

impairment are high in the elderly. However, the relationship between cognitive function, osteoporosis and fracture risk remains unclear. The aim of our study is to investigate the association among cognitive function, low bone mineral density and estimated fracture risks in the elderly inpatients. Method : Patients aged more than 65 years old were enrolled from 2008 to 2010 if they were hospitalized with osteoporosis or osteopenia, detected by dual-energy x-ray absorptiometry. The medication, history of fracture and frequency of fall in past one year were also collected. We did comprehensive geriatric assessment, in which cognitive function was assessed by Mini-Mental State Examination, 10-year major osteoporotic fracture risks were calculated by an international fracture risk assessment tool (FRAX). Results : In totally 117 subjects (70 male, age  $81 \pm 6$  years), mean MMSE score was  $22 \pm 6$  points, and the average FRAX for 10-year hip fracture risk was  $9.4 \pm 8.5\%$ , the mean bone mineral density (BMD) of femoral neck was  $0.693 \pm 0.146$  Kg/m<sup>2</sup>. There was a significantly negative correlation between MMSE score and osteoporotic fracture risk ( $r = -0.343$ ,  $p = 0.001$ ). By using multivariate regression analysis, MMSE score was negatively correlated with major osteoporotic fracture risk ( $p = 0.041$ ) and hip fracture risk ( $p = 0.04$ ) after adjustment of age, sex, body mass index (Kg/m<sup>2</sup>), previous fracture, fall episode, activity of daily living, nutrition and associated chronic diseases. Moreover, the association was more significant in female than in male. Conclusion : In geriatric inpatients with low BMD, cognitive function is negatively correlated with 10-year fracture risk and this relationship is more significant among the female. Keywords : elderly, cognition, osteoporosis, osteopenia, fracture risk, BMD

#### PP25 C-029

##### **CORRELATION OF DAILY URINARY CALCIUM EXCRETION WITH SPOT URINARY CALCIUM TO CREATININE RATIO: A POSSIBLE INSIGHT FOR RAPID EVALUATION**

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Introduction : It is difficult to collect 24 h urine for the patients from all ages. Elderly usually have more difficulty in collecting daily urine due to possible urinary incontinence, cognitive impairment, functional impairments and comorbidities. However, calcium and vitamin D supplementation is essential part of management of osteoporosis and related fractures which requires serial follow-up of daily urinary calcium excretion. We aimed to study whether spot urinary calcium/creatinine ratio could be used as a predictor of 24-h urinary calcium excretion in patients having difficulty in collecting 24 h urine sample. Method : The community dwelling elderly  $\geq 60$  years of age admitted to our geriatrics outpatient clinics were included into the study. All patients were given written information to learn how to collect 24 h urine. After collection of daily urine, patients are asked to give a portion of urine after their breakfast. From each sample urinary calcium and creatinine concentrations were calculated and 24 h urine volume were noted. The correlation between spot urinary calcium/creatinine ratio and 24-h daily calcium excretion was studied. Results : 70 elderly were included into the study. 15.7% were male, 84.3% were females. Mean age was  $73.5 \pm 6.9$ . The mean 24-h urinary calcium excretion was  $110 \pm 95$  mg. There was a strong and significant correlation between spot urinary calcium/creatinine ratio and 24-h daily calcium excretion ( $p < 0.05$ ,  $r = 0.67$ ,  $r^2 = 0.48$ ). Conclusion : We suggest that in elderly having difficulty in collecting 24 h urine

sample, the spot urinary calcium/creatinine ratio yielded from morning urine following breakfast can be used to predict 24 h urinary calcium excretion. Keywords : Calciuria, daily

