Summary

To study the value of reciprocal ST segment depression during early exercise ECG in patients presented with acute myocardial infarction and received thrombolytic therapy. We studied 50 patients who were subjected to the following:

1- Full history taking and thorough clinical examination.

2- 12 lead Surface ECG.

3- Exercise ECG :

Exercise ECG was performed according to modified Bruce protocol before or soon after discharge from the hospital, a mean of ten (range 7-21) days after infarction. ST depression induced by exercise was considered to be reciprocal if accompanied by ST elevation in leads related to another area of the heart -invariably the leads related to the infarct, and to be isolated if occurring on its own.

4- Echocardiography:

Echocardiographic examination was done to all patients in all possible views using M-mode, 2D and Doppler echocardiography to assess left ventricular systolic and diastolic functions, to evaluate wall motion abnormalities and to detect any cardiac abnormality.

5-cardiac catheterization:

Coronary angiography was done to all patients within 2-4 weeks of discharge from hospital. Multiple projections of the coronary arteries were recorded on CINE film and reviewed by experienced observers to detect the number of coronary vessel affection and the patency of the infarct related artery.

Statistical analysis of the results of this study revealed the following:

- Chest pain during exercise was significantly higher in patients with isolated ST segment depression and was lower in those either with reciprocal or without ST segment depression.

- Wall motion abnormalities was less in patients with reciprocal ST depression, but without statistically significant difference.

- Left ventricular Ejection Fraction was lower in patients with reciprocal ST depression.

- The reciprocal ST depression during exercise was significantly associated with single vessel disease and with persistent occlusion of the artery related to infarction.

- There was no significant relation between age, sex, hypertension, hypercholesterolemia or diabetes mellitus and the occurrence of reciprocal ST depression during exercise.

We conclude that reciprocal ST segment depression that occurred during early exercise stress testing in patients with acute

myocardial infarction who were treated by thrombolytic therapy is most probably due to a passive electrical phenomenon and not due to remote ischemia.

Finally we recommend the performance of this study in a large number of patients using all possible new diagnostic modalities and to extend the scale of the study to include patients late after myocardial infarction.