

AORTOCORONARY DISSECTION DURING A RESCUE ANGIOPLASTY

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INTRODUCTION

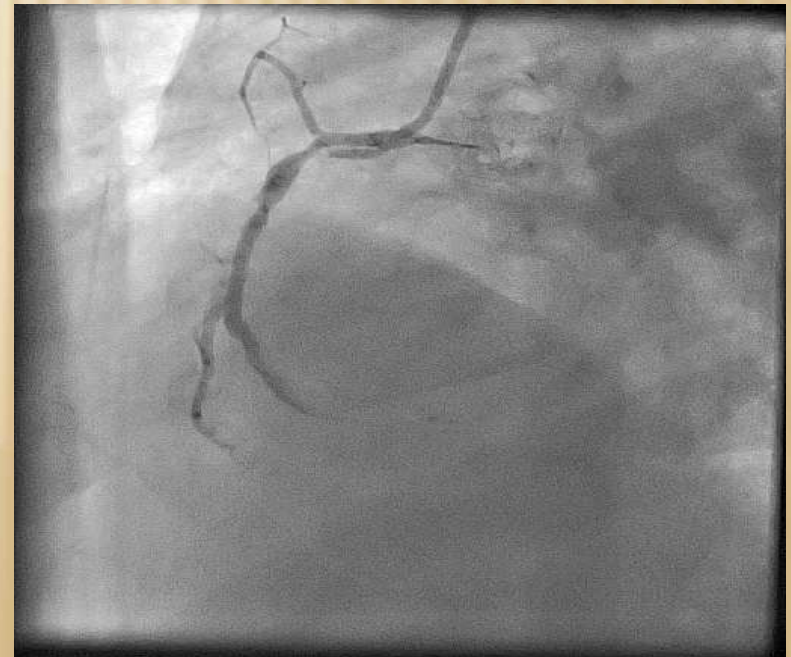
- Complications secondary to intravascular catheterization have increased with the use of the percutaneous transluminal coronary angioplasty (PTCA), especially in patients with acute coronary syndrome.
- Iatrogenic dissection of the right coronary artery extended to the aorta, is a relatively infrequent complication described and studied in the literature so we can not speak of incidence, in any case less than 1%.

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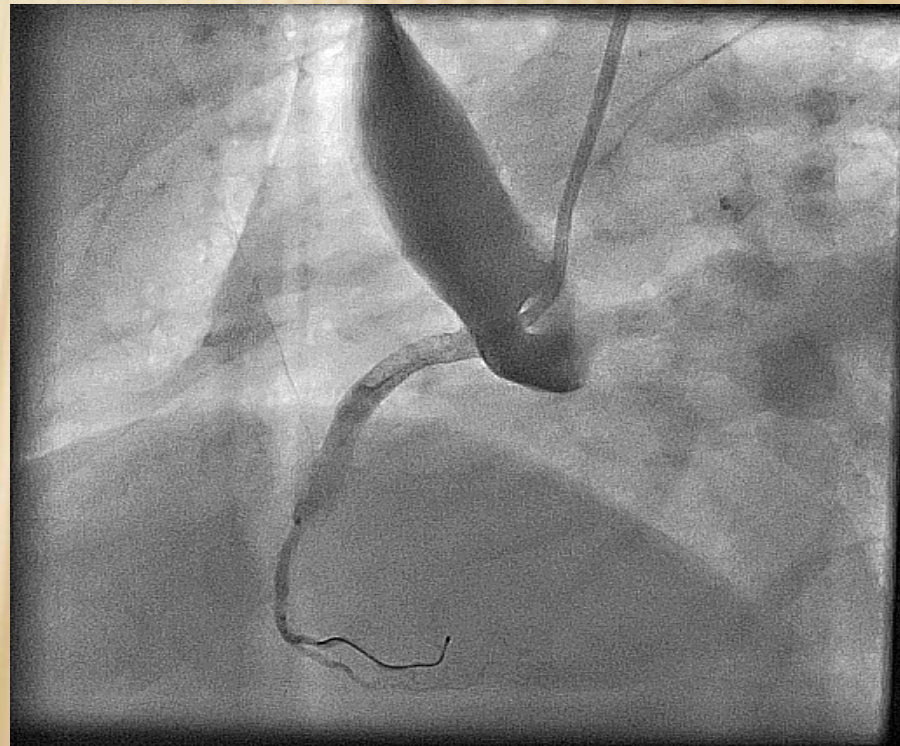
CASE DESCRIPTION

- We report the case of a 62 years-old man who is smoker, with a history of dylipidemic.
- No history of heart disease and cardiovascular asymptomatic previously.
- Admitted to our center for acute inferior myocardial infarction.
- Fibrinolysis with TNK was done after 1 hour from the begining of symptoms, as usual pattern, without evidence of reperfusion after 90 minutes so a rescue angioplasty was performed.

