Abstracts of Dissertations

December 2020 Exit Assessment Exercise

A MULTI-CENTRE CASE SERIES AND REVIEW OF FABRY DISEASE IN HONG KONGTITLE

Dr Lee Sze Chai Arthur, Department of Medicine, Tseung Kwan O Hospital (December 2020 Cardiology Exit Assessment Exercise)

Abstract Fabry Disease is an X-linked lysosomal storage disease caused by mutations of the α-galactosidase A gene which leads to reduced or even absence of α-galactosidase A enzyme activity. This results in an inappropriate accumulation of glycolipids within cells throughout the body, causing multiorgan dysfunction. In Hong Kong, only a few case reports have been published on this rare disease and current studies are under progress by The Chinese University of Hong Kong. In this case series and review, we are going to report 13 cases of Fabry disease in Hong Kong (Patient 1-5 from Tseung Kwan O Hospital and patient 6-13 from Princess Margaret Hospital) together with a review of literature.

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A RETROSPECTIVE REVIEW ON THE CLINICAL CHARACTERISTICS AND TREATMENT EXPERIENCE OF PATIENTS WITH LITHIUM-INDUCED NEPHROGENIC DIABETES INSIPIDUS IN TWO REGIONAL HOSPITALS IN HONG KONG

Dr Lee Tsan Ning, Department of Medicine & Geriatrics, Tuen Mun Hospital (Dec 2020 Endocrinology, Diabetes and Metabolism Exit Assessment Exercise)

Background Lithium is a mood stabilizer for treatment of bipolar affective disorder. It is associated with multiple endocrinopathies. Lithium-induced nephrogenic diabetes insipidus (DI) is not an uncommon reason for referral to endocrine clinic. The data of epidemiology, clinical features, and treatment experience in this locality is lacking.

Objective To review the clinical characteristics, including the presentation, laboratory finding, and treatment experience in patients with lithium-induced nephrogenic DI.

Method This was a retrospective case series carried out in two regional hospitals in New Territories West, Hong Kong. Patients, who had been given lithium therapy for treatment of psychiatric disorder and developed lithium-induced nephrogenic DI, were recruited between January 1999 and June 2019.

Result Forty-nine patients were included in the analysis. Most patients presented with polyuria and polydipsia (81.6%) while some presented with lithium toxicity (16.4%). Lithium-induced nephrogenic DI was unmasked by infection, predominantly pneumonia, and surgical problems in majority of patients. Thirty-eight patients (77.6%) required out-patient pharmacological therapy while 11 patients (22.4%) did not require medical therapy. When clinical characteristics of these two group of patients were compared, those who required out-patient medical therapy had a longer duration of lithium treatment (median 128 months versus 56 months, $p = 0.047$), and a higher cumulative lithium dosage (median 2960g versus 1649g, $p=0.048$). There was no significant difference in age, gender, serum lithium level, and concomitant psychotropic medication between two groups. The mainstay therapeutic options in our patients included amiloride, hydrochlorothiazide, and a combination of both medications.

Conclusion Fluid balance and serum electrolytes should be closely monitored in patients on lithium therapy particularly during acute illnesses and perioperative period as these may unmask nephrogenic DI. There is lack of consensus in first-line pharmacological treatment.

Amiloride and thiazides are the mainstay therapeutic options. Amiloride has the advantage of directly blocking lithium uptake in renal tubules, therefore less likely to result in lithium toxicity. High dose desmopressin and non-steroidal anti-inflammatory drugs may be considered in selected patients.

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A TERRITORY-WIDE REAL-WORLD STUDY OF THE EFFICACY AND SAFETY OF DIRECT-ACTING ANTIVIRALS FOR CHRONIC HEPATITIS C PATIENTS IN HONG KONG

Dr Tong Ronald Kin Nam, Department of Medicine & Geriatrics, Caritas Medical Centre (Dec 2020 Gastroenterology & Hepatology Exit Assessment Exercise)

Introduction Limited real-world data exist for direct-acting antivirals (DAAs) in Hong Kong.

Objectives To study the treatment efficacy and safety of the six DAAs for patients with chronic hepatitis C virus infection in Hong Kong (HK).

Methods Data from patients treated with DAAs from February 2014 to April 2019 were retrieved from the database of the Hong Kong HCV Registry.

Results 713 patients were included. Baseline characteristics were median age 62 (interquartile range 54-68), cirrhosis (62.7%), compensated cirrhosis (53.2%), decompensated cirrhosis (9.5%), treatmentexperienced (32.1%), severe renal impairment (3.4%), history of hepatocellular carcinoma (HCC) (9.1%) and active HCC (2.5%). The genotype distribution was genotype 1 (66.5%), genotype 6 (24.0%) and genotype 3 (5.6%).

