

280.2±233.7, $P>0.05$) were found between the two groups, while LF/HF ratio was significantly higher in glucose fluctuation patients than in non-glucose fluctuation subjects (2.7 ± 0.4 vs 2.0 ± 0.5 , $P<0.01$). Negative correlations of MAGE with SDNN, SDANN, and HF ($r = -0.611, -0.601, -0.542$, respectively, $P<0.05$) were found in diabetics, while MAGE was positive correlated with LF/HF ratio ($r = 0.594$, $P<0.05$).

Conclusions: Blood glucose variability could lower the HRV of the patients with T2DM, which relates to impairing the cardiac autonomic nerve function and contributes to the risk of CAD among individuals with diabetes.

GW25-e0866

The Study of Experimental Acupuncture-meridians Treatment for Patients with Impaired Glucose Regulation

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Objectives: To investigate the effect of experimental acupuncture-meridian treatment for patients with impaired glucose regulation.

Methods: We selected 59 patients with impaired glucose regulation. There are 31 patients in control group with general advices only but without positive interventions. There are 28 patients in group of experimental acupuncture-meridian treatment one month. This group includes three sub-groups: Zusanli (ST36) group, Zusanli (ST36) + Shousanli (LI10) group, Zusanli (ST36) + Sanyinjiao (SP6) group. We measure and compare blood pressure, body weight, body mass index (BMI), waist - height ratio (WSR), OGTT (0 minute, 30 minutes, 60 minutes, 120 minutes, 180 minutes), the average glucose, area under the curve of blood glucose (AUC_g), glycosylated hemoglobin (HbA1c), area under the curve of insulin (AUC_i) and insulin resistance index (HOMA-IR), IS index (Matsuda index), beta cell function index ($\Delta I30/\Delta G30$ IR, MBCL, I phase Stumvoll index) between groups.

Results: The values before treatment of Zusanli (ST36) + Sanyinjiao (SP6) group are OGTT (60 minutes) 11.02 ± 0.83 mmol/L, OGTT (120 minutes) 9.06 ± 0.85 mmol/L, the average glucose 8.10 ± 0.62 mmol/L, and AUC_g 26.28 ± 1.89 mmol/L.h. The values after the experimental acupuncture-meridian treatment for one month in Zusanli (ST36) + Sanyinjiao (SP6) group are OGTT (60 minutes) 9.77 ± 1.01 mmol/L, OGTT (120min) 6.98 ± 1.85 mmol/L, the average glucose 7.32 ± 0.94 mmol/L, and AUC_g 22.92 ± 3.32 mmol/L.h, which has declined with significant differences than the values before treatment ($P<0.05$). It also declines with significant differences compared with other three groups of patients ($P<0.05$).

Conclusions: In the experimental acupuncture-meridian treatment for patients with impaired glucose regulation, Zusanli (ST36) + Sanyinjiao (SP6) is significantly effective for management of postprandial hyperglycemia. It is important to the delay the onset of type 2 diabetes and reduces the occurrence of cardiovascular events, and prevents the occurrence of serious diabetic microvascular complications.

GW25-e1581

Blood glucose fluctuation is associated with the 10-year risk for cardiovascular disease among individuals with type 2 diabetes mellitus

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Objectives: The present study aimed to identify the relationship between blood glucose variability and the 10-year cardiovascular disease (CVD) risk in patients with type 2 diabetes mellitus (T2DM).

Methods: A set of 68 consecutive T2DM patients without history of CVD were included to assess blood glucose variability using mean amplitude of glycemic excursions (MAGE), which was obtained by continuous glucose monitoring system (CGMS). Then patients were divided into two groups: subjects with non-glucose fluctuation (MAGE<3.9mmol/l, n=32) and subjects with glucose fluctuation (MAGE>=3.9mmol/l, n=36). The 10-year cardiovascular disease (CVD) risks were calculated by the general Framingham Risk Score and compared between two groups. Correlation analysis of MAGE and the CVD risk was also performed.

Results: The mean T2DM duration was 3.6 years, without significant difference between two groups. The average Framingham Risk Score was 26.42% (Ranged from 13.77% to 39.65%) in subjects with non-glucose fluctuation, versus 38.64% (Ranged from 17.02% to 63.92%) in patients with glucose fluctuation ($P<0.05$). The proportion of high CVD risk (Framingham Risk Score >20%) was 51.3% in subjects with non-glucose fluctuation, while it was as high as 72.5% in patients with glucose fluctuation ($P<0.05$). Correlation analysis showed that MAGE was positive correlated with the 10-year CVD risk in T2DM patients ($r = 0.543$, $P<0.05$).

