objectives. To evaluate the association between very low density lipoprotein cholesterol and cholesterol absorption/synthesis markers

CONCLUSIONS Dyslipidemia has remained further deterioration, and taken on atherogenic lipid profile, it is especially obviously for male or middle-aged patients with AMI. Powerful measures must be taken to control dyslipidemia, targeted strategy should focuses on these populations.

GW26-e0710
The association between very low density lipoprotein cholesterol and cholesterol absorption/synthesis markers
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OBJECTIVES To evaluate the association between very low density lipoprotein cholesterol (VLDL-C) and cholesterol absorption and synthesis markers, for the exploration of the effective therapy to reduce VLDL-C levels.

METHODS Total 363 statin-naïve patients with high risk of coronary heart disease were recruited consecutively from two hospitals in Shanxi and Henan provinces between October 2008 and June 2009. A standard questionnaire and physical examination were conducted at baseline. Atorvastatin was administered to patients at a dose of 20 mg per day for 4 weeks. Venous blood samples after an overnight fast were collected before and after treatment for laboratory measurements, including VLDL-C and cholesterol absorption and synthesis markers.

RESULTS (1) Of 363 patients, 318 were followed through this study, and among them, 283 patients with mean age of 55.4±3.9 years old were remained finally after excluding patients who were lost to follow-up or with incomplete information. The median level of baseline VLDL-C was 1.06 (0.65, 1.86) mmol/L. The median level of baseline cholesterol absorption marker (Campesterol) and cholesterol synthesis marker (Lathosterol) were 0.60 (0.78, 0.94) mg/dl and 1.35 (0.83, 2.11) mg/dl, respectively. (2) Partial correlation analysis and multiple regression showed the baseline level of VLDL-C was positively correlated with Campesterol (r=0.153, b=0.367, P<0.05) but not with Lathosterol. Furthermore, in different cholesterol absorption and synthesis patterns, baseline VLDL-C level significantly increased with tertile of the baseline level of Campesterol and decreased in low absorption group, but as high as 75% in high absorption group, the high synthesis people only accounted for 7.5%, the low synthesis group, with significantly difference (p=0.001). With the increase of synthesis, the number of subjects with high absorption decreases. Accordingly, with the increase of absorption, the number of subjects with high synthesis decreases as well, trend test p=0.0001. After statin treatment, no subject with synthesis greatly reduced in low synthesis group, but as high as 75% in high synthesis group, statistical difference significant (p=0.000). With the increase of synthesis, the number of synthesis reduced increases, trend test p=0.000. After treatment, the synthesis reduction is 51.3% in low absorption group, but only 22.5% in high absorption group, with significantly difference (p=0.035). With increasing of absorption, the number of synthesis reduced decreases, trend test p=0.033.

CONCLUSIONS The negative feedback regulation mechanism between cholesterol synthesis with absorption and reactivity to statin of high-risk coronary heart disease (CHD) people with different cholesterol synthesis and absorption degrees.

GW26-e0792
Correlation Analysis between Cholesterol Synthesis and Absorption with Its Reactivity to Statin
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OBJECTIVES To study correlation between cholesterol synthesis with absorption and reactivity to statin of high-risk coronary heart disease people with different cholesterol synthesis and absorption degrees.

METHODS 159 subjects with high-risk CHD were enrolled, and 20mg atorvastatin per day were taken for four weeks. Blood lipids and markers of cholesterol synthesis and absorption were determined respectively before and after treatment. Squalene/TC (Squalenea) and Campesterol/Lathosterol ratios were used as markers of cholesterol synthesis and absorption. Campesterol and Lathosterol levels were analyzed, which represents the levels of cholesterol synthesis and absorption, respectively.

RESULTS (1) In the low-absorption group, the high synthesis people only accounted for 7.5%, the low is as high as 35%, with significantly difference (p=0.001). With the increase of synthesis, the number of subjects with high absorption decreases. Accordingly, with the increase of absorption, the number of subjects with high synthesis decreases as well, trend test p=0.0001. After statin treatment, no subject with synthesis greatly reduced in low synthesis group, but as high as 75% in high synthesis group, statistical difference significant (p=0.000). With the increase of synthesis, the number of synthesis reduced increases, trend test p=0.000. After treatment, the synthesis reduction is 51.3% in low absorption group, but only 22.5% in high absorption group, with significantly difference (p=0.035). With increasing of absorption, the number of synthesis reduced decreases, trend test p=0.033.

CONCLUSIONS The negative feedback regulation mechanism between cholesterol synthesis with absorption and reactivity to statin of high-risk coronary heart disease (CHD) people with different cholesterol synthesis and absorption degrees.

GW26-e2268
LDLR mutations in China
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OBJECTIVES Familial hypercholesterolemia (FH) is a common and serious dominant genetic disease, which characteristic mp is tendon xanthoma, severely elevated LDL cholesterol (LDL-C) and premature coronary heart disease. The main pathogenic gene is low density lipoprotein receptor (LDLR) gene, which can explain 75% FH patients. However, less data were reported in China. This study aim to system review the LDLR mutations in China.

METHODS With a computerized literature index of Pubmed, Embase, Wangfang (Chinese) and Chinese National Knowledge Infrastructure (CNKI, Chinese), Chinese Biological and Medical database (CBM, Chinese), the public date were limited to December 2012. The Medical Subject Headings terms and following key words were used: “familial hypercholesterolemia”, “Chinese”, “China”, “Hong Kong”, “Taiwan”. Studies only included LDLR mutations were included.

RESULTS A total of 59 studies were included in our review. There are 340 probands included 129 LDLR mutations were reported. The distribution of mutations showed most mutations were located in exon 4 and about 60% (77/129) mutations were missense mutations. In addition, we found 28 novel mutations which were not recorded in the LDLR databases. In silico analysis, most of mutations were pathogenic, except two variants were identified as non-pathogenic: N494S (c.1544A>G, p. Asn515Ser) and S533L (c.1661C>T, p. Ser554Leu). In addition, the three main mutations in China were C308Y (c.986G>A, p.Cys329Try), H562Y (c.1747C>T, p.His587Try) and A606T (c.1879G>A, p.Ala627Thr) and all of them had functional analysis.

CONCLUSIONS The prevalence of heterozygous FH is found in approximately 1/200 - 1/500, there are nearly 6 million patients in China. This system review collect LDLR mutations in China, may provide Chinese information to the international FH database.