Imagem

Multiple Simultaneous Embolisms of Right and Left Coronary Arteries

Moacir Fernandes Godoy, Thiago Augustus Portes, Paulo Leandro Alves Bernardo, Flávio Correa Pivatelli
São José do Rio Preto, SP - Brazil

The patient is a 39-year-old female smoker presenting with typical clinical findings of acute myocardial infarction, who has had a mechanic valvular prosthesis in the aortic and mitral position for 2 years, being under irregular use of oral anticoagulants (INR= 1.1). The electrocardiogram showed a 9-mm elevation in the ST segment in the II, III and aVf leads (fig. 1). The CK serum level reached 6240 IU/L (normal < 145 IU/L) and that of CKMB reached 236 IU/L (normal < 10 IU/L) in 12 hours. Primary angioplasty was indicated due to persistence of the clinical and electrocardiographic findings, despite the use of vasodilating agents, antiplatelet therapy and general measures.

The coronary angiography identified images of multiple obstructions in the distal branches of the left and right coronary arteries, with angiographic characteristics of thrombi (fig. 2). The transthoracic echocardiographic study did not show any atrial or ventricular intracavitary thrombus, any vegetation that would suggest infectious endocarditis, or any dysfunction of the metallic prosthesis. The ejection fraction was 0.18. An angiography dated from 2 years back had evidenced coronary arteries free from obstructive disease. The patient was admitted into the intensive care unit and submitted to thrombolytic therapy with streptokinase (1,500,000 IU, intravenously, in 30 min), and did not meet the reperfusion criteria. Tachyarrhythmia, chest pain and hemodynamic instability disappeared only after 10 days of intensive clinical treatment with dobutamine, heparin, metoprolol, diuretics, ACE inhibitor, opioids, and acetylsalicylic acid. The scintigraphic study evidenced dilation of the cardiac chambers, septal contractile dysfunction, and anterior and posterior contractile dysfunction of the left ventricular walls, with ejection fraction of 0.17. The patient refused to undergo control coronary arteriography. Once adequate anticoagulation was obtained (INR=3.2), she was discharged from the hospital. On her first follow-up visit 8 weeks later, the patient was asymptomatic.

Acute myocardial infarction with normal coronary arteries is a rare syndrome whose etiology and pathophysiology remain undefined in most cases. Coronary spasm and thromboembolism are involved.

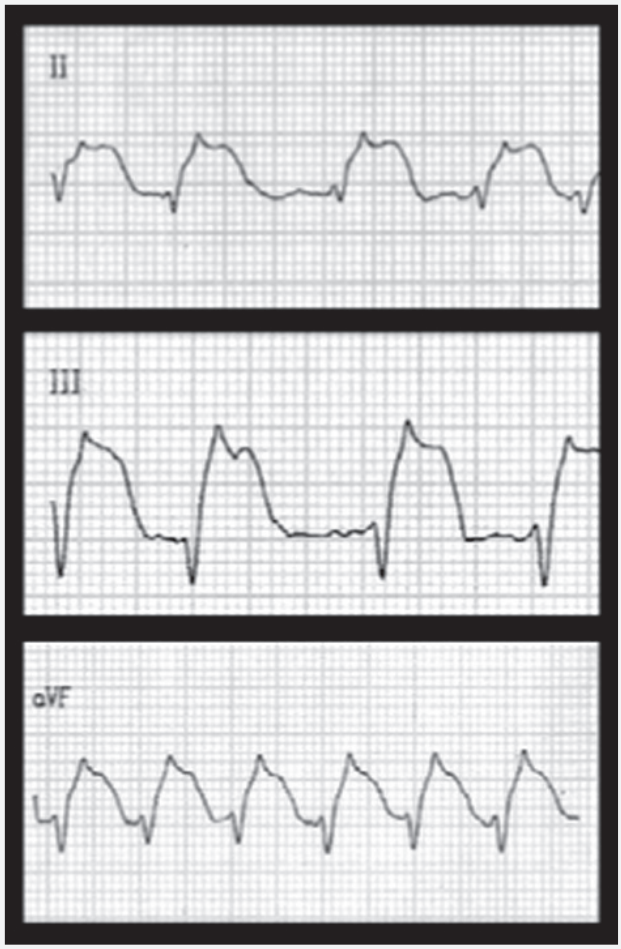

Fig. 1 - Emergency electrocardiogram: elevation in the ST segment in the II, III, and aVF leads.

