Further larger local studies are definitely helpful to define the characteristics of the disease in our locality.

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LOCAL EXPERIENCE IN THE USE OF LEFLUNOMIDE IN CHINESE POPULATIONS WITH RHEUMATOID ARTHRITIS: TOLERANCE

Dr Liu Hor Ming, Department of Medicine & Geriatrics, Caritas Medical Centre (June 2005 Rheumatology Exit Assessment Exercise)

Background Disease modifying anti-rheumatic drugs DMARDs has been shown to decrease the symptoms & signs, slow down the radiographic progression, improved the functional ability of patients with rheumatoid arthritis.

Despite the availability of many DMARDs, a lot of patients still suffered from active disease. In these years, new agents have been introduced in the markets which showed promising

results; this includes leflunomide and the biologics etanercept, infliximab, adalimumab and anakinra.

The price of biologics was very expensive and it is not possible for any society to fund every rheumatoid arthritis patients to use it. On the other hand leflunomide is even less expensive than traditional triple therapy include methotrexate, sulphasalazine and hydroxychloroquine. This study hope to provide preliminary experience in the use of leflunomide in our populations which mostly comprises of Chinese especially the side effects profile.

Objective To evaluate the side effects profile and the efficacy of leflunomide (new DMARD) in our Chinese population with rheumatoid arthritis

Methods This is a retrospective study, which include patients who satisfy the criteria of rheumatoid arthritis as defined by American College of Rheumatology criteria and was put on leflunomide since. The adverse events were documented during each follow-up and the efficacy was based on the patients' global feeling of improvement and assessment of joint tenderness & joint swelling by physicians, duration of morning stiffness and results of acute phase reactant include ESR and C-reactive protein. Other objective parameters like blood results of hemoglobin, platelet count, liver function test, renal function test and globulin were also measured.

Results There are a total of 59 patients who was put on leflunomide since the year of 2000 in 2 rheumatology clinics in our district, Caritas Medical Center and Princess Margaret hospital. Adverse events include skin rash, itchiness, elevated liver function tests, diarrhoea and alopecia etc were similar to patients in other countries. 4 patients were found to have pulmonary fibrosis but we cannot draw any conclusion whether the fibrosis was related to rheumatoid arthritis, leflunomide or previous DMARDs. Around 71% of patients showed benefit with the use of leflunomide with a mean of 3 DMARDs have tried before. ESR, CRP, morning stiffness, platelet counts were all decrease in patients who benefit whereas hemoglobin levels improved.

Conclusion Leflunomide is well tolerate in our Chinese populations with rheumatoid arthritis and most of our patients would benefit from it even they were refractory to other DMARDs. Most of the side effects were minimal and reversible upon withdrawal.

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