ST segment elevation myocardial infarction caused by distal right coronary artery embolism due to atrial fibrillation: a case report

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KEYWORDS: atrial fibrillation, ST segment elevation myocardial infarction, coronary artery embolism.

CITATION: *Cardiol Croat.* 2017;12(9-10):347. | <https://doi.org/10.15836/ccar2017.347>

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Background: Nonvalvular atrial fibrillation (AF) is the most common cause of systemic embolism. In rare cases, AF can cause coronary artery embolism which is a rare but important nonatherosclerotic cause of acute myocardial infarction.¹

Case report: We report the case of 81-years-old man with permanent atrial fibrillation who presented to our hospital with ST segment elevation myocardial infarction. Coronary angiography verified the embolic occlusion of distal posterolateral branch, which is a branch of the right coronary artery, unsuitable for percutaneous coronary intervention, and no significant atherosclerotic coronary artery disease was found. Transthoracic echocardiography showed a slightly reduced left heart systolic function (EF 45-50%), higher grade diastolic dysfunction and reduced longitudinal strain in inferoposterior segments of left ventricle (-2 to -7). The patient was treated according to the current guidelines.

Conclusion: Proper anticoagulant therapy in patients with atrial fibrillation is extremely important in order to prevent thrombus formation, and consequently, the embolism commonly occurring in these conditions. Echocardiographic measurement of the longitudinal strain could indicate a greater possibility of forming the thrombus in patients with impaired cardiac contractility. At present, measurement of the ventricular strain is recommended as a better method for estimating the systolic function from the measurement of the ejection fraction. Using this method, it is better to examine segmental mobility of individual parts of the ventricle and to better evaluate contractility. Also, the strain may point to the hypo(a)contractility of the ventricle. In this case, there is a possibility that in this negligible part of the ventricle, conditions for the thrombus formation were created. Is this the case in this patient we cannot safely claim. Research is needed to confirm this assumption.

RECEIVED:
September 9, 2017

ACCEPTED:
September 26, 2017

LITERATURE

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