Summary

Acute STEMI is the most serious presentation of CAD carrying the most hazardous consequences and it is caused by occlusion of major coronary artery with primary goal in the management to start reperfusion therapy as early as possible.

Restoration of the coronary flow facilitates cardiomyocyte salvage and decreases cardiac morbidity and mortality. However, reperfusion may result in paradoxical cardiomyocyte dysfunction, a phenomenon termed reperfusion injury.

The aim of the work is detecting the correlation between ECG score (selvester QRS score) and resting TC99 sestamibi SPECT for estimation the size of myocardial infarction in patients with acute STEMI who underwent primary PCI.

This study was conducted on thirty patients who presented to kobri Elkoba Millitary Hospital by acute STEMI eligible for mechanical reperfusion within the period from November 2011to July 2012.

All patients underwent primary PCI after diagnostic coronary angiography, the IRA was identified and treated using bare metal stents ± pre-dilatation by balloon according to decision of treating physician.

Before primary PCI the initial size of myocardial infarction was estimated by ECG using selveste QRS score and resting Tc-99 sesstamibi then, after primary intervention 1st SPECT image was taken within 6 hours from the time of injection of the radioactive material to assess the

initial size of the perfusion defect prior to reperfusion (myocardium at risk).

Prior to discharge the final size was estimated by QRS score and by resting Tc-99 sestamibi image to assess the final size of infarction and myocardial salvage was calculated.

There was a good significant correlation between both ECG score (selvester QRS) and resting TC99 sestamibi imagine for estimation the size of myocardial infarction and myocardial salvage**.**

The correlation was higher in patients with anterior wall MI, with post procedural TIMI 3 flow and with single coronary artery disease than patients with non anterior MI, with post procedure TIMI 2 flow and with multiple coronary artery disease.

The time of reperfusion did not affect the correlation between QRS score and resting TC99 as there was no significant difference between patients treated by 1ry PCI within <6 hours of the onset of chest pain and those treated within > 6 hours of the onset of chest pain.