**USE OF TRADITIONAL CHINESE MEDICINE PREPARATIONS IN OUTPATIENTS WITH CORONARY HEART DISEASE IN CHINA AND ITS INFLUENCE ON THE USE OF GUIDELINE-RECOMMENDED THERAPIES: RESULTS FROM THE BRIDGING THE GAP ON CHD SECONDARY PREVENTION IN CHINA (BRIG) PROJECT**

Xiangyu Guo, Jun Liu, Hongjuan Li. Capital Medical University, Affiliated Beijing Anzhen Hospital

**Objective** To probe into the use of TCM preparations in the secondary prevention and treatment of CHD in China and investigate its influencing factors and relationship with guideline-recommended therapies.

**Methods** A cross-sectional survey was conducted among 2,805 CHD outpatients, a representative sample of China. Interviewers (physicians) were assigned to collect information concerning patients' medical care, previous diseases/treatments, and current medication. The use of TCM preparations and its influencing factors was analysed.

**Results** The rate of using TCM preparations was 29.5% in 2,712 patients with complete information; the rates of using four guideline-recommended Western medication classes, aspirin, &-blocker, statins and ACEI/ARB, were 84.0, 61.9, 56.8 and 60.1%, respectively. Multivariate analysis showed that the rate of using TCM preparations was higher in secondary hospitals than in tertiary hospitals and was higher in patients with a longer history of CHD and/or in patients who were not taking ACEI/ARB and statins. The rate of using TCM preparations was also higher in patients without a history of percutaneous coronary intervention (PCI). Compared with those who were not taking TCM preparations (non-TCM group), the rate of using any of the four major classes were relatively lower among patients who were taking TCM preparations (TCM group). The rate of using combined therapies was 21.8% in the TCM group and 34.8% in the non-TCM group. When other factors were adjusted, the rate of guideline-recommended therapy use in the non-TCM group was 1.7 times that of the TCM group.

**Conclusion** Nearly 50% of Chinese CHD patients are taking TCM preparations to manage their heart disease, especially those with a long disease course, without a history of PCI and/or treated in secondary hospitals. The effectiveness of both TCM preparations and the four guideline-recommended drug classes requires further research.

**ALTERATION OF REGIONAL PULSE WAVE VELOCITY IN BEIJING GENERAL RESIDENTS AND ITS RELATIONSHIP WITH METABOLIC SYNDROME COMPONENTS**

Bian Suyan, Luo Leiming, Xiao Tiehui, Qi Liping, Wu Hongmei, Xiao Wenkai, Sheng Li, Duan Liufa.

**Objective** To investigate the alteration of regional pulse wave velocity (PWV) in Beijing general residents with metabolic syndrome (MS) and analyse its related factors.

**Methods** All the adult participants in this cross-sectional investigation were recruited from 3 big communities during their annual physical examination. Regional arterial stiffness was assessed simultaneously by measuring PWV in three arterial segments, the carotid-femoral (cfPWV), carotid-radial (crPWV) and carotid-ankle PWV (caPWV). Demographic characteristics and basal biochemical parameters including height, weight, waist and hip circumference, blood pressure, and serum levels of glucose, lipid, uric acid and creatinine were collected. MS was identified according to the criteria from the International Diabetes Federation definition.

**Results** A total of 2459 citizens (age ranging from 18 to 92 years) were enrolled into this study, which included 732 participants with MS (prevalence, 30.01%). The subjects with MS were older (53.25 ± 13.75 vs 50.05 ± 15.73, p < 0.001), had higher cfPWV, caPWV, crPWV (m/s, 11.68±2.92 vs 10.24±2.48, 9.46±1.75 vs 8.76±2.23, 9.76±1.52 vs 9.42±1.45, p < 0.001 for all), and increased occurrence of cardiovascular diseases (18.3% vs 9.1%, p < 0.001). Partial correlation analysis after adjustment for age and sex showed that pulse pressure, LDL-C, uric acid and all component of MS were significantly related to the values of cfPWV and caPWV (p < 0.05 for all). In multivariate stepwise linear regression models, MS as a whole was an independent determinant for all the three regional PWV. The components of MS showed different effects on the regional PWV elevation. In detail, increased systolic blood pressure and hyperglycemia correlated with enhanced cfPWV and caPWV, while central obesity affected cfPWV only. Further, the diastolic blood pressure among the MS components and the four guideline-recommended drug classes requires further research. The comprehensive control of cardiovascular risk factors is needed to strengthen.

**THE EFFORTS OF SWIMMING EXERCISE ON THE EXPRESSION OF PPAR-y AND LIPID METABOLISM IN THE APOE KNOCKOUT MICE**

Cai Ying, Liu Suixin, Sun Chulhua, Xie Kangling. 1Cardiac Rehabilitation Center, Xiangya Hospital of Central South University, Changsha, Hunan, China

**Objective** To establish a model of ApoE knockout mice with insulin resistance induced by high fat diet, and observed the effect of
swimming training on serum free fatty acid (FFA) and the expression of peroxisome proliferator-activated receptor (PPAR-γ), carnitine palmitoyl transferase-I (CPT-I), medium-chain acyl-1-coenzyme A dehydrogenase (MCAD) mRNA, to explore the mechanisms that Why swimming training could improve insulin resistance.

Methods Twenty-six male ApoE knockout mice were randomly divided into groups: the high-fat diet group (HFD, n=13) and the high-fat diet group with exercise training (HFD+Ex, n=13). The HFD+Ex group were fed with high-fat diet with exercise training for 12 weeks. The treatment of HFD group was identical to the HFD+Ex group except to swimming training. And another ten healthy male C57BL/6 (ND, n=10) mice as the control group were, which were fed with normal diet for 12 weeks. After 12 weeks experiment, the mice were dissected, the livers were excised off immediately. Serum insulin, glucose were determined and Homa-IRI was calculated to ascertain the establishment of insulin resistance. Serum total cholesterol (TC), triglyceride (TG), high-density lipoprotein cholesterol (HDL), low-density lipoprotein cholesterol (LDL), free fatty acid (FFA) were determined. The PPAR-γ, CPT-I, MCAD mRNA in liver were estimated by reverse transcription PCR (RT-PCR).

Results 1. Compared with the ND group, the body weight of the HFD group was significantly higher (p<0.05). Compared to the HFD group, the body weight of the HFD+Ex group was significantly lower (p<0.05). 2. Compared with the ND group, fasting glucose, insulin and Homa-IRI of the HFD group was significantly higher (p<0.01). Compared with the HFD group, fasting insulin, glucose and HOMA-IRI of the HFD+Ex group was significantly lower (p<0.05, 0.01, 0.01). 3. Compared with the ND group, TC, LDL, FFA of HFD group was significantly higher (p<0.01), TC, LDL of the HFD+Ex group was still higher (p<0.01). Compared with the HFD group, TC, LDL, FFA of the HFD+Ex group was significantly lower (p<0.05, 0.05, 0.01), HDL was significantly higher (p<0.05). 4. Compared with the ND group, the expression of PPAR-γ, CPT-I, MCAD mRNA of the HFD group were significantly deceased (p<0.01). Compared with the HFD group, the expression of PPAR-γ, CPT-I, MCAD mRNA of the HFD group were significantly increased (p<0.01).

Conclusion 1. High-fat diet could induce insulin resistance of ApoE Knockout mice. 2. Swimming training could improve insulin resistance of ApoE knockout mice. 3. Swimming training could improve insulin resistance possibly through upregulating the expression of PPAR-γ, CPT-I, MCAD mRNA.

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