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 ≤ 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 ≤ 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.

e0393 SIGNIFICANCE OF OXIDISED LOW-DENSITY LIPOPROTEIN IN CORONARY ATHEROSCLEROTIC HEART DISEASE

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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 concentration of LDL and OX-LDL.

Methods Experimental group are 300 CHD patients without taking lipid-lowering drugs in one month who admitted in the department of cardiology from August 2008 to August 2009. They are divided into SAP group (100 cases), UAP group (100 cases), AMI (100 cases). The control group are 100 cases of patients who are randomly selected and confirmed without CHD by coronary angiography in the same period in our department. Information includes gender, age, smoking, drinking, hypertension, diabetes, levels of LDL and OX-LDL. We analysis patients' basic information, the level and correlation of LDL and OX-LDL in control group, SAP group, UAP group and AMI group.

Results 1. There are no significant differences between control group and CHD groups in basic information ($p > 0.05$). 2. Concentration of LDL in CHD group is significant difference compared with control group ($p < 0.01$). Concentration of LDL in UAP group is no significant difference compared with SAP group ($p > 0.05$). Concentration of LDL in AMI group is significant difference compared with SAP group ($p < 0.01$). Concentration of LDL in AMI group is no significant difference compared with UAP group ($p > 0.05$). 3. Concentration of OX-LDL in CHD group is significant difference compared with control group ($p < 0.01$). Concentration of OX-LDL in UAP group is significant difference compared with SAP group ($p < 0.05$).

Concentration of OX-LDL in AMI group is significant difference compared with SAP group ($p < 0.01$). Concentration of OX-LDL in AMI group is significant difference 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.

e0394 THE RELATIONSHIP BETWEEN OBSTRUCTIVE SLEEP APNEA AND ENDOTHELIN-1 PLASMA LEVELS IN PATIENTS WITH CORONARY HEART DISEASE

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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 ($AHI < 5$, $n = 58$), mild OSA group ($5 \leq AHI < 15$, $n = 82$), 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.

e0395 CORRELATION BETWEEN SERUM LEVELS OF CATHEPSIN S AND SEVERITY OF ATHEROSCLEROTIC LESIONS OF CORONARY ARTERIES IN CHINESE

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Objective Previous studies have showed that cathepsin S (CatS) is upregulated in atherosclerosis lesions in humans. We try to explore the association between serum levels of CatS and its inhibitor cystatin C (CysC) and the severity of atherosclerotic lesions of coronary arteries in Chinese.

Methods and results 107 coronary atherosclerotic diseases (CAD) and 48 controls were recruited and all subjects consisting were verified by selective angiography, the the severity of lesions of

coronary arteries were assessed by Gensini scoring system. The fasting serum concentrations of CatS and CysC were measured before angiography respectively. The SPSS11.0 system was applied to analyse the data. Compared with controls, serum levels of cathepsin S in CAD groups increased significantly and demonstrated positive correlation ($r=0.69$, $p=0.0001$) with Gensini score. After being corrected for other common factors (age, sex, blood pressure and blood lipid, etc) by multivariate stepwise regression analysis, this relationship also existed.

Conclusions Serum levels of cathepsin S are associated with severity of atherosclerotic lesions of coronary arteries. The higher serum levels of cathepsin S are, the severer atherosclerotic lesions of coronary arteries are.

e0396 CLINICAL ANALYSIS OF 30 INDIVIDUALS WITH MICRO CK TYPE 1

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Objective The aim of the prospective study was to investigate the clinical and laboratory features of individuals with micro creatine kinase type 1 (MCK-1), and to evaluate the clinical significance of these cases who expressed serum MCK-1.

Methods To screen MCK-1 individuals from serum samples in our biochemistry laboratory from April 2002 to April 2010 according to both increasing CK-MB activity and CK-MB/CK ratio over 25%, and finally confirmed by agarose gel electrophoresis of CK isoenzyme analysis. To analyse the clinical and laboratory data of individuals who expressed serum MCK-1 isoenzyme.

Results MCK-1 was detected in the samples from 30 subjects. Their mean age at the initial presentation was 58.6 years (range 26 to 81), 63.3% were female ($n=19$), and 39.3% ($n=11$) had hypertension of the 30 subjects, 10 (33.3%) had increased total CK activity, and 7 (23.3%) showed the abnormal phenomenon that CK-MB:CK ratio was >1 . Our study indicated that the misdiagnostic rate was 40.0% ($n=12$), and the rate of missed diagnosis was 46.7% ($n=14$). There were 3 deaths during the follow-up period.

