

## Study of Silent Myocardial Ischemia in Type 2 Diabetic Males: Egyptian Experience

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**Abstract :** Introduction: Accelerated coronary and peripheral vascular atherosclerosis is one of the most common and chronic complications of diabetes mellitus. A recent aspect of coronary artery disease in this condition is its silent nature. The aim of the work: Detection of the prevalence of silent myocardial ischemia (SMI) in Upper Egypt type 2 diabetic males and to select male diabetic population who should be screened for SMI. Patients and methods: 100 type 2 diabetic male patients with a negative history of angina or anginal equivalent symptoms and 30 healthy control were included. Full medical history and thorough clinical examination were done for all participants. Fasting and post prandial blood glucose level, lipid profile, (HbA1c), microalbuminuria, and C-reactive protein were done for all participants. Resting ECG, trans-thoracic echocardiography, treadmill exercise ECG, myocardial perfusion imaging were done for all participants and patients positive for one or more NITs were subjected for coronary angiography. Results Twenty nine patients (29%) were positive for one or more NITs in the patients group compared to only one case (3.3%) in the controls. After coronary angiography, 20 patients were positive for significant coronary artery stenosis in the patients group, while it was refused to be done by the patient in the controls. There were statistical significant difference between the two groups regarding, hypertension, dyslipidemia and obesity, family history of DM and IHD with higher levels of microalbuminuria, C-reactive protein, total lipids in patient group versus controls. According to coronary angiography, patients were subdivided into two subgroups, 20 positive for SMI (positive for coronary angiography) and 80 negative for SMI (negative for coronary angiography). No statistical difference regarding family history of DM and type of diabetic therapy was found between the two subgroups. Yet, smoking, hypertension, obesity, dyslipidemia and family history of IHD were significantly higher in diabetics positive versus those negative for SMI. 90% of patients in subgroup positive for SMI had two or more cardiac risk factors while only two patients had one cardiac risk factor (10%). Uncontrolled DM was detected more in patients positive for SMI. Diabetic complications were more prevalent in patients positive for SMI versus those negative for SMI. Most of the patients positive for SMI have DM more than 5 years duration. Resting ECG and resting Echo detected only 6 and 11 cases, respectively, of the 20 positive cases in group positive for SMI compared to treadmill exercise ECG and myocardial perfusion imaging that detected 16 and 18 cases respectively. Conclusion: Type 2 diabetic male patients should be screened for detection of SMI when aged above 50 years old, diabetes duration is more than 5 years, presence of two or more cardiac risk factors and/or patients suffering from one or more of the chronic diabetic complications. CRP, is an important parameter for selection of type 2 diabetic male patients who should be screened for SMI. Non invasive cardiac tests are reliable for screening of SMI in these patients in our locality.

**Keywords :** C-reactive protein, Silent myocardial ischemia, Stress tests, type 2 DM

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