Its prevalence in angiographic, endosonographic, and histopathologic studies of the coronary arteries of infarcted patients has ranged from 1 to 7%. The mean age of patients experiencing acute myocardial infarction with normal coronary arteries is 40 years; among infarcted patients under 30 years of age, it may represent 16-35% of the cases [1].

Coronary artery embolism is related to the following: valvular cardiac prostheses, infectious endocarditis, intraventricular thrombus, cardiac valvular stenosis, atrial fibrillation, left ventricular aneurysm, cardiac surgery, dilated cardiomyopathy, cardiac tumors, and paradoxical embolism. In cases of multiple coronary artery embolisms, the findings may include combined cardiac valvular

Faculdade de Medicina de São José do Rio Preto - Famerp
Mailing address: Thiago Augustus Portes - Rua José Picerni 419/33
Cep 15091-200 - São José do Rio Preto, SP, Brazil
E-mail: thiportes@ig.com.br
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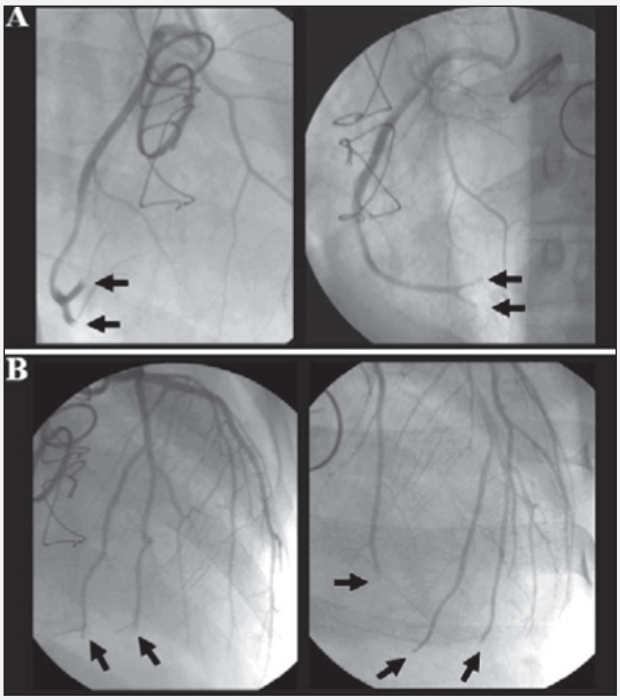

Fig. 2 - Arteriography of the right (A) and left (B) coronary arteries showing multiple and typical images of distal embolism (arrows).

disease, chronic atrial fibrillation, left ventricular thrombus, congestive heart failure, irregular use of anticoagulants, smoking, use of oral contraceptives, prothrombotic variant of factor II, and patent oval foramen [2-4]. Takenaka et al [3] have attributed that rare condition to the rupture of a thrombus passing through the left main coronary artery, with consequent obstruction of its distal branches. Consecutive coronary thromboembolism affecting different coronary branches during a short period of time would be a less likely mechanism [5].

The risk factors for thromboembolism observed in our patient include smoking, metallic cardiac valvular prosthesis, and inadequate use of anticoagulants. The following did not occur: pain and cyanosis of the extremities, petechiae, muscle pain, paresthesia of the limbs, paleness or absence of pulse, abdominal pain with gastrointestinal bleeding, flank pain and hematuria, or any other evidence of systemic embolism. The patient did not have neurologic alterations, sensorial or motor deficits, convulsions, dysphasia, or anopsia. The emboli reaching the coronary circulation may have originated from fragile thrombi possibly formed in the aortic prosthesis close to the ostium of the coronary arteries, or, more unlikely, in the mitral prosthesis. This is the fourth report of a distal multiple embolic pattern found on coronary angiography, and the second simultaneously affecting the left and right coronary arteries.

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