

## The Clinical Manifestations of Myocardial Bridging in Patients with Coronary Artery Disease

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**Abstract :** Introduction: The myocardial bridging is the most common anomaly of the coronary arteries (CA). Depending on the examination method, the frequency of detected myocardial bridges (MB) varies in a rather wide range. The typical clinical manifestations of MB are angina pectoris, arrhythmias, sudden cardiac death. Objective: To study the incidence of MB in patients hospitalized with coronary artery disease (CAD). To assess clinical manifestations of MB in patients admitted with CAD. Materials and methods: A retrospective analysis of 19159 case histories of patients admitted at clinical city hospital in Moscow from 01.01.2018 to 31.12.2019 with CAD was performed. 9384 patients' coronary angiographies (CAG) were examined for MB. The localization of MB, the degree of coronary contraction by MB, the number of MB, isolated MB and combined with CAD were assessed. The clinical manifestations of MB were determined. Results: MB was detected in 52 patients all with one myocardial bridge. 20 patients with MB have intact CA, and 32 patients have MB combined with CAD. Among 20 patients with intact CA: I degree of MB contraction (up to 50%) was detected in 9 patients. Clinical manifestations in five cases were angina pectoris, in 3 myocardial infarction (MI) - 1 patients with ST segment elevation MI (STEMI), 2 without ST segment elevation MI (NSTEMI), 1 post-infarction cardiosclerosis (PICS). Stable angina II FC in 3, III FC in 1, vasospastic angina (VSA) in 1 patient. II degree of MB contraction (up to 50-70%) was determined in 9 patients: in seven cases angina pectoris was detected, 1 NSTEMI, 1 PICS. Stable angina II FC in 3, III FC in 1, VSA in 3 patients. III degree of MB contraction (> 70%) detected in 2 patients. II FC stable angina in one case, PICS in another. Among 32 patients having MB combined with CAD I degree of MB contraction was observed in 20 patients. Clinical manifestations in 12 cases were angina pectoris in 8 II FC and in 4 III FC, 7 MI 6 with STEMI and 1 NSTEMI, 1 PICS. II degree of MB contraction was detected in 7 patients, 4 of them had angina pectoris, 3 MI 2 with STEMI and 1 NSTEMI. Stable angina II FC in 3, VSA in 1 patients. III degree of MB contraction was diagnosed in five patients. In two cases, II FC and III FC stable angina were observed, 2 MI with STEMI and NSTEMI, 1 PICS. Conclusions: MB incidence is one in 368 patients with CAD. The most common involvement (68%) is MB combined with CA atherosclerotic lesions. MB with intact CA are detected in one-third (32%) of patients. The first-degree MB contraction is most frequent condition. MI is more often detected in intact CA with first degree MB than in the second degree. The degree of MB contraction was not correlated with the severity of the clinical manifestations.

**Keywords :** clinical manifestations, coronary angiography, coronary artery disease, myocardial bridging, myocardial infarction, stable angina

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