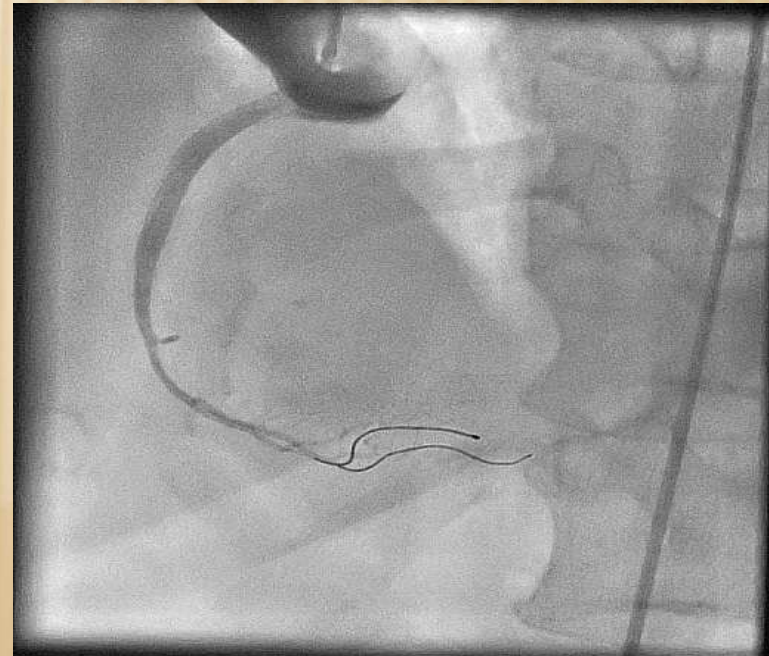
- Coronary angiography revealed normal left coronary artery. The right coronary artery showed an occlusive 100% lesion in the mid-segment of the vessel, and distal blood flow TIMI 0
- During the right coronary ostium catheterization with an 6F Judkins left-guiding catheter, the angiogram showed dissection of the right coronary artery, extending from the ostium all along the first segment of the artery .



- In addition, we visualized a retrograde dissection of the aortic root .



- In order to maintain blood flow to the right coronary artery and reduce myocardial ischemia and hemodynamic instability, the right coronary artery dissection was treated with the implant of two direct stents PROKINETIC 4x26mm + 4x30mm impacted at 10 and 12 atm. The angioplasty restored partially the right coronary artery blood flow .



- Aortic dissection required surgical repair. During the surgery it was decided to implant an inverted saphenous vein aortocoronary bypass graft, connected distally to the right coronary artery to guarantee the distal right coronary blood flow in case of stent occlusion

DISCUSSION

- The incidence of iatrogenic aortic dissection occurring during catheterization or angioplasty is rare.
- Devices used in the coronary angioplasty (guide and balloon catheters, devices for rotablation or atherectomy, stents, etc.) increase the probability of complications during the PTCA.
- Risk of complication increases with the wrong manipulation of these devices: sudden and forced injection of contrast media; imprudent and forced rotation of the catheter, and deep or non-axial introduction of the guide catheter in the coronary ostium, especially when back support is absent.

TIPS FOR PREVENTION AND TRICKS FOR MANAGEMENT

- To treat the ostial coronary lesion a stent must be delivered in coronary ostium, protruding 1 to 2 mm into the aortic lumen.
- The definitive treatment of the acute aortic dissection depends on the severity of signs and symptoms.
- Surgery must be considered when aortic dissection occurs in the proximity of the coronary ostium. Replacement of the ascending aorta is the traditional surgical treatment. However, most cases reported in the literature were solved by sealing the entrance in the coronary artery and then conservative treatment, follow-up by imaging techniques.

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- Two key points have to be learned from this case:
 1. To identify the true lumen in coronary artery dissection is mandatory before the stent deployment. IVUS, microcatheters with distal hole for contrast injection or contralateral angiography in chronic total occlusion cases could help you.
 2. If there's ostial lesion, be careful and try to make an outside injection from the coronary sinus before a deeply intubation.

