Back ground : This study evaluated the ability of exercise induced ST segment elevation in aVR in patients with Duke treadmill score ≤ -11 to predict left main stem disease and three vessel disease and to investigate the ability of ST segment elevation in aVR more than 2 mm to differentiate between left main stem and three vessel disease.

Methods :66 patients with Duke score ≤ -11 were divided into three groups. group 1 included 16 patients with no ST elevation in aVR, group 2 included 21 patients with ST elevation less than 2 mm and group 3 included 29 patients with ST elevation more than 2 mm, coronary angiography was done and results were correlated with ST elevation in aVR

Results : 70% of patients with ST segment elevation in aVR had either left main stem or 3 vessel disease. Exercise induced ST elevation in aVR had sensitivity of 95% and specificity of 32% in predicting left main disease, while exercise induced ST elevation in aVR more than 2 mm had sensitivity of 89% and specificity 74% in predicting left main disease.

Conclusion : Eercise induced ST segment elevation in aVR in patients with Duke score ≤-11 is sensitive but not specific for both left main and three vessel disease while ST segment elevation in aVR of more than 2 mm is both sensitive and specific for left main but not for three vessel disease