Conclusions: Blood glucose fluctuation contributes to the the development of CVD in individuals with type 2 diabetes mellitus.

GW25-e3148

New American Diabetes Association diagnostic criteria for screening previously unknown diabetes in patients undergoing elective coronary angiography

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Objectives: Glycosylated hemoglobin (HbA1c) has become a key component of new American Diabetes Association (ADA) diagnostic criteria for diabetes, which is not included in the World Health Organization (WHO) 1999 criteria. Thus, we aimed to compare WHO 1999 and new ADA diagnostic criteria for diabetes in Chinese non-acute coronary syndrome (ACS) patients.

Methods: Non-ACS patients who had undergone elective coronary angiography (CAG) in PUMCH without previously known diabetes were enrolled consecutively from October 2013 to April 2014. Glucose metabolism abnormalities were evaluated by fasting plasma glucose (FPG), 2-hour oral glucose tolerance test (2h-OGTT), and HbA1c level before CAG. WHO recommended FPG≥7.0mmol/L and/or 2h-OGTT glucose≥11.1mmol/L as the diagnostic criteria for diabetes, while ADA recommended HbA1c≥6.5% as an additional diagnostic criterion.

Results: One hundred and thirty-nine patients (male: 88/139, 63.3%; age: [61.9±10.1] years) were included. According to WHO 1999 criteria, 34 patients (24.4%) had normal glucose regulation, 1 (0.7%) had impaired fasting glucose, 56 (40.3%) had impaired glucose tolerance and 48 (34.5%) had newly diagnosed type 2 diabetes mellitus (T2DM). ADA criteria diagnosed 8 more patients with T2DM than WHO criteria, and those 8 patients had a higher female proportion (75% vs 31.3%, $P=0.018$), lower hemoglobin and hematocrit level [124.88 ± 17.74 g/L vs 140.15 ± 15.17 g/L, $P=0.013$, (37.19 ± 4.30) % vs (40.90 ± 4.05) %, $P=0.021$] as well as a higher fibrinogen level [3.47 ± 0.41 g/L vs 3.02 ± 0.68 g/L, $P=0.024$], when compared with those diagnosed by both criteria.

Conclusions: Non-ACS patients who were admitted for elective CAG had a high incidence of abnormal glucose metabolism. Compared with WHO 1999 criteria, new ADA criteria with HbA1c assessment are able to identify more previously unknown diabetes patients. Thus, HbA1c level may need to be measured routinely for screening diabetes in patients undergoing elective CAG, especially for female patients with lower hemoglobin level and higher fibrinogen level.

GW25-e1085

Predictive value of "Visceral Adiposity Index" for Type 2 Diabetes mellitus: A 15-year prospective cohort study

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Objectives: An emerging term "Visceral Adiposity Index (VAI)" was reported to be strongly correlated with glycaemic disturbances and diabetes risk, while little information is known whether VAI could predict future type 2 diabetes mellitus (DM). This study aims to assess the predictive value of VAI for DM in general Chinese population.

Methods: This prospective cohort study was conducted based on a 15-year follow up in a general Chinese population from an urban community. 711 subjects received health examination in 1992, and in 2007 the same examination was performed for them again. 24 were excluded from analysis since DM was diagnosed at baseline. Waist circumference (WC), body mass index (BMI), VAI and cardiovascular risk factors were collected at baseline.

Results: 74 individuals developed into DM during a follow up of 15 years. Risks of future DM increased with increasing levels of VAI. Compared with the lowest quartile, the highest quartiles of the 3 measures could statistically increase the risk for the new onset of diabetes (HR=2.90, 4.48 and 3.31 for BMI, WC and VAI respectively). However, no statistic difference was found between the discriminatory power of them (AUC=0.668, 0.701 and 0.649 for BMI, WC and VAI respectively.)

Conclusions: VAI could predict independently in Chinese population, while the predictive power is not better than that of simple anthropometric measures (BMI and WC). Our study does not support the clinical application of VAI, and more studies based on different races are needed to be performed.

GW25-e1114

Is Pulse Pressure a Predictor of Diabetes in Chinese Han Nationality Population?: 15-year prospective study in Chengdu Community

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Objectives: To examine whether pluses pressure (PP) could predict diabetes incidence in a Chinese population during a 15-year follow-up.

Methods: The data were collected in 1992 and then again in 2007 from the same group of 687 individuals. Questionnaire, physical examination and laboratory tests were performance by a standard protocol. To assess the effects of baseline PP on the new onset of diabetes, Cox's proportional hazards regression models were used to estimate the hazard ratios, and the discriminatory power of anthropometric measures for diabetes was assessed by the area under the receiver operating curve (ROC).