SUMMARY AND CONCLUSION
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The present study was conducted on thirty eight diabetic subjects to work out the cardiovascular changes by resting ECG, treadmill testing and echocardiographic assessment.

The subjects were ranging from thirty six to seventy years of age (average 54.0 years). Out of these thirty eight subjects, thirty were males and eight females.

Risk factors of coronary artery disease were present in fair number of cases. Two patients had four risk factors, six had three each, while in thirty cases there were only two risk factors including diabetes.

Hypertension was the commonest risk factor present in 78.84%. Incidence of hypertension was related to age, sex and duration of diabetes mellitus. Patients of older age group, long duration of diabetes and females were found to have blood pressure on higher side.

Resting electrocardiogram showed left ventricular hypertrophy in 13.15% and right ventricular hypertrophy in 5.26%. Ischaemic changes were found in 26.31% cases and infarction in 5.26% cases. Various conduction defects were noted in 10.52% cases.

Out of thirty eight patients, nineteen (50%) males and five (13.15%) females had positive treadmill test.

TMT was positive in all the cases having three risk factors.
Of all the diabetic subjects, eight (21.05%) gave typical history of angina. Of these, seven (87%) came out to be positive for CAD by treadmill testing, whereas in nine (23.68%) subjects, history of chest pain was atypical but probably of ischemic origin. Seven of them (77.78%) came positive for coronary artery disease. Twenty one (55.25%) patients gave atypical history of angina of non ischemic origin and only ten (47.62%) patients came out to be positive for coronary artery disease.

The over all occurrence of CAD was 63.15%. Duration of diabetes had a linear relationship with incidence of coronary artery disease. The patients who were diabetic for longer duration had not only higher incidence of coronary artery disease but also the disease was more severe in them as compared to those who were diabetic for shorter duration. Of patients who had diabetes for less than five years, 50% had positive treadmill test. In diabetics of 5-10 years duration, it was 68% and in those who were diabetic for more than ten years, TMT was positive in 75% cases.

Chest pain was significant finding during exercise ECG testing (TMT). Onset of ST segment depression had direct correlation with positivity of TMT.

Echocardiographic findings showed a reduction in EF slope (systolic and diastolic closure rate), FD (fractional shortening) and EF (ejection fraction) and
an increase in EDD (end diastolic diameter), PWT (posterior wall thickness) and IVS (Interventricular septum thickness).

The present study has shown that the incidence of coronary artery disease as documented by positive treadmill and echocardiographic finding is definitely high in diabetics.

To conclude the treadmill exercise ECG testing seems a good screening test for diabetics to detect asymptomatic myocardial ischemia and to exclude/confirm the same in diabetics having atypical chest pain.

Treadmill stress test also seems a fruitful guide to prescribe physical exercise to diabetics with safe limits, so that diabetics are not prey to the onslaught of silent myocardial ischemia.

Echocardiography is an important non invasive, non ionizing modality to investigate cardiac size, pulsations, any evidence of wall motion abnormalities and akinetic movements. The cross section echocardiography is also useful to evaluate mitral-aortic valve indirect effect over the cardiac haemodynamic and ejection fraction of the heart. The chamber visualization and state of myocardium and interventricular septum are also studied. In the last, patient can be repeatedly investigated by this non exertive easily available modality to study the improvement and deterioration of the heart.