

**SP1-31 PLASMA FIBRINOGEN LEVEL AND MYOCARDIAL INFARCTION IN THE RURAL JAPANESE POPULATION: THE JMS COHORT STUDY**

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**Background** Plasma fibrinogen, which is an inflammation marker, is known as a risk factor for myocardial infarction among Caucasians. However there is only one study examined among Japanese, which recruited from urban area. We examined the relation between plasma fibrinogen level and myocardial infarction by using data of JMS cohort that the participants were rural Japanese.

**Methods** Study subjects were 6899 participants (2645 men and 4254 women) who were free of myocardial infarction, and fibrinogen level was measured in the JMS cohort study. The samples were taken between 1992 and 1995 in 12 rural areas in Japan. Cox's proportional hazard model was used to calculate the HR of myocardial infarction.

**Results** The average period of follow-up was  $10.7 \pm 2.3$  years. Mean age was  $54.7 \pm 13.4$  years in men and  $55.0 \pm 12.5$  years in women. Plasma fibrinogen concentration and body mass index were significantly higher in women. The RR of myocardial infarction in the higher tertile of fibrinogen concentration was significantly higher than that in the lower tertile, after adjustment for age in men (lower vs higher tertile; HR 2.6), but not significant association was seen in women. However, even in men after adjustment for age, systolic blood pressure and smoking, the association was not significantly (lower vs higher tertile; HR 2.5).

**Conclusion** Our data suggest that in Japanese rural residents, high fibrinogen concentration elevated risk of myocardial infarction men, but that there is no tendency between plasma fibrinogen level and myocardial infarction in women.

**SP1-32 THE EPIDEMIOLOGIC STUDY OF THE PREVALENCE AND ASSOCIATED FACTORS OF METABOLIC SYNDROME AMONG HOSPITAL STAFF**

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**Introduction** Metabolic syndrome is a cluster of cardiovascular risk factors. From the viewpoint of preventive medicine, it is essential for early diagnosis and appropriate treatment to subjects with metabolic syndrome. The objective in this study is to explore the prevalence and associated risk factors of metabolic syndrome among hospital staff based on the health examination.

**Methods** Based on the cross-sectional study design, the database of the health examination of the workers in a medical center on the northern Taiwan is analysed. The definition of metabolic syndrome is according to the criteria proposed by Department of Health in 2007, Taiwan. Due to the limitation of the examination, the total cholesterol is used to replace the HDL-C value.

**Results** The prevalence of metabolic syndrome is 16.3% (24.8% in male and 11.7% in female) among 1203 screened subjects. The highest proportion of abnormal index of metabolic syndrome is central obesity combined with higher blood pressure and total cholesterol. Based on the multinomial logistic regression, the significant factors related to 1–2 abnormal index of metabolic

syndrome include gender (male vs female, OR 1.85, 95% CI 1.31 to 1.47), age (OR 1.04, 95% CI 1.02 to 1.06) and obesity (OR=1.39, 95% CI 1.31 to 1.47). In addition, the significant factors related to 3–5 abnormal index of metabolic syndrome also include gender (male vs female, OR 2.08, 95% CI 1.28 to 3.45), age (OR 1.12, 95% CI 1.09 to 1.14) and obesity (OR 1.73, 95% CI 1.60 to 1.87).

**Conclusion** To promote the health promoting hospital, the priority of metabolic syndrome prevention is controlled waist circumference and body weight.

**SP1-33 CHANGES IN HEALTH RELATED QUALITY OF LIFE AFTER HIP OR WRIST FRACTURES DUE TO FALLS IN ELDERLY PEOPLE**

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**Introduction** Falls with fractures in elderly people are common situations. Wrist and hip fractures are the most common or severe respectively. The goal of this study was to determine the Health Related Quality of Life (HRQoL) evolution, and which clinical and social factors predict its change after those fractures, by measuring HRQoL by the SF-12 questionnaire.

**Methods** Patients older than 65 years who attended the emergency room (ER) of seven acute hospitals with a hip or wrist fracture due to a fortuity fall were recruited. Patients fulfilled the SF-12 questionnaire at the time of the fall, as how they were before the fall, and 6 months later, as well as some other questions on socio-demographic issues. Clinical parameters from the ER and admission to the hospital were also recorded. Univariate and multivariate regression analysis were performed, considering the changes on the physical component score (PCS) domain of the SF-12 as dependent variable.

**Results** Analysis of our data with a recruitment of 343 hip and 412 wrist fracture patients showed an important decline in PCS (hip:10.8; wrist:8.9) at 6 months after the fracture. Older patients and lower socioeconomic status were those with greater worsening on PCS on hip fracture, after adjusting by baseline scores. On wrist fractures, older patients, women and not having social support were predictors of greater worsening.

**Conclusion** HRQoL physical changes in hip fractures were not influenced by socio-sanitary services while in wrist fractures social support provided benefit while it was found gender differences.

**SP1-34 PUBERTAL MUSCLE MASS AND DIABETES MARKERS IN CHINESE ADOLESCENTS: EVIDENCE FROM THE HONG KONG'S "CHILDREN OF 1997" BIRTH COHORT**

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**Introduction** There is an emerging epidemic of diabetes in China despite a relatively non-obese population. Genetics and lifestyle undoubtedly play a key role. We hypothesise that environmentally driven muscle mass acquisition at puberty may also be relevant. To test this hypothesis we examined the association of sex-steroids with muscle mass and of muscle mass with fasting glucose and insulin in a sample of Chinese adolescents.

**Methods** In 40 adolescents (20 boys, 20 girls, age  $12.9 \pm 0.1$  years), from Hong Kong's "Children of 1997" birth cohort, we assessed

fasting glucose, insulin, sex-steroids and sex hormone binding globulin from a morning blood sample, and muscle and fat mass from a dual-energy x-ray absorptiometry scan. Lifestyle was obtained from a questionnaire. We used multivariable linear regression to assess adjusted associations.

