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Editorial Open Access

Metabolic Syndrome, Wall Motion Score and Infarct Size after AMI

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Editorial

The infarct size is an important marker for early and late mortality after acute myocardial infarction [1,2]. The metabolic syndrome (MetS) is interrelated atherosclerotic risk factors including insulin resistance, hypertension, a low level of high-density lipoprotein (HDL) cholesterol, a high triglyceride level, a high plasma glucose concentration, central obesity, and the increased number of components of the metabolic syndrome is associated with a higher mean carotid intima media thickness, lower ankle brachial pressure index in patients with coronary heart disease, peripheral arterial disease, or abdominal aortic aneurysm [3-5].

Hajsadeghi et al. reported a study with 100 patients with MetS (group I) and 100 control (group II) who experienced acute myocardial infarction. In this study the left ventricle (LV) was divided into six basal segments (anterior, anterolateral, inferolateral, inferior, inferoseptal, and anteroseptal), six middle segments (same subgroups), and four apically located segments (anterior, septal, inferior, and posterior). By visual analysis of systolic wall thickening, segments were assigned a wall motion score (WMS) as follows:

- Normal or hyperkinetic (normal endocardial excursion and systolic wall thickening);
- Hypokinetic (reduced excursion and wall thickening);
- Akinetic (absent excursion and wall thickening); and
- Dyskinetic (paradoxical systolic outward wall motion).

WMS index (WMSI) was calculated by dividing the sum of all WMS by the total number of segments analyzed [1].

The authors found that the peak CK-MB and cTnI in 72 hours it was significantly higher in patients with MetS compared with control subjects (P <0.001). After 72 hours patients with metabolic syndrome have markedly superior wall motion abnormality assessed by echocardiography derived wall motion score index (WMSI) (P <0.001). Also found statistically significant relationships between WMSI and peak CK-MB and also cTnI at 72 hours (P <0.001) (1).

Logstrup et al. studied the effects of known DM, newly diagnosed DM, and impaired glucose tolerance (IGT) on echocardiography-derived coronary flow reserve (CFR) in a group of patients with recent AMI. The authors an association between a decreased CFR and the diagnosed DM but not the IGT [6].

The patients with MetS have significantly higher infarct size compared to those without metabolic syndrome.

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