Overall sustained virological response (SVR) rate was 93.0%. Subgroup SVR rates were as follows: ritonavir-boosted paritaprevir, ombitasvir and dasabuvir +/- ribavirin (91.7%), sofosbuvir/ledipasvir +/- ribavirin (92.7%), daclatasvir/asunaprevir (93.3%), sofosbuvir/velpatasvir +/- ribavirin (93.3%), glecaprevir/pibrentasvir (93.1%), grazoprevir/elbasvir (97.6%), genotype 1 (93.2%), genotype 6 (92.4%), genotype 3 (92.5%), age >=65 (91.3%), treatment-experienced (95.2%), cirrhosis (91.7%), decompensated cirrhosis (83.8%), active HCC (77.8%) and severe renal impairment (83.3%). In multivariate analysis with logistic regression, active HCC (odds ratio (OR) 0.255; 95% CI 0.078-0.829, p = 0.023) and decompensated cirrhosis (OR 0.328; 95% CI 0.157-0.687, p = 0.003) were significantly associated with lower SVR rates. The commonest adverse events were fatigue (4.5%) and grade 3 or above bilirubin elevation (5.1%).

Conclusion The six DAAs were highly effective and safe. Active HCC and decompensated cirrhosis were significantly associated with lower SVR rates.

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IMPLEMENTING GERIATRICS CARE TO ELDERLY PATIENTS WITH FALL-RELATED HEAD INJURY IN A CONVALESCENT AND REHABILITATION HOSPITAL

Dr Cheng Shun Wai, Department of Medicine & Geriatrics, Shatin Hospital (Dec 2020 Geriatric Medicine Exit Assessment Exercise)

Background Integrated orthogeriatric co-care model has become the standard of care in hip fracture elderly patients. To date, similar integrated model of care has not been attempted in

elderly patients admitted with fall-related head injuries. This study aims to examine clinical, functional and rehabilitation outcomes in elderly patients with fall-related traumatic head injuries by comparing those enrolled to the Neurosurgical Geriatrics Co-care (NGC) model to those having neurosurgical care alone.

Methods In this retrospective review over an 18-month period, case notes of 91 patients (39 patients in pre-NGC group vs 52 patients in NGC group), translating into a total of 143 hospital admission episodes (70 episodes in pre-NGC group vs 73 episodes in NGC group), were reviewed and analyzed. Data on clinical, functional and rehabilitation outcomes at the convalescent and rehabilitation hospital were collected and calculated to see if implementation of the NGC model could improve such outcomes. Variables found to have a significant association with FGa and FGe were identified using univariate analysis. Multivariate regression analysis was performed to determine for independent association, hence predictor, of FGe.

Results 'Enrolment in the NGC model' ($p = 0.011$) and 'Serum albumin on admission' ($p = 0.008$) were found to have a significant positive association with FGe, whereas 'Number of AED attendance with falls in the past year' ($p = 0.040$) was found to have a significant negative association with FGe. With the geriatric liaison service, there was a significant reduction in the number of transfer back to the acute hospital ($N = 32$ vs $N = 17$, $p < 0.05$), greater number of Geriatric Day Hospital (GDH) referrals ($p = 0.004$) and single-discipline Allied Health Clinic referrals ($p = 0.045$) and more community support service referrals were made upon discharge. Comparing FIM on admission and discharge, more patients in the NGC model were able to improve their FIM score from the High to Moderate Disability category and from the Moderate to Low Disability category.

Conclusion This retrospective study has demonstrated the feasibility of implementing geriatrics co-care model with the neurosurgical specialty. Enrolment in the described NGC model has been shown to reduce transfer back to acute hospital, improve functional outcomes and strengthen post-discharge support for elderly patients admitted with falls-related head injury in a convalescent and rehabilitation hospital. This study helps to provide basis for future prospective studies to further assess the benefit of the NGC model.

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RETROSPECTIVE REVIEW ON RISK FACTORS, PRESENTATIONS AND OUTCOMES FOR BLOODSTREAM INFECTION WITH EXTENDED-SPECTRUM BETA-LACTAMASE (ESBL) PRODUCING ESCHERICHIA COLI (E. COLI) COMPARING TO NON-ESBL PRODUCING E. COLI IN OCTOGENARIANS ADMITTED TO A REGIONAL ACUTE HOSPITAL IN THE YEAR OF 2019

Dr Li Hao Ying Stephanie, Department of Medicine, Haven of Hope Hospital (Dec 2020 Geriatric Medicine Exit Assessment Exercise)

Background Extended-spectrum-beta-lactamase (ESBL) producing Escherichia coli (E. coli) bloodstream infection (BSI) is associated with adverse outcomes when compared with ESBL-negative E. coli BSI. It is prevalent in geriatric patients. Data focusing geriatric patients, in particular in octogenarians was scarce. Alertness of unique risk factors, presentations, and outcomes would allow prevention, early recognition, and prompt treatment.

