Correlation of Regional Wall Motion Abnormality and Coronary Angiography in First Acute Anterior Myocardial Infarction

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Introduction:

Coronary artery disease and Acute Anterior Myocardial Infarction (AAMI) are the most common cause of mortality in the world.Noninvasive modalities such as echocardiography has important roles in diagnosis, prognostic evaluation and guide to therapy in myocardial infarction (MI).The aim of this study was to evaluate the correlation of regional wall motion abnormality (RWMA) detected by 2D echocardiography and coronary angiographic findings in patients with first AAMI.

Method:

In a prospective crossectional study admission electrocardiography (ECG) was obtained from patients with first AAMI. Coronary angiography(CAG) and if needed primary percutaneous intervention (PPCI) or facilitated primary percutaneous intervention (PCI) were performed within 3 days after admission. Angiographic findings including lesion size, location, severity and TIMI grade flow of LAD artery lesions were recorded. Transthoracic 2D echocardiography was done within 24 hours after CAG or PCI and presence of RWMA in 18 left ventricular segments was evaluated.

Results:

86 patients were men and 14 patients were female. We found less involvement, in some of LAD supplying segments including: basal anterior (7%), mid anterior (36%) and basal anteroseptal (47%). Patients with diffuse LAD lesions, had correlation with more RWM of midposterior and basal posterior segments ($P=0.003$ and $P<0.001$ respectively). There was no correlation between presence of RWMA and LADA lesion location and TIMI Flow. There was a nonlinear

correlation between presence of RWMA and different LADA lesion severity in inferoapical segment.

Conclusion:

We didn't find justifying correlation between angiographic findings with RWMA in each segment. But we confirmed our hypothesis that some of LAD supplying segments are spared of having WMA in patients with LAD artery related AAMI. There were no specific angiographic or electrocardiographic pattern for this segmental sparing.

Key words: acute anterior myocardial infarction, echocardiography, angiography