

GW23-e1021

THE COMPARATIVE STUDY OF ATHEROSCLEROTIC PLAQUES BY OPTICAL COHERENCE TOMOGRAPHY AND INTRAVASCULAR ULTRASOUND

doi:10.1136/heartjnl-2012-302920b.29

Yanli Sun, Sining Hu, Jinwei Tian, Nana Dong, Bo Yu. *The Second Affiliated Hospital of Harbin Medical University*

Objectives In this study we compare the detection of the value of atherosclerotic plaques by optical coherence tomography (OCT) and Intravascular Ultrasound (IVUS).

Methods 60 Rabbits were gave high cholesterol diet (HCD) for 12 weeks. Balloon injury of carotid artery were made. IVUS imaging and OCT imaging were performed at baseline and 2, 4, and 6 weeks post injury to quantify the atherosclerotic plaques. On each imaging time the surgery carotid artery in which we randomly select 15 rabbits was perfusion-fixed using paraformaldehyde infused into the carotid artery, excised and paraffin-embedded, and cross-sections were stained with H&E and masson.

Additional sections were frozen and stained for macrophages (RAM11) and sma. Then we analysed OCT and IVUS data including plaque incidence rate, plaque type and classification, lipid-rich plaque numbers between the two groups. Histopathologylogical examination of plaque were investigated to confirm our findings. Immunohistochemistry were investigated characterising plaque composition.

Results OCT and IVUS both can detect the plaque. But OCT can distinguish the plaque composition and IVUS cannot.

Conclusions The vulnerable plaque is the main reason for the acute coronary syndrome. Thus, the judgment of the plaque composition and the accurate diagnosis of vulnerable plaque is an important means of prevention and reduction of acute coronary syndrome. Compared to the traditional IVUS, OCT played a prominent advantage, that is more accurately determination of the composition of the plaque especially for the vulnerable plaque.