Objective To compare the risk factors, clinical presentations, and outcomes between ESBL-positive(+) E. coli BSI and ESBL-negative(-) E. coli BSI in octogenarians.

Study design This retrospective review included geriatric patients aged 80 or above, admitted via Emergency Department, with positive blood culture of E. coli infection within 48 hours of admission in the year of 2019. They were grouped into ESBL(+)and ESBL(-) E. coli BSI. Risk factors, presentations, and outcomes including 30-day mortality, length of stay, and 30-day readmission rate were compared.

Results Among the 306 octogenarians with E. coli BSI, 99 (32.4%) of them were with ESBL(+) E. coli BSI. Independent risk factors of ESBL(+) E. coli BSI included nursing home residents (odds ratio [OR], 2.03; 95% confidence interval [CI], 1.07-3.86), use of immunosuppressant (OR, 6.41; 95% CI, 1.26-32.53), urolithiasis (OR, 2.18; 95% CI, 1.07-4.47), and chronic kidney disease (OR, 1.82; 95% CI, 1.03-3.23). The clinical presentations showed no statistical significance except the history on immobility and fall, with a lower portion in ESBL-positive group (ESBL(+): 6.1% vs ESBL(-): 18.4%, p=0.004). There was no significant differences in 30-day mortality (ESBL(+): 15.2% vs ESBL(-): 13.5%, p=0.70). For those who survived, there was statistical differences in the median length of stay in ESBL-positive group (ESBL(+): 15.5 days vs ESBL(-): 10 days, p=0.02), while there was no significant difference in 30-day readmission (ESBL(+): 21.4% vs ESBL(-): 27.7%, p=0.26).

Conclusion The unique risk factors in ESBL-positive E. coli group were identified. The clinical presentations of two groups was mostly similar. The 30-day mortality and 30-day readmission rate were comparable, while the length of stay was higher in ESBL(+) group with statistical significance. The similar 30-day mortality rates between two groups in the current review, differed from the findings of higher mortality rate in the ESBL-positive group in previous studies. The difference suggested that there are possible elements other than the ESBL status, such as frailty, which might have an impact on the outcomes of octogenarians suffering from E. coli septicemia. Future prospective study will be helpful to explore the effect of frailty on the outcomes of ESBL-positive E. coli BSI when comparing with the ESBL-negative E. coli BSI.

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LATE ONSET RECURRENT PNEUMONIA IN IRRADIATED NASOPHARYNGEAL CARCINOMA PATIENTS – A RETROSPECTIVE STUDY IN A REGIONAL HOSPITAL IN HONG KONG.

Dr Ho Hoi Lung, Department of Medicine, Alice Ho Miu Ling Nethersole Hospital (Dec 2020 Infectious Disease Exit Assessment Exercise)

Background Nasopharyngeal carcinoma (NPC) is common in Hong Kong. Recurrent pneumonia is a known late complication of radiotherapy in NPC patients, but there are limited studies concerning this condition. This study aims to describe the clinical characteristics and microbiology of pneumonia in irradiated NPC patients, and identify risk factors for recurrent pneumonia and predictors for pneumonia related mortality.

Methods A case-control study was conducted from August 2008 to August 2018 in a regional hospital in Hong Kong. Patients with more than one episode of hospitalized pneumonia were recruited as cases and those with one or no episode of pneumonia were recruited as controls. Patients' demographic data, comorbidities, NPC staging and treatment, clinical manifestation, investigations and the outcome of pneumonia were collected and analyzed.

Results A total of 70 cases and 143 controls are enrolled with a total of 420 episodes of pneumonia recorded. The most common bacteria isolated was Klebsiella pneumoniae (31.3%), followed by Staphylococcus aureus (24.1%) and Pseudomonas aeruginosa (22.9%). Advanced age and severe dysphagia were significant risk factors for recurrent pneumonia, with adjusted odds ratio of 3.959 (95% CI 1.111 – 14.112, p-value 0.034) and 13.853 (95% CI 2.261 - 84.897, p-value 0.004) respectively. Hypoxemia and confusion were significant predictors for pneumonia associated mortality with adjusted odds ratio of 4.141 (95% CI 1.562 – 10.974, p-value 0.004) and 3.772 (95% CI 1.237- 11.500, p value 0.020)

Conclusions Klebsiella pneumoniae is the most common pathogen in recurrent pneumonia in irradiated NPC patients, followed by Staphylococcus aureus and Pseudomonas aeruginosa. Advanced age and severe dysphagia are independent risk factors of recurrent pneumonia. Confusion and hypoxemia on admission are predictors of pneumonia associated mortality.

