Clinical Profile of Premenopausal Women with Coronary Heart Disease

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Objective To study the clinical profile of premenopausal women with coronary heart disease.

Methods 114 premenopausal women with chest pain were classified into coronary heart disease group and control group by coronary angiography. Risk factors, clinical symptoms and the coronary angiographic characteristics were investigated retrospectively.

Results The risk factors of premenopausal women with coronary heart disease were hypertension, diabetes and hyperlipidemia. Typical angina pectoris was an important character. The typical change of ECG in premenopausal women with coronary heart disease was elevation or depression of ST, but not T wave. The sensitivity and specificity of Exercise stress testing or SPECT for premenopausal women with coronary heart disease were 67.7% and 52.2%, 40.9% and 59%, respectively. Single vessel coronary lesion was found more frequently in Premenopausal Women with coronary heart disease, and the left anterior disending artery was the most frequently involved vessel.

Conclusion Hypertension, Diabetes and/or hyperlipidemia are major risk factors in premenopausal women with coronary heart disease. Women with typical angina pectoris and ST changes should be cautioned coronary heart disease. Nonvasive testing is poor diagnosis method for young women with coronary heart disease, but can be used as exclusive marker.

Relationship Between Retinal Vascuropathy and Coronary Artery Disease

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Background and objective Studies showed that atherosclerosis is a systemic disease. Parameters representing peripheral artery atherosclerosis, such as decreased ankle-brachial index (ABI), and increased carotid artery intima-media thickness (CIMT), are well correlated with coronary artery disease. However, these are indirect indicators provided by ultrasound examination. Eyes are good windows, through which we can observe vascular anatomy and function in vivo directly and clearly. Our study was to explore the correlation of retinal vascular diameter and arteriole-to-venule ratio (AVR) on the retinal photographs to extent and severity of coronary artery disease (CAD) angiographically.

Methods From January 2007 to February 2008, the patients admitted in CCU and Department of Cardiovascular Disease of Beijing Chuiyangliu Hospital with diagnosed or suspected of CAD were selected to accept coronary artery angiography using standard Judikin’s technique. According to Gensini score, the degree and extent of coronary atherosclerosis were visually evaluated and scored by 2 expert cardiologists. The calibres of individual retinal arteriole and venule coursing through a zone located at 1 to 1.5 disc diameter from the optic disc margin were measured on the digital retinal photographs.

Conclusion There was a high consistency between serum concentrations of hs-CRP, score of IMT, Crouse and the degree of coronary stenosis, so we can use serum concentrations of hs-CRP, score of IMT, Crouse as a prediction method to coronary heart disease in patients with carotid artery atherosclerosis.
the severity of the coronary lesions was assessed by Gensini scoring system, a method that assigns a different severity score depending on the degree of luminal narrowing and the geographical importance of their locations. 25 patients scored $<40$, 26 patients scored 41–80, 23 cases scored 81–120, and 11 cases scored greater than 120.3. The results of the retinal vascular measurement and calculation: The mean retinal arteriole diameter (upper temporal branch and inferior temporal branch) in CAD group was significantly smaller than that in control group (p<0.05). The mean retinal venule diameter (upper temporal branch and inferior temporal branch) in CAD group was significantly greater than that in control group (p<0.05). The mean retinal AVR (both in upper temporal branch and inferior temporal branch) in CAD group was much smaller than that in control group (p<0.05). 4. The correlation analysis between retinal vascular diameter, AVR and the severity of coronary atherosclerosis: the numerical values of retinal artery diameter and AVR in patients with Gensini score group 81–120 and >120 were significantly smaller than that with Gensini score $\geq 40$ (p<0.05), but the calibre of retinal venule in patients with Gensini score group 81–120 and >120 was significantly greater than that with Gensini score $\geq 40$ (p<0.05), there were no significant differences between the other groups. With Pearson correlation analysis to analyse the correlation of retinal AVR to Gensini score, the result showed that in CAD patients, the retinal AVR was negatively correlated to the Gensini score (p<0.01). With partial correlation analysis and controlling of other influencing factors, such as hypertension and diabetes, the negative correlation didn’t change.

**Conclusion** In our study, the retinal vascular diameter and AVR are well correlated to the severity of coronary artery disease. In CAD patients, the retinal arteriole calibre and AVR are significantly negatively correlated to Gensini score, and the retinal venule diameter is strongly positively correlated to Gensini score.

**Objective** In this study, control group are people with normal coronary arteries. This study is to discuss the relationship between LDL, OX-LDL and control group, SAP group, UAP group, AMI group and contaction of LDL and OX-LDL.

**Methods** Experimental group are 300 CHD patients without taking LDL in CHD group is significantly different compared with SAP group (p<0.01). Concentration of OX-LDL in AMI group is significantly different compared with UAP group (p<0.01). 4. There is no correlation between concentration of LDL and OX-LDL in all groups (p>0.05).

**Conclusions** 1. We confirm that LDL and OX-LDL are risk factors for CHD. There is no significant differences about the concentration of LDL in CHD groups, however, there is significant differences about the concentration of OX-LDL in CHD groups. The level of OX-LDL is in escalating trend. 2. There is no correlation between concentration of LDL and OX-LDL in all groups (p>0.05) and OX-LDL play a more important role in the process of CHD. Compared with LDL, measuring OX-LDL is more meaningful in the treatment and prevention of CHD.

**Objective** Obstructive sleep apnea (OSA) is an independent risk factor for cardiovascular morbidity and mortality. The mechanism is unknown, but recent studies provide evidence that endothelial dysfunction might contribute. So we investigate the relationship between obstructive sleep apnea and endothelin-1 (ET-1) plasma levels in patients with coronary heart disease.

**Methods** 287 patients with coronary heart disease were enrolled and an overnight polysomnography was performed to all of them. According to the apnea-hypopnoea index, the patients were divided into four groups: no OSA group (AHI$<5$, n=50), mild OSA group (5$\leq$AHI$<15$, n=52), moderate OSA group (15$\leq$AHI$<30$, n=70), severe OSA group (AHI$\geq$30, n=77). Plasma levels of endothelin-1 were detected to all the patients.

**Results** Compared with no and mild OSA group, endothelin-1 plasma levels in severe OSA group elevated significantly (p=0.009), even after analysis in a general linear model with correction for confounders. Plasma ET-1 levels showed an increasing trend within no OSA, mild OSA and moderate OSA group, however no statistically significant was observed between no OSA group and patients with mild or moderate OSA, respectively (p=0.421, p=0.226).

**Conclusion** Among patients with coronary heart disease, plasma ET-1 levels elevated significantly in severe OSA group. This might support that severe OSA has more effects on endothelium function for coronary heart disease than mild and moderate OSA.