#### PP25 C-030

##### **DECLINE OF VITAMIN D STATUS IN OLDER MEN IN BEIJING AND IT'S ASSOCIATION WITH BONE TURNOVER MARKERS**

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Introduction : Vitamin D deficiency is common among older people and can cause mineralization defects, bone loss. The aim of this study was to investigate the serum Vitamin D status and relationships between serum 25OHD concentration and parathyroid hormone (PTH) of old men in Beijing region. Method : This was a cross-sectional analysis of baseline data in 564 elderly Chinese men, mean age  $73.7 \pm 8.5$  yr. The participants were divided into 3 age groups, old group1 ( $\geq 60$ -70 years group), old group2 ( $\geq 70$ -80 years group), old group3 ( $\geq 80$  years group). The level of serum 25(OH)D<sub>3</sub>, PTH, BGP,  $\beta$ -CTX, PINP was measured by direct competitive electroluminescent immunoassay from May to June in 2010. The relationship between 25OHD, PTH, and serum BGP And serum  $\beta$ -CTX was evaluated. Results : 1. The 25(OH)D<sub>3</sub> of total old men was  $14.57 \pm 5.95$  ng/ml, which indicated to be vitamin D deficiency. The level of PTH, BGP,  $\beta$ -CTX, PINP were  $34.85 \pm 12.23$  pg/ml,  $13.49 \pm 4.81$  ng/ml,  $0.30 \pm 0.15$  ng/ml,  $39.13 \pm 16.51$  ng/ml, individually. 2. The prevalence of vitamin D severe deficiency, deficiency, insufficiency and sufficiency were 23.4% (132/564), 56.6% (319/564), 18.4% (104/564), 1.6% (9/564) of the total people. 3. Serum 25(OH)D<sub>3</sub> was inversely correlated with Serum PTH ( $r = -0.240$ ,  $p = 0.000$ ), threshold as defined by suppression of serum PTH was found within the serum 25(OH)D<sub>3</sub> range 9.8-15.6 ng/ml. Serum 25(OH)D<sub>3</sub> was weakly inversely correlated with Serum BGP ( $r = -0.080$ ,  $p = 0.034$ ). Conclusion : Vitamin D deficiency is highly prevalent among healthy Beijing old men. Bone turnover markers were not useful biomarkers of vitamin D status. Keywords : serum 25hydroxyvitamin D; bone turnover markers

#### PP25 C-031

##### **A HOSPITAL-BASED MULTIDISCIPLINARY APPROACH REDUCES ALL-CAUSE MORTALITY IN THE ELDERLY LIVING IN LONG-TERM CARE FACILITIES IN TAIWAN**

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Introduction : To find effective care model for mortality reduce in the elderly is important. In this study, we aimed to assess the effect of a hospital-based multidisciplinary approach on the all-cause mortality in the elderly. Method : A baseline cohort of 374 elderly people (mean  $\pm$  S.D. age =  $78.8 \pm 7.2$  years) living in eight long-term care facilities in Taiwan were recruited from 2002-2003. The subjects were divided into two groups using randomized block design; a hospital-based multidisciplinary team was responsible for the care of the intervention group, and the control group received usual care for 6 months. Cox proportional hazard regression analyses were adopted to evaluate the relative risks (RRs) of all-cause death. Taiwan's Department of Health provided the mortality data. Results : After 6 months of intervention,

83 subjects in the intervention group and 182 subjects in the control group had completed the study. There were 151 deaths during a 5-year follow-up period. After adjustment for age, gender, body mass index, albumin, total cholesterol, high-density lipoprotein cholesterol, triglycerides, and glucose level, compared to subjects in the control group, the adjusted relative risk (95% CI) of all-cause mortality among subjects in the intervention group subjects were 0.64 (0.42-0.97). For those subjects completed 6 months intervention, the adjusted RR was 0.52(0.32-0.86). The result did not differ when excluding those who died within 6 months. Conclusion : A hospital-based multidisciplinary care effectively reduced all-cause mortality in the elderly living in long-term care facilities in Taiwan. Keywords : hospital-based, multidisciplinary care, mortality

#### PP25 C-032

##### **GENERAL OBESITY ASSOCIATED WITH INCREASED RISK OF GASTRIC HELICOBACTER PYLORI INFECTION IN A CHINESE ELDERLY POPULATION**

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Introduction : Obesity and Helicobacter pylori (H. pylori) infection are prevalent and play a role in diseases of several systems. Previous studies demonstrated inconsistent results on the relationship between obesity and gastric H. pylori infection. However, there was no study on their relationship in the elderly. Therefore, the aim of this study was to investigate the association between obesity and gastric H. pylori infection in a Chinese elderly population. Method : We enrolled 3,664 elderly subjects who received physical check-up in the National Cheng Kung University Hospital from 2000 to 2009. Biopsy was performed in 496 out of subjects who underwent esophagogastroduodenoscopy. Finally, 324 subjects were available for analysis after exclusion criteria consisting of gastric cancer, prior upper gastrointestinal tract surgery, prior H. pylori eradication therapy and use of non-steroidal anti-inflammatory drugs. H. pylori infection was defined as H. pylori present in samples of gastric biopsy. Obesity was defined as body mass index  $\geq 27$  Kg/m<sup>2</sup>. Results : The prevalence of obesity was 28.6 and 19.0% in subjects with and without gastric H. pylori infection ( $p=0.047$ ). Subjects with H. pylori infection had lower estimated glomerular filtration rate (eGFR) and higher prevalence of current smoking and alcohol use than subjects without H. pylori infection. Multivariate analysis showed that obesity was positively associated with H. pylori infection (odds ratio 1.89,  $p=0.037$ ), in addition to current smoking while reversely associated with age $\geq 65$  years and eGFR. Conclusion : Obesity was associated with increased risk of gastric H. pylori infection in the elderly. Keywords : Obesity, Helicobacter pylori