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A RETROSPECTIVE STUDY IN REGIONAL HOSPITAL CLUSTER IN HONG KONG ABOUT RISK FACTORS CAUSING ARTERIOVENOUS FISTULAS EARLY COMPLICATIONS AND DELAY MATURATION IN END STAGE RENAL FAILURE PATIENTS SWITCHING FROM PERITONEAL DIALYSIS TO HEMODIALYSIS

Dr Leung Ka Chun, Department of Medicine & Geriatrics, Pok Oi Hospital (Dec 2020 Nephrology Exit Assessment Exercise)

Abstract In Hong Kong, peritoneal dialysis (PD) is the first choice of end stage renal failure patients since the adaptation of the 'Peritoneal Dialysis First Policy'. In certain conditions, they will be recruited to receive arteriovenous fistula (AVF) creation operation and start chronic hemodialysis (HD). An observational, retrospective cohort study was conducted to analyze how different characteristics of chronic PD patients affect the AVF. Active smokers were found to have higher risk to develop AVF complications within 90 days since creation ($p = 0.02$). A history of smoking, including active smokers and ex-smokers, was related to earlier development of AVF complications ($p = 0.032$). CAPD related factors did not show any significant relationships with AVF complication and maturation in this study.

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PREVALENCE AND CLINICAL PREDICTORS OF ASPIRATION PNEUMONIA IN PARKINSON'S DISEASE PATIENTS IN HONG KONG

Dr Mew Yuen Ni, Department of Medicine & Geriatrics, United Christian Hospital (Dec 2020 Neurology Exit Assessment Exercise)

Introduction Aspiration pneumonia is the leading cause of death in Parkinson's Disease(PD). Local data in this aspect is lacking. We conducted a retrospective cross-sectional review on the prevalence of aspiration pneumonia in a local PD patients' cohort and evaluated the clinical characteristics predisposing to aspiration pneumonia.

Method We recruited 267 consecutive idiopathic Parkinson's Disease patients attending the Movement Disorder Clinic in a local hospital from January 2019 to January 2020, and retrospectively reviewed their clinical information from the Clinical Management System(CMS). Patients who had a prior hospitalisation for aspiration pneumonia were compared with those without. Details on demographics, PD disease severity, cognitive assessment, PD medications, psychiatric comorbidities and psychiatric medications, swallowing assessment, and management of aspiration pneumonia were obtained.

Results Mean age of this cohort was 70.59 years old (SD=9.75) and disease duration was 10.13 years (SD=5.28). 15 patients had hospitalisation for aspiration pneumonia contributing to a prevalence of 5.6%. Upon univariate analysis in all Hoehn and Yahr groups, patients with hospitalisation for aspiration pneumonia had older age (77.9 vs 70.15, p=0.002), higher H&Y stage (3.9 vs 2.79, p =0.001), higher UPDRS III score during ON phase (37.79 vs 21.3, p<0.001), lower MoCA score (13 vs 20.9, p=0.003), more use of antipsychotic (40% vs 11.5%, p=0.007) and more prior fall admissions (73.3% vs 32.9%, p=0.03) than those without aspiration pneumonia. In H&Y 4-5 patients, those with aspiration pneumonia also had a lower levodopa equivalent dose (571.91mg vs 834.91mg, p=0.039) in addition to a lower MoCA score (9.67 vs 18.03, p=0.005) than those without aspiration pneumonia. Multivariate analysis showed that a lower MoCA score was the only significant factor for aspiration pneumonia in all H&Y groups as well as in H&Y4-5 groups.

Conclusion Prevalence of hospitalisation for aspiration pneumonia was 5.6% in this cohort. We identified predictors for aspiration pneumonia. We recommend clinicians to be alert of these predictors and optimise their management to prevent aspiration pneumonia in PD.

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RISK FACTORS FOR KEY OUTCOMES FOR MOTOR NEURONE DISEASE- A SINGLE-CENTRE STUDY

Dr Se Hoi Yip, Department of Medicine & Geriatrics, Tuen Mun Hospital (Dec 2020 Neurology Exit Assessment Exercise)

Background Motor neurone disease is a degenerative disease that causes progressive weakness. Patients usually die of respiratory failure and other complications within 2 – 3 years despite best medical care. To date, there is no cure for the disease. There are well-established risk factors that predict clinical outcomes in the literature, but local studies regarding the disease's prognosis and outcomes are lacking.

