GW23-e2007

NEW CANDIDATE BIOMARKER FOUND IN UNSTABLE ANGINA PATIENTS BY LC-MS/MS

doi:10.1136/heartjnl-2012-302920a.74

Zhao Huihui, Wang Wei. *Beijing University of Chinese Medicine*

Objectives Coronary heart disease (CHD) is the leading cause of death of adults worldwide, but the traditional related factors cannot explain the whole situations. Unstable angina is the main type of CHD. Proteomics research on unstable angina patients may make a breakthrough to the research of syndrome. The aim of this study is investigating the difference of plasma proteins expression profile and characteristics of unstable angina patients and healthy volunteers, deepen and extended our knowledge about unstable angina.

Methods A polyclonal antibody affinity column (Agilent) were used to remove the six most abundant proteins (ie, albumin, IgG, IgA, antitrypsin, transferrin, haptoglobin) from the plasma of unstable angina patients EDTA samples. Then NanoAcquity UPLC and Synapt HDMS were used on each plasma sample. After that, the data generated were processed using ProteinLynx Global Server V2.2.5. Processed data were sent to databank search using human sequences of IPI. For further analysis and filtering, data were exported to the Expression analysis (Waters). Filtering criteria were set to include only high confidence peptides.

Results ITIH3 were only found in unstable angina patients,while eight proteins(Including SAM, ATAD5, BZRAP1, GFM1, POLQ DNA polymerase theta, UTX, other two of them are uncharacterised) were only found in the healthy volunteers. SAA, CP, MYH11, C6 expressions in unstable angina patients increased over 1.5 fold than that in healthy volunteers, while eight proteins (APOA-IV, GSN, HBB, TF, etc) expressions decreased over 1.5 fold in unstable angina patients.

Conclusions Energy metabolism disorder and blood coagulation factor activity dysfunction influence each other, which is probably the proteomics characteristic of unstable angina patients. The research revealed part of biological foundation of unstable angina, discovered some possible key enzymes and signal pass way of unstable angina, and found the potential network regulatory mechanism of unstable angina .Some of the differentially expressed plasma proteins may become new biomarkers of unstable angina or unstable angina with blood stasis syndrome.