

Increased carotid intima-media thickness as a predictor for abnormal myocardial perfusion by dobutamine stress echocardiography in patients with diabetes mellitus type 2

Background: Coronary artery disease (CAD) remains a leading cause of death among patients with diabetes mellitus (DM). Hence, screening tests for early diagnosis of CAD may lead to early treatment and therefore improved outcomes.

Aim of the work: The aim of this study was to correlate myocardial perfusion abnormality by dobutamine stress echocardiography to carotid intima-media thickness in type 2 diabetic patients free from cardiac symptoms.

Subjects and methods: Fifty type 2 diabetic patients with or without other risk factors (case group) and twenty-five non diabetic patients (control group) were included in this study. Full history taking, complete clinical examination, ECG, assessment of carotid intima-media thickness (CIMT) and carotid plaques by carotid ultrasonography and myocardial perfusion imaging by dobutamine stress echocardiography (DSE) were performed for all subjects.

Results: The prevalence of abnormal myocardial perfusion by DSE in asymptomatic diabetic patients was 8%. There was positive correlation between CIMT and duration of DM and age. In relation to wall motion score index (WMSI), there was significant elevation in CIMT ($p=0.022$) and carotid plaque ($p=0.028$) in the patients with positive stress study. **Conclusion:** The findings of this study show that increased CIMT and carotid plaque were significantly related to the presence and extent of abnormal myocardial perfusion, it is reasonable to recommend using CIMT to identify asymptomatic patients with type 2 diabetes mellitus at higher risk for CAD and indirect predictor for cardiovascular events.

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