Method Patients diagnosed with motor neurone disease in a local hospital during the period Jan 2008 – Dec 2017 were retrospectively reviewed. Key outcomes such as survival, assisted ventilation, and potential factors that could affect them were collected. Descriptive analysis was performed for demographic data and patient outcomes. Kaplan-Meier survival curves were plotted for various independent variables, and Cox regression model was used for multi-variate analysis.

Results A total of 126 patients were included. The mean age at symptom onset was 55.3 ± 11.6 years and the male-to-female ratio was 1.8:1, the median duration from onset of symptom to diagnosis was 10 months, and the median survival from symptom onset was 27 months. In multi-variate analysis, diagnostic delay (HR 0.96; 95% CI 0.95 – 0.98; P <0.01) and use of riluzole (HR 0.49; 95% CI 0.31 – 0.78; P < 0.01) were associated with a longer survival. Older age at disease onset was associated with shorter duration of survival (HR 1.02; 95% CI 1.00 – 1.04; P = 0.05). Use of assisted ventilation was predictive of a shorter interval from symptom onset to non-oral means of feeding (HR 1.93, 95% CI 1.16 – 3.23, P = 0.01); while use of non-oral feeding was also predictive of earlier need for assisted ventilation (HR 2.13, 95% CI 1.30 – 3.47, P < 0.01).

Conclusion In this study, diagnostic delay and use of riluzole were associated with longer survival, while older age at onset of symptom predicted shorter survival. These findings were consistent with data published in the literature. A multi-disciplinary approach to management of motor neurone disease with knowledge of these findings could be beneficial to patients with motor neurone disease.

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A RETROSPECTIVE REVIEW ON CLINICAL CHARACTERISTICS AND THE IMPACT OF INTEGRATED CLINIC ON PATIENTS WITH MOTOR NEURON DISEASE IN REGIONAL HOSPITALS IN HONG KONG

Dr Siu Long Hei, Department of Medicine & Geriatrics, Caritas Medical Centre (Dec 2020 Neurology Exit Assessment Exercise)

Background Motor neuron disease is a rare neurodegenerative disease with heterogenous clinical presentation and disease progression. Multidisciplinary care has been shown to extend survival, reduce unplanned hospitalization and improve patients' quality of life. However, local clinical data on its efficacy is lacking.

Methods This was a retrospective observational study of patients with motor neuron

disease who had been managed in the public hospitals in the Kowloon West Cluster from Oct 2014 to Sep 2019. The clinical features, treatment and survival were examined. Comparison was made between the patients attending integrated MND clinic and general neurology clinics.

Results A total of 69 patients with the diagnosis of motor neuron disease were recruited. The median age was 58.7 years at diagnosis. The annual incidence was 0.526/100,000/ year and the point prevalence as at Sep 2019 was 1.387/100,000. Younger age at onset and delay in diagnosis were favourable prognostic factors. Compared to patients attending the general neurology clinic, patients attending the integrated MND clinic were more likely to sign the advance directive (62.5% vs 24.5%). Higher rate of elective NIPPV initiation (80% vs 30% of all NIPPV initiation) and less unplanned intubation (0% vs 22.2%) were also found. They also had a lower annual mean number of hospitalization (0.88 vs 2.52) and shorter annual mean length of hospital stay (22.3 days vs 34.2 days). A trend towards longer median survival was observed in integrated MND clinic patients (36.5 months vs 32.0 months).

Conclusion Integrated MND clinic was associated with higher rate of elective NIPPV initiation, fewer hospital admissions, shorter length of stay and fewer unplanned intubation.

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APPLICABILITY OF HEMORRHAGIC TRANSFORMATION PREDICTING TOOLS IN PREDICTING POST-TPA SYMPTOMATIC INTRACRANIAL HAEMORRHAGE IN LOCAL PATIENTS

Dr Wong Yu Wai, Department of Medicine, Tseung Kwan O Hospital (Dec 2020 Neurology Exit Assessment Exercise)

Abstract The administration of intravenous (IV) thrombolytic therapy within the therapeutic window is the standard of treatment of acute ischemic stroke. A significant number of patients suffered from symptomatic intracranial haemorrhage (SICH) after IV thrombolytic treatment. Poor functional outcomes and even death could be related to SICH after IV thrombolytic therapy. Factors including elderly, Asian ethnicity, male gender, and large infarct on presentation are related to high hemorrhagic transformation rates. Multiple risks predicting tools were developed based on the patient characteristic to predict the accurate haemorrhage transformation rate.