**Results** Free and bio-available testosterone were positively associated with muscle mass, as was physical activity. Muscle mass was associated with lower glucose ( $-0.04$  mmol/l, 95% CI  $-0.08$  to  $-0.01$  per kg muscle mass) and lower insulin ( $-0.94$  uU/ml, 95% CI  $-1.75$  to  $-0.14$ ); adjusted for sex and fat mass.

**Conclusions** Environmentally driven muscle mass acquisition at puberty could potentially be an additional factor influencing diabetes, of which further investigation is warranted.

### SP1-35 PREDICTORS OF CHANGE IN JOINT FUNCTION AFTER HIP OR WRIST FRACTURES DUE TO FALLS IN ELDERLY PEOPLE

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**Introduction** Falls with hip or wrist fractures in elderly people are common situations. The goal of this study was to determine the joint function and which clinical and social factors predict change after those fractures, measured by the short-WOMAC or Quick-DASH questionnaires.

**Methods** Patients older than 65 years who attended the emergency room (ER) of seven acute hospitals with a hip or wrist fracture due to a fortuity fall were recruited. Patients fulfilled the QuickDASH or short WOMAC specific questionnaires at the time of the fall, as how they were before the fall, and 6 months later, and some other questions on sociodemographic issues. Clinical parameters from the ER and admission to the hospital were also recorded. Univariate and multivariate regression analysis were performed, considering the changes on the QuickDASH or short WOMAC specific questionnaires as dependent variables.

**Results** Preliminary analysis of our data (recruitment: 343 hip; 412 wrist fracture patients) showed an important decline in both specific questionnaires (hip-limitation domain of short-WOMAC-26.2; wrist-QuickDASH:20.3) at 6 months after the fracture. Older patients and lower socioeconomic status were those with greater worsening on WOMAC limitation domain on hip fracture, after adjusting by baseline scores. On wrist fractures, patients receiving rehabilitation and those who did not receive social support had greater worsening on QuickDASH scores.

**Conclusion** Specific changes in the function of the joint affected were determined by the socioeconomic level on hip fractures while in wrist fractures the presence of social support provided benefit for these patients.

### SP1-36 MORTALITY RATES OF PROSTATE CANCER AND DIETARY AND AGRICULTURAL VARIABLES: AN ECOLOGICAL STUDY IN BRAZIL

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**Introduction** Mortality rates of prostate cancer show regional variations in Brazil. The heterogeneous dietary profile and the distribution of agricultural practices could, at least partially, explain the

observed patterns. This ecological study aimed to identify associations between selected dietary, agricultural variables and mortality rates for prostate cancer in men aged 60 or more in selected Brazilian States.

**Methods** States selected for study were the main agricultural producers in Brazil. Dietary (characterised as per capita kcal/day consumption of food groups) and agricultural variables were selected in the literature. Agricultural data were obtained from the National Agricultural Census and dietary data from the National Survey by Household Sampling. Multiple linear regression were used to analyse the correlations between mortality rates and the selected variables.

**Results** Age-adjusted mortality rates varied from 112.79 to 174.92 per 100 000. The final multivariate model was capable of explaining 99.9% of the variation in mortality rates. Number of agricultural establishments, hectares planted with permanent crops, and hectares planted with temporary crops showed positive associations with mortality rates, as well as vegetable consumption, percentage of population aged 60 or more, and percentage of population having had medical consultation in the last 12 months. Negative associations were observed for total calories, consumption of oils and fats and percentage of population with health plan coverage.

**Conclusions** These results suggest that differences in long-term dietary habits and exposures to agricultural hazards could influence patterns of prostate cancer among Brazilian elders. Further epidemiologic studies are needed to clarify these possible associations.

### SP1-37 THE USE OF THE ABBREVIATED COMPREHENSIVE GERIATRIC ASSESSMENT (ACGA) AS A SCREENING INSTRUMENT IN OLDER INDIVIDUAL LIVING IN LONG-STAY INSTITUTIONS IN BRAZIL

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**Introduction** The Comprehensive Geriatric Assessment (CGA) is used in the care of older person for performing a multidimensional evaluation. However, CGA is a time-consuming assessment and abbreviated screening instruments have been proposed. The purpose of this study was to analyse the performance of the Abbreviated Comprehensive Geriatric Assessment (aCGA) in elders living in long-stay institutions in Brazil.

**Methods** This is a study with elderly residents of long-stay institutions in four Brazilian cities. The assessment of functional, emotional and cognitive domains was performed with the instruments: Activities of Daily Living (ADL); Instrumental Activities of Daily Living (IADL); Geriatric Depression scale (GDS); Mini-Mental State Examination (MMSE) and with the aCGA. Each domain was scored separately with both instruments and individuals classified accordingly. Pearson's correlation coefficients and positive predictive values (PPV) were used to compare the abbreviated version with the full instruments.

**Results** These are preliminary results for 340 elders. Mean age was 75.5 years. The prevalence of dependence in ADL (65.0% vs 40.0%) and in IADL (72.9% vs 58.5%) and of cognitive impairment (84.9% vs 65.8%) were higher when identified through aCGA, than with the full instrument. However, depression was less detected with the aCGA (27.6% vs 31.5%). Correlations between abbreviated and full instruments ranged from 0.80 to 0.98 ( $p < 0.001$ ). The highest PPV of the aCGA was observed for depression (86.9%) and the lowest for ADL (58.4%).

**Conclusions** In general, the aCGA performed well as a screening instrument in this setting. However, caution must be exercised in relation to the identification of depression.