GW23-e0062 **CIRCULATING MIR-195, MIR-30A AND LET-7B ASSOCIATED WITH ACUTE MYOCARDIAL INFARCTION**

doi:10.1136/heartjnl-2012-302920d.5

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Objectives MicroRNAs (miRNAs) play key roles in diverse biological and pathological processes, including the regulation of proliferation, apoptosis and angiogenesis cellular differentiation. Recently, circulating miRNAs have been reported as potential biomarkers for various pathologic conditions. In the present study, we

presumed that plasma concentrations of miR-195, miR-30a and let-7b may serve as biomarkers for identifying acute myocardial infarction (AMI) in humans.

Methods Plasma samples from 18 patients with AMI and 30 healthy adults were collected. Total RNA were extracted from plasma with TRIzol LS Reagent. MiRNA productions were quantified by quantitative real-time PCR and plasma cardiac troponin I (cTnI) concentrations were measured by ELISA assay. Our study showed that circulating miR-30a was highly expressed at 4 h, 8 h and 12 h in patients with AMI, and miR-195 is highly expressed at 8 h and 12 h. However, let-7b was lower in AMI patients than in the control group at 4 h, 8 h, 12 h, 24 h, 48 h, 72 h and 1w. MiR-30a, miR-195, let-7b and cTnI exhibited the same trench.

Results The plasma concentration of miR-195, miR-30a and let-7b can be a potential indicator of AMI. Our results implied that profiling of circulating miRNAs may help identify patients in AMI.

Conclusions In this study, we reported the expression of circulating miR-30a, miR-195 and let-7b in human AMI, in comparison to the healthy adult. Interestingly, miR-30a plasma levels in patients with AMI up-regulated at 4 h, 8 h and 12 h; and miR-195 up-regulated at 8 h and 12 h after the onset of AMI symptoms. Meanwhile, let-7b was down-regulated in AMI at 4 h, 8 h, 12 h, 24 h, 48 h, 72 h and 1w after the onset of AMI symptoms. Importantly, an outstanding finding in this study is that miR-30a, miR-195, let-7b and cTnI exhibited the same trench, but with no significant interaction effects. The plasma concentration of miR-30a, miR-195 and let-7b show a good correlation with the plasma concentration of cTnI, a classic marker of myocardial injury. Using the levels of the three miRNAs, we can define a score with a high specificity and sensitivity for the detection of AMI patients at 8 h and 12 h relative to healthy adult. Thus, our results clearly hold out the hypothesis that miR-30a, miR-195 and let-7b may useful for identifying the AMI.