In the present retrospective study, patients of Kowloon Easter Custer in Hong Kong received intravenous (IV) thrombolytic therapy treatment after acute ischemic stroke were identified. Three risk predicting scores, the Hemorrhage After Thrombolytic therapy (HAT) score, the Glucose Race Age Sex Pressure Stroke Severity (GRASPS) score, and the Safe Implementation of Thrombolytic therapy in Stroke (SITS-SICH) score, were applied and calculated on each patient. The respective scores were evaluated to justify the applicability to local patients. The GRASPS score had a moderate performance. The HAT score and SITS-SICH did not perform well.

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FEASIBILITY STUDY OF ADJUNCTIVE BRIGHT LIGHT THERAPY FOR AMELIORATION OF FATIGUE IN CHINESE CANCER PATIENTS ADMITTED TO A PALLIATIVE CARE UNIT

Dr Tang Heng Joshua, Department of Medicine & Geriatrics, Shatin Hospital (Dec 2020 Palliative Medicine Exit Assessment Exercise)

Background Cancer-related fatigue (CRF) is prevalent in patients with advanced cancer. Preliminary evidence found that bright light therapy (BLT) might be an effective treatment for CRF in cancer patients but further testing on its feasibility on implementation to the in-patient palliative care unit is needed.

Method Bright light therapy was delivered via a light box with 10000 lux bright white light for 30-minutes daily in the morning for seven days. Patients' acceptance rate, attrition rate and adverse event rates were measured. Clinical outcomes before and after treatment were assessed by Brief Fatigue Inventory (BFI), Pittsburgh Sleep Quality Index (PSQI), Hospital Anxiety Depression Scale (HADS) and McGill Quality of Life Questionnaire-Hong Kong (MQOL-HK). Adverse events were monitored by the adverse event checklist (AEC).

Results The response rate was very high at 86.7%. A total of 158 sessions of BLT were delivered to 25 patients. Post-treatment improvement was seen in BFI, HADS, physical, psychological subscale and single item score of MQOL-HK, and also total score of MQOL-HK. The attrition rate was 20%. No patient dropout due to treatment-emergent adverse events.

Conclusion This feasibility study on 1-week adjunctive bright light therapy for hospitalised patients with cancer-related fatigue in the palliative care unit found that BLT is a feasible treatment in terms of patient acceptance, adverse effect profile, implementation and practicality. Descriptive data on the clinical outcomes showed no evidence of harm to the patients.

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PROSPECTIVE STUDY OF QUALITY OF LIFE IN PATIENTS WITH METASTATIC CANCER ADMITTED TO A PALLIATIVE CARE UNIT IN HONG KONG

Dr Li Kevin Chi To, Department of Medicine & Geriatrics, Shatin Hospital (Dec 2020 Palliative Medicine Exit Assessment Exercise)

Background Physical symptoms and psycho-social burdens are common in patients with metastatic cancer and the significant impact on their quality of life. A previous study by Cohen et al.8 in 2006, documented a significant improvement in the McGill Quality of Life Total Score after one week's support from a Palliative Care Team. With the advancement of palliative care in Hong Kong, evaluating the performance and understanding the patients' needs in our unit can benefit and guide future development. Therefore, this study aims to investigate the changes in the quality of life and the factors associated with such changes after admission to the Shatin Hospital Palliative Care Unit in Hong Kong.

Objectives To examine: (i) changes in the quality of life after 14 days of admission to the Palliative Care Unit of Shatin Hospital, using the McGill Quality of Life Questionnaire Hong Kong (MQOL-HK), and (ii) how physical, psycho-spiritual symptoms and socio-economic variables are related to the changes of quality of life after 14 days of admission to our palliative care unit.

Method Consecutive cancer patients admitted to the palliative care unit of Shatin Hospital were invited to participate in the study within 48 hours of admittance.

Eligible patients were invited with informed consent to complete the McGill Quality of Life Questionnaire Hong Kong (MQOL-HK), the Hospital Depression and Anxiety Scale (HADS), and the Chinese Edmonton Symptom Assessment System (C-ESAS). The assessment was repeated after 14 days. Demographic profiles of the patients were also collected for the investigation.

