Angiographic Evaluation of ETT (Treadmill) Positive Patients in a Tertiary Care Hospital of Bangladesh

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Abstract : Objective: To evaluate the factors which predetermine the coronary artery disease in patients having positive Exercise Tolerance Test (ETT) that is treadmill results and coronary artery findings. Methods: This descriptive study was conducted at Department of Cardiology, Ibrahim Cardiac Hospital & Research Institute,Dhaka,Bangladesh from 1st January, 2014 to 31st August, 2014. All patients who had done ETT (treadmill) for chest pain diagnosis were studied. One hundred and four patients underwent coronary angiogram after positive treadmill result. Patients were divided into two groups depending upon the angiographic findings, i.e. true positive and false positive. Positive treadmill test patients who have coronary artery involvement these are called true positive and who have no involvement they are called false positive group. Both groups were compared with each other. Results: Out of 104 patients, 81 (77.9%) patients had true positive ETT and 23 (22.1%) patients had false positive ETT. The mean age of patients in positive ETT was 53.46 ± 8.06 years and male mean age was 53.63 ± 8.36 years and female was 52.87 ± 7.0 years. Sixty nine (85.19%) male patients and twelve (14.81%) female patients had true positive ETT, whereas 15 (65.21%) males and 8 (34.79%) females had false positive ETT, this was statistically significant $(p<0.032)$difference in the two groups(sex) in comparison of true and false positive ETT. The risk factors of these patients like diabetes mellitus, hypertension, dyslipidemia, family history and smoking were seen among these patients. Hypertensive patients having true positive which were statically significant $(p<0.004)$ and diabetic, dyslipidaemic patients having true positive which were statically significant $(p < 0.032 \& 0.030)$.True positive patients had family history were 68 (83.95%) and smoking were 52 (64.20%), where family history patients had statistically significant$(p<0.017)$ between two groups of patients and smokers were significant $(p<0.012)$. 46 true positive patients achieved THR which was not statistically significant $(P<0.138)$and 79 true patients had abnormal resting ECG whether it was significant $(p<0.036)$. Amongst the vessels involvement the most common was LAD 55 (67.90%), followed by LCX 42 (51.85%), RCA 36 (44.44%) and the LMCA was 9 (11.11%), .40 patients (49.38%) had SVD, 26 (30.10%) had DVD, 15(18.52%) had TVD and 23 had normal coronary arteries. Conclusion: It can be concluded that among the female patients who have positive ETT with normal resting ECG, who had achieved target heart rate are likely to have a false positive test result. Conversely male patients,resting abnormal ECG who had not achieved THR, symptom limited ETT, have a hypertension, diabetis, dyslipidaemic, family history and smoking are likely to have a true positive treadmill test result.

Keywords : exercise tolerance test, coronary artery disease, coronary angiography, true positive, false positive

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