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Some morphological aspects of myocardial bridges

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Abstract

Background: Myocardial bridges are variants of the intramyocardial position of the coronary arteries. In the specialty literature, hot topics in cardiovascular field are myocardial infarction and non-obstructive coronary artery disease with frequent connection with myocardial bridges.

Material and methods: The morphological study was based on the analysis of 200 human hearts and fragments of coronary arteries. The retrospective study was focused on the analysis of 6168 coronary angiography reports, to identify patients with myocardial bridges, their preferred location, the degree of systolic stenosis, the association between myocardial bridges and proximal to bridge and under the bridge coronary atherosclerosis.

Results: The complete myocardial bridges were described in 62% of the analyzed hearts and only in 5.3% of the total number of studied coronarographies. In the majority of cases, the complete myocardial bridges covered the anterior interventricular branch. The degree of subpontine arterial systolic stenosis varied within 10-95%. The comparative study did not determine any correlations between the degree of subpontine vascular compression and the degree of the left ventricular myocardial hypertrophy. In 32% of cases were described proximal to bridge atherosclerotic plaques and only in one case (0.5%) – distal to bridge atherosclerotic plaques, located immediately under the bridge.

Conclusions: The research findings underline the differences in anatomical and angiographic incidence of myocardial bridges, and the inability of all bridges to reduce the lumen of under bridged artery. Current study emphasizes attention to the topography of bridges, the correlation with ventricular hypertrophy and coronary atherosclerosis.

Key words: myocardial bridge, myocardial ischemia, myocardial hypertrophy, coronary atherosclerosis.

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