Results A total of 95 patients were recruited into the study. Of these, 62 patients completed two sets of questionnaires for analysis. The participants' mean and median ages were 65.6 (SD 10.3) years and 64 (IQR 59-73) years, respectively, and 59.7% of the samples were male. The MQOL-HK Total mean score was significantly improved from a median of 7.0 (IQR 6.1-7.9) to 7.4 (IQR 6.7-8.3) ($p \leq 0.001$). The MQOL-Single Item Score (SIS) mean score also improved significantly from a mean of 5.7 (SD 2.2) to 6.2 (SD 1.9) ($p = 0.04$). Based on the C-ESAS, pain and anxiety symptoms both improved significantly after admission. The HADS-

Depression and HADS-Total scores also improved significantly. Significant correlations were observed between the change in the MQOL-HK Total and the changes of the: (i) HADS-Total ($r = -0.510$, $p < 0.001$), (ii) HADS-Depression ($r = -0.398$, $p = 0.001$), and (iii) HADS-Anxiety ($r = -0.445$, $p < 0.001$), and (iv) C-ESAS ($r = -0.449$, $p < 0.001$). Demographic variables were not associated with the change in the MQOL-HK Total, except for income status and living environment.

Conclusion There were improvements in the physical, psycho-spiritual symptoms, and the quality of life after two weeks of admission to a palliative care ward. Improvement in the HADS-Total, HADS-Depression, HADS-Anxiety, and C-ESAS scores were found to be associated with betterment in the quality of life. A comprehensive palliative care service can enhance improvements in the quality of life for patients admitted to palliative care services.

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TO STUDY THE LONG-TERM EFFECTS OF A COMPREHENSIVE CARDIAC REHABILITATION PROGRAMME IN PATIENTS WITH CORONARY ARTERY DISEASE (CAD) AFTER PERCUTANEOUS CORONARY INTERVENTION (PCI) IN A REGIONAL REHABILITATION CENTRE IN HONG KONG

Dr Lui Wai Cheung, Department of Medicine & Geriatrics, Tuen Mun Hospital (Dec 2020 Rehabilitation Exit Assessment Exercise)

Background Overseas studies have demonstrated the effectiveness of cardiac rehabilitation programmes in reducing mortality and other major adverse cardiac events in patients with coronary heart disease (CAD). However, patient characteristics and models of cardiac rehabilitation programme varies between localities and may lead to differences in effects. There was a lack of local data with reference to this. The current study aimed to evaluate the long-term outcomes of a comprehensive cardiac rehabilitation programme (CRP) in patients with CAD after receiving percutaneous coronary intervention (PCI) in Hong Kong.

Methods A retrospective study was performed in a cohort of Hong Kong Chinese CAD patients with PCI who had completed a comprehensive cardiac rehabilitation programme (CRP) during 2004-2010. Recruited samples was matched in a 1:2 ratio to similar patients who did not undergo CRP. The data on mortality, major adverse cardiac events including non-fatal myocardial infarction (MI), revascularizations (coronary artery bypass graft surgery CABG, or PCI), hospitalizations, and risk factor control were collected and compared. CRP completion, age at index PCI, sex, indication of PCI, comorbidities and use of medications were used to predict mortality and survival.

Results A total of 183 patients who had completed CRP after receiving PCI during the study period were compared to 366 patients in the non-CRP group. For the primary outcome of all-cause mortality during a median follow up of 12.4 years (interquartile range 9.7 to 14.0 years), there were 40 deaths (21.9%) in the CRP group and 132 deaths (36.1%) in the non-CRP group. This corresponded to a relative risk reduction of 39.3% (95%CI 17.7% - 55.4%) and an absolute risk reduction of 14.2% (95%CI 6.5% - 22.0%). There was also significant reduction in cardiovascular (CV)-related mortality in the CRP group ($p=0.004$). The reduction in all-cause and CV-related mortality in the CRP group were statistically significant at all time points, i.e. in 3, 5, 10 years and till the end of study. After controlling for the covariates, the CRP group was associated with lower all-cause mortality (Adjusted odds ratio 0.46, 95%CI 0.27 - 0.78, $p=0.004$) in the logistic regression analysis and a lower risk of death (adjusted hazard ratio 0.63, 95%CI 0.44 - 0.91, $p=0.014$) in survival analysis. The CRP group also showed a significant reduction in mean low-density lipoprotein cholesterol (LDL) and fasting glucose (FG) level after completion of CRP, compared with the pre-CRP values and the non-CRP group. A significant higher percentage of patients in CRP group were able to achieve the contemporary LDL target. Most CRP participants (88.5%) were able to achieve a significant increase in exercise capacity by 1.72 (SD 1.27) METS or 36.6% (SD 31.1%) from the baseline VO2 peak ($p<0.001$). For adverse events, only one patient in the CRP group experienced vasovagal attack during the training

without subsequent sequalae.