Conclusion MCK-1 was not rare in clinical practice. Among the conditions in which CK-MB activity is elevated in the absence of myocardial injury or infarction using immunoinhibition methods, MCK-1 merits special attention from clinicians. CK-MB index is a simple and rapid screening test for MCK-1.

e0397 A CORRELATIONAL STUDY OF ACE GENE POLYMORPHISMS

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Objective To study the correlation of the ACE gene polymorphisms with coronary heart disease (CHD) in the Hainan Li nationality.

Methods Used the PCR to detect the polymorphisms of ACE gene insertion/deletion (I/D) in 150 patients with CHD and 150 healthy people from Hainan Li nationality. The genotype frequencies and allele frequencies of DD, DI and II were observed. Specific PCR detection was performed for patients who have been determined as DD by normal PCR to reduce misclassification rate.

Results In the CHD group of Hainan Li nationality, the genotype frequencies of DD, DI and II were 24.7%, 32.7%, 42.6% respectively,

and the allele frequencies of D and I were 41.0% and 59.0%. In the healthy control of Hainan Li nationality, the genotype frequencies of DD, DI and II were 14.0%, 44.0%, 42.0% respectively, and the allele frequencies of D and I were 36.0% and 64.0%. There were significant differences both in the genotype frequencies of DD, DI and II, and in allele frequencies D and I between these two groups ($p<0.05$). There were no significant differences in the age, the blood pressure, the body mass index (BMI), the total serum cholesterol (TC) and the low density lipoprotein cholesterol (LDL-C) between these two groups ($p>0.05$). There was significant differences in the sex between these two groups ($p<0.05$). The triglyceride (TG) level in the CHD group was significantly higher than in the control ($p<0.05$). The high density lipoprotein cholesterol (HDL-C) level in the CHD group was significantly lower than the control ($p<0.05$).

Conclusions There were notable correlation between the ACE gene I/D polymorphisms and the CHD in Hainan Li nationality. The ACE gene polymorphisms are the major gene that causes CHD in Hainan Li nationality. It may be the independent risk factor in CHD in Hainan Li nationality. So it is very important to intervene with ACEI inhibitors or angiotensin receptor blockers (ARB) in the early stage of CHD.

e0398 A STUDY THE RELATION OF ACE GENE POLYMORPHISMS AND RISK FACTOR WITH CORONARY HEART DISEASE IN HAINAN LI AND HAN NATIONALITY

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Objective To probe into the relation of the ACE gene polymorphisms and the risk factor with coronary heart disease (CHD) in the Hainan Li and Han nationality.

Methods Used the PCR to detect the polymorphisms of ACE gene insertion/deletion (I/D) in 150 patients with CHD and 150 healthy people from Hainan Li and Han nationality. The genotype frequencies and allele frequencies of DD, DI and II were observed. Specific PCR detection was performed for patients who have been determined as DD by normal PCR to reduce misclassification rate.

Results In the CHD group of Hainan Li nationality, the genotype frequencies of DD, DI and II were 24.7%, 32.7%, 42.6% respectively, and the allele frequencies of D and I were 41.0% and 59.0%. In the healthy control of Hainan Li nationality, the genotype frequencies of DD, DI and II were 14.0%, 44.0%, 42.0% respectively, and the allele frequencies of D and I were 36.0% and 64.0%. There were significant differences both in the genotype frequencies of DD, DI and II, and in allele frequencies D and I between these two groups ($p<0.05$). In the CHD group of Hainan Han nationality, the genotype frequencies of DD, DI and II were 23.3%, 45.4%, 31.3% respectively, and the allele frequencies of D and I were 46.0%, 54.0%. In the healthy control of Hainan Han nationality, the genotype frequencies of DD, DI and II were 13.3%, 42.0%, 44.7% respectively, and the allele frequencies of D and I were 34.3%, 65.7%. There were significant differences both in the genotype frequencies of DD, DI and II, and in allele frequencies D and I between these two groups ($p<0.05$). The multiple logistic regression analysis showed that the triglyceride (TG) level in the CHD group was significantly higher than in the control ($p<0.05$) and the high density lipoprotein cholesterol (HDL-C) level in the CHD group was significantly lower than the control in both nationality ($p<0.05$).

Conclusions There were notable correlation between the ACE gene I/D polymorphisms and the CHD in Hainan Li and Han nationality. The ACE gene polymorphisms are the major gene that causes the