IMAGES IN CARDIOLOGY

Thrombus and severe spasm in a case of acute myocardial infarction

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We present the case of a 65 years old patient, hypertensive, dyslipidemic, who came to an emergency department 7 h after onset of an intense retrosternal pain, without a history of angina.

Clinical exam on admission revealed: moderate general condition, blood pressure 150/80 mmHg, pulse 76 bpm. The electrocardiogram showed sinus rhythm, pulse 75 bpm, a ST segment elevation of maximum 5 mm in DII, DIII, aVF, V7 - V9, with ST segment depression in V1 - V3. The echocardiography revealed a mild LV systolic dysfunction (EF = 45%) and segmentary kinetic abnormalities of the inferior wall and 2/3^{rds} of the basis of the infero-lateral wall, with a low grade mitral regurgitation.

An emergency coronarography is performed, revealing a left coronary artery free of stenosis and an acute thrombotic occlusion of the third segment of the right coronary artery (RCA), with TIMI 1 distal flux. Multiple passage thrombaspiration is performed with the extraction of a large quantity of thrombotic material from the IIIrd segment of the right coronary. After the thrombus extraction, a significant caliber reduction can be observed at the occlusion site, which was initially interpreted as an atherosclerotic lesion, but after multiple administrations of intracoronary nitroglycerine the lesion evanesced, with a 20% atheromatous plaque remaining. Thus, the presence of a severe spasm was demonstrated on an occluded vessel, which could have been misinterpreted as an atherosclerotic lesion, with a significant impact on the treatment.

Conflict of interests: The authors declare that no conflict of interest exists.

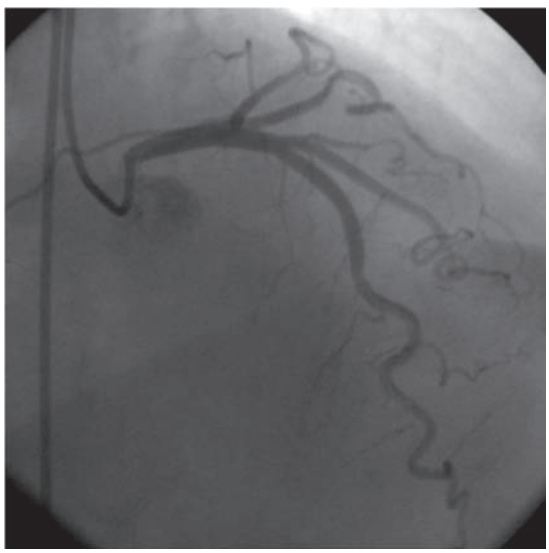

Figure 1. Contrast injection in the left coronary artery, no atherosclerotic lesions can be observed.

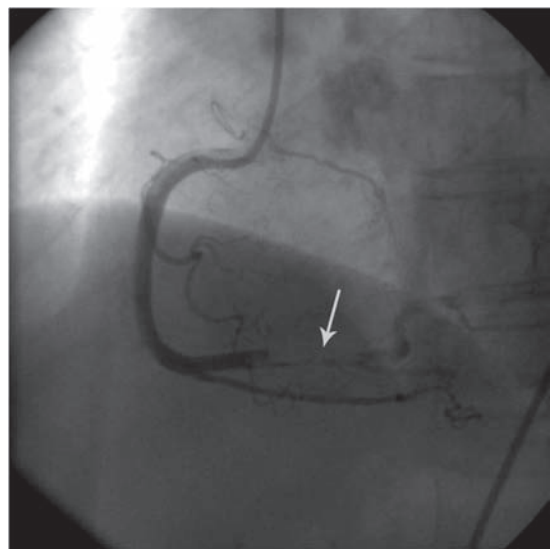

Figure 2. Contrast injection on the RCA, revealing a IIIth segment RCA acute thrombotic occlusion, with TIMI 1 distal flux. A massive intraluminal thrombus can be observed (pointed out by the arrow).

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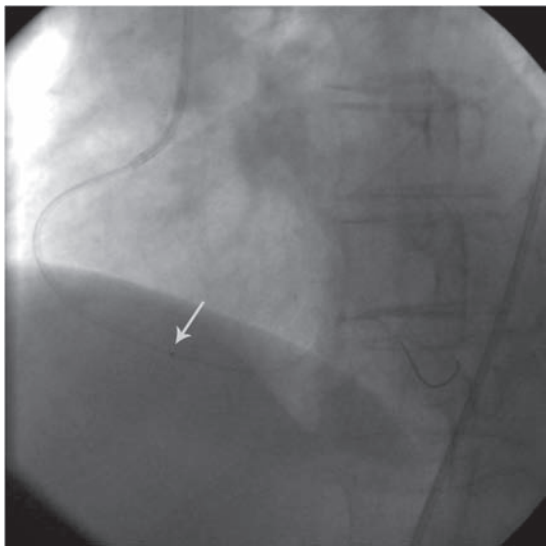

Figure 3. Caption from the thrombaspiration maneuver where the distal marker of the aspiration catheter is visible (see arrow).

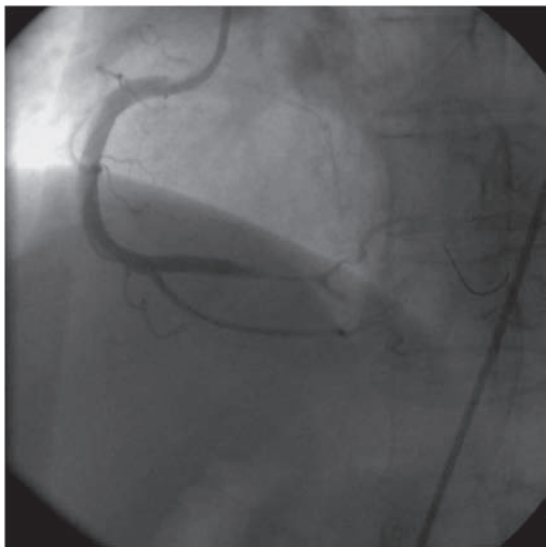

Figure 4. Upon contrast injection in the RCA, after the thrombaspiration, an area with a small caliber can be observed in the IIIth segment RCA. This could have been misinterpreted as an atherosclerotic lesion, but it proved to be a major coronary spasm.

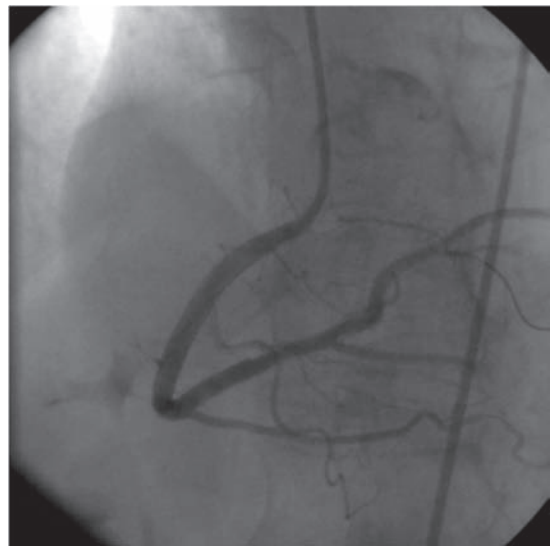

Figure 5. After intracoronary nitroglycerine administrations contrast injection in the RCA revealed the remission of the coronary spasm and the presence of a 20% plaque on the IIIth segment RCA.