#### PP25 C-033

##### **USEFULNESS OF TRANSNASAL ESOPHAGOGASTRO-DUODENOSCOPY FOR THE ELDERLY OVER 65 YEARS OLD**

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Background: To expand their lives it is a trend amongst the elderly to take regular medical check ups. The gastroscopy for seniors is not different from the one used for middle aged people, but the conscious sedative gastroscopy is taken very carefully considering their age and the lack of anaesthetics. So the transoral endoscopy or upper GI series

is recommended. As a result, we recently surveyed the satisfaction and preference for the future use of the endoscopy on elders aged above 65 who took transnasal EGD without the use of sedatives. Subjects: 185 seniors (Men: 75, woman: 110) out of 187 over 65 who have been examined by use of transnasal EGD with gastroenteric symptoms and health check ups in the clinic for the period from January 1 ~ September 11, 2008. Methods: We researched the ratio of satisfaction and the preferred method of endoscopy for future choice by use of a telephone questionnaire from 114 patients responding to it. Results: Very satisfied (20.2%), satisfied (65.8%), neutral (11.4%), dissatisfied (2.6%). With regards to preference for the conscious sedative gastroscopy (0.9%), transoral gastroscopy (2.6%) and, transnasal EGD(96.5%). Failure by use of this examination was 2 out of 187. This gives a ratio of success of 99.0%. Conclusions: The diagnostic transnasal EGD practiced safely and without the use of sedatives, is the preferred choice over the more conventional ways. Especially taking into consideration the increase of the elderly population and promotion of it by nursing care hospital. Keywords : Transnasal endoscopy, Over 65 Years Old, Patients' satisfaction

#### PP25 C-034

##### **FACTORS RELATED TO SHORTENING OF TELOMERES IN ESOPHAGEAL EPITHELIUM**

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Introduction : Telomeres are repetitive G-rich DNA sequences found at the ends of chromosomes. They generally shorten with each normal somatic cell division due to incomplete replication of telomere repeats during DNA synthesis, the so-called end-replication problem. Telomere shortening occurs with human aging in many organs and tissues, and is accelerated by exposure to various stressors. It may also promote genetic instability and increase the risk of malignancy. Chromosomal and genomic instability due to telomere dysfunction plays an important role in carcinogenesis. We have developed the Q-FISH method using tissue sections to determine the telomere to centromere ratio (NTCR), in order to measure telomere lengths in distinct cells or cell-groups. We have also determined telomere length in many human organs. Method : In the present study, we compared the telomeres in normal esophageal epithelia (10 younger individuals, average age 2.4 yr; 24 age-matched individuals, average age 73.3 yr), epithelia adjacent to CIS (17 individuals, average age 68.3 yr) and biopsied epithelia from 26 alcoholic patients with distinct iodine-unstained lesions (DIULs; frequent site of esophageal carcinoma)(average age 61.2 yr). Results : In all groups, we found that basal cells had longer telomeres than parabasal cells. Among normal individuals, those who were younger had significantly longer telomeres than the age-matched subgroup. Telomeres in esophageal epithelium adjacent to CIS and those in alcoholics showed no significant difference in length, but both were significantly shorter than in age-matched controls. Conclusion : Therefore, aging shortens telomeres in esophageal epithelium, and precancerous conditions and/or alcohol intake accelerate telomere shortening and cause chromosomal instability. Keywords : telomere, Q-FISH, chromosomal instability

#### PP25 C-035

##### **THE RELATIONSHIP BETWEEN TEA DRINKING AND EROSIIVE ESOPHAGITIS IN AN ELDERLY TAIWANESE**