

Correlation of Type of ST Segment Elevation in Acute Anterior Wall Myocardial Infarction on ECG

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Abstract

Background: The implication of the shape of ST segment in acute phase of myocardial infarction (MI) remains unclear.

Objectives: Myocardial ischemia is clinically expressed by chest pain and various ST segment patterns on ECG. It was categorized into three grades. Type 1 shows only hyper acute T waves, type 2 shows hyper acute T waves +ST segment elevation and in type 3 tombstone appearance having distortion of terminal portion of ST. We had assumed that there was maximum reduction of Left ventricular (LV) function in Type 3. Our objective was to see this correlation between type of acute ST segment in anterior wall myocardial infarction on ECG and LV function on echocardiography.

Study design: Non probability purpose sampling. Duration: Jan 2017 to Mar 2017 in the CCU of Jinnah Hospital Lahore.

Results: We examined 50 patients with anterior wall myocardial infarction (MI) presenting within 12 hours symptoms, thrombolized by streptokinase. We determined the correlation between types of ST elevations of acute anterior wall MI assessed on ECG with the LV function assessed on echocardiography. 50% were found between the 46 to 60 years, while 34% were below 45 years and 16% were above 65 years. Mean age was 52.66+ SD10.87. Male and female distribution was 88% and 22% respectively with 20% having DM and 45% having hypertension. There were 20 (40%) patients who were falling in the category 1 with the mean EF 48.25+ 8.926, while 11 (22%) patients in type 2 and mean EF was 35.45+6.502 while 19 (38%) patients fell in type 3 group having maximum decrease in EF with mean 31.05+7.375.

Conclusion: LV function was preserved in type 1, intermediate damage in type 2 and maximum damage in type 3. This simple classification is useful for the prediction of left ventricular function at discharge.

Keywords: ST segment elevation anterior wall MI • Echocardiography • Electrocardiography • Cardiovascular

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