Conclusions Completion of a comprehensive cardiac rehabilitation programme after PCI was associated with significant long-term reduction in all-cause and CV-related mortality in Hong Kong Chinese patients with CAD

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THE EFFECT OF LAPAROSCOPIC SLEEVE GASTRECTOMY IN SEVERELY/MORBIDLY OBESE CHINESE PATIENTS WITH OBSTRUCTIVE SLEEP APNOEA- A LOCAL STUDY

Dr Le An Emmanuel, Department of Tuberculosis & Chest, Wong Tai Sin Hospital (Dec 2020 Respiratory Medicine Exit Assessment Exercise)

Objective To investigate the effects of bariatric surgery in severely/morbidly obese Chinese patients with obstructive sleep apnea (OSA) with regard to reduction of OSA severity, continuous positive airways pressure (CPAP) requirement, de-escalation of treatment modalities and metabolic parameters.

Design A retrospective, observational cohort study from a local community hospital.

Subjects Subjects, aged between 18 and 65 years old, were recruited from Yan Chai Hospital, Hong Kong following bariatric surgery performed between the 1st January 2016 to 28th February 2019.

Methods Demographic and anthropometric indices, metabolic profile and the CPAP pressure were collected. Polysomnography was performed before the recruitment. Presence of OSA was defined as apnea–hypopnea index (AHI) ≥ 5 event.h-1. Surgical candidates were recruited from Yan Chai Hospital, Department of Surgery. CPAP titration postoperatively were performed and, in some cases, with polysomnography (PSG) at Wong Tai Sin Hospital, Hong Kong.

Results Thirty-eight patients were studied with a follow up for at least 1 year after surgery. As primary endpoints, the mean CPAP pressure P90% significantly decreased from 13.86±3.39 to 9.92±3.23 cmH20 ($n=38$, $p<0.05$). The mean body weight was reduced from 113.47±20.31 to 81.12±15.59 kg ($n=38$, $p<0.05$).
As secondary endpoints, there was a significant reduction of AHI from 54.67±26.21 to 21.17±18.13 events·h-1 ($n=15$,$p<0.05$), and significant improvement in HbA1c, HDL-cholesterol and triglyceride ($p<0.05$).

Conclusion Bariatric surgery in severely/morbidly obese Chinese patients with OSA leads to a significant weight loss associated with significant reduction in OSA severity and CPAP pressure requirement. Improvement of the metabolic indices at 1 year was also observed.

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ABILITY OF HONG KONG COPD PATIENTS TO INHALE DRY POWDER INHALER

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Introduction To ensure adequate medication deposition into the lower respiratory tract, correct inhaler technique are essential for dry powder inhaler (DPI) use in chronic obstructive pulmonary disease (COPD) patients.

Objectives To assess the ability of Hong Kong COPD patients in correctly using 2 types of DPI (Genuair®, Ellipta®) and pressurized metered dose inhaler (pMDI)
To identify factors associated with the success (without critical errors) in using 2 types of DPI

Methods This was a cross-sectional, single-centre, observational study. Nine-eight Hong Kong Chinese COPD patients were included in the study. Peak inspiratory flow rate (PIFR) against the simulated resistance of Genuair® and Ellipta® were measured by In-Check DIAL G16. Abbreviated mental test (AMT) was performed to assess cognitive impairment. Standardized training on proper use of DPIs and pMDI were given and the inhaler techniques of the three devices were tested.

Results Nine-eight patients (mean age 75±9.6 years) were enrolled, majority being male (79.6%) with GOLD group D (84.7%). Fewer patients had inhaler technique errors when using DPI as compared to pMDI (Genuair®=39.8%, Ellipta®=21.4%, pMDI=65.3%). The commonest critical error of using DPIs was failure to breathe in deeply (28.6% for Genuair® and 7.1% for Ellipta®), whilst the commonest critical error of using pMDI was poor coordination (51%). Successful use of both DPI was significantly associated with higher PIFR (51.4 vs 33.0 L/min, $p<0.001$ for Genuair®, 53.7 vs 38.1 L/min, $p=0.003$ for Ellipta®), higher AMT score (9 vs 8.5, $p=0.004$ for Genuair®, 9 vs 7.5, $p=0.004$ for Ellipta®) and less illiterate patients (10.3% vs 43.3%, $p<0.001$ for Genuair®, 17.8% vs 50%, $p=0.03$ for Ellipta®)

Conclusion COPD patients with higher PIFR, higher AMT score and higher education level were more likely to successfully inhale DPI Genuair® and Ellipta®.

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