

Nawaz S.
SILENT MYOCARDIAL ISCHEMIA IN PATIENTS WITH CORONARY ARTERY DISEASE

Tutor: Senior lecturer Repina Y.V
Department of Propaedeutics of Internal Diseases
Belarusian State Medical University, Minsk

Relevance. Silent myocardial ischemia (SMI) - an objectively verified impairment of coronary perfusion occurring in the absence of chest pain - accounts for up to 70-80% of all transient ischemic episodes in patients with coronary artery disease (CAD). The clinical hazard of this condition lies in its prolonged unrecognized course, which substantially increases the risk of sudden cardiac death and myocardial infarction. Particular attention should be paid to patients with concomitant type 2 diabetes mellitus (T2DM), in whom cardiac autonomic neuropathy impairs the normal nociceptive response to ischemia, rendering anginal pain an unreliable warning signal. Standard 12-lead ECG remains the most accessible primary screening tool for detecting signs of ischemia in routine clinical practice; however, data on the prevalence of SMI based on ECG criteria in hospitalized CAD patients remain limited.

Aim: to assess the prevalence of silent myocardial ischemia and the spectrum of ECG abnormalities in patients with CAD, and to analyze the possible association between SMI and type 2 diabetes mellitus.

Materials and methods. A cross-sectional observational study was conducted at «6 Clinical City Hospital, Minsk», enrolling 25 patients from Cardiology department with confirmed CAD. Data were collected via standardized patient interview and standard 12-lead ECG analysis. Working definition of SMI: ECG signs of ischemia (ST-segment depression and/or post-infarction changes) in the absence of chest pain. Statistical analysis: Python/SciPy; Me [Q1; Q3]; Mann–Whitney U test; Fisher's exact test; Spearman's rank correlation.

Results and their discussion. Females - 16 (64.0%), Males - 9 (36.0%); median age 75.0 [66.0; 84.0] years (females 76.5, males 69.0). T2DM in 7 (28.0%) patients, all on therapy. SMI identified in 2 of 9 pain-free patients (22.2%; 8.0% of total cohort). Most common ECG findings: ST-segment depression 48.0%, atrial fibrillation 44.0%, post-infarction changes 28.0%. No significant association between T2DM and SMI ($p > 0.05$); borderline trend: ST depression and chest pain ($r = 0.387$; $p = 0.056$); T2DM patients tended to be older (Me 78.0 vs. 71.5 years; $p = 0.074$).

Conclusions. SMI prevalence was 22.2% among pain-free patients (8.0% of total cohort); leading ECG abnormalities - ST-segment depression (48.0%) and atrial flutter/fibrillation (44.0%). No statistically significant association between SMI and T2DM was established; observed trends warrant investigation in a larger sample.