

Traumatic Fistula between the Right Coronary Artery and Right Atrial Chamber

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Introduction

A 25-year old male patient, victim of attack by cutting weapon, had the side of his right hemithorax injured. In the following two weeks he developed thoracic oppressive pain, in the inframammary region. The pain was triggered by exertion, and mitigated by rest, and was followed by dyspnea. He was admitted into our facility.

Upon physical examination on admission, he presented with blood pressure at 100 x 60 mmHg, and heart frequency of 110 bpm. On auscultation, there was a continuous murmur on the left sternal border and tricuspid systolic murmur (+ +/+6).

He had no relevant personal or family history. He denied smoking, drinking and using illegal drugs.

The electrocardiogram on admission showed sinus rhythm with pathological Q-wave on the lower leads.

Thorax X-ray and laboratory test has normal results, including troponin I dosage.

Transthoracic echocardiogram evidenced continuous flow close to the anterior leaflet of the tricuspid valve inside the right

atrium, in addition to mild to moderate tricuspid regurgitation (Fig.1A and 1B.).

Elective coronary angiography confirmed the fistula between the right coronary and the right atrium (Fig. 2A).

We performed a surgery to close the fistula from within the right atrial chamber with a saphenous vein patch (Fig. 3A and 3B)

The patient progressed without symptoms. He was normal on physical examination and underwent a second coronary investigation for control purposes, which showed a normal right coronary artery. (Fig. 2B)

Traumatic fistulae between coronary arteries and heart chambers are uncommon sequelae of thoracic trauma and require early diagnosis and intervention so as to prevent complications.

Potential complications from fistulae described in the literature include: congestive heart failure, pulmonary arterial hypertension, coronary steal syndrome with myocardial ischemia, bacterial endocarditis and formation of coronary aneurism¹.

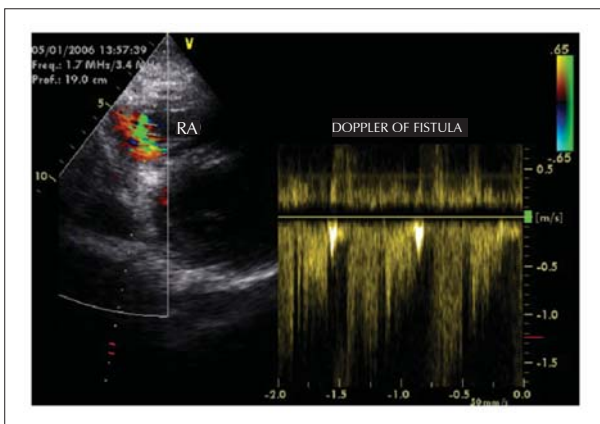


Fig. 1A - Doppler showing continuous flow to the right atrium (RA).

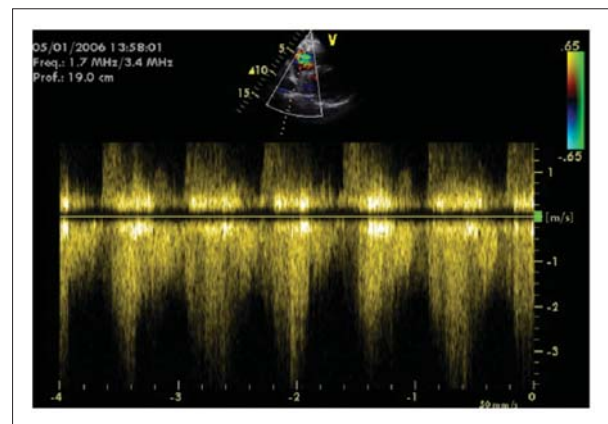


Fig. 1B - Doppler of fistula.

Key words

Arterio-arterial fistula; coronary vessels; heart injuries.

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There are two techniques to surgically repair a coronary fistula: ligation or external obliteration of the fistula, with or without distal revascularization of the coronary and closure from within the heart chamber². The second intervention was used in this case and is associated with a lower recurrence rate³.

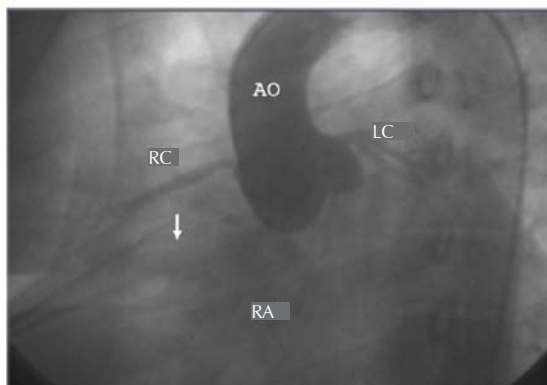


Fig. 2A - Aortography showing the fistula (arrow) between the right coronary artery (RC); right atrium (RA); left coronary artery (LC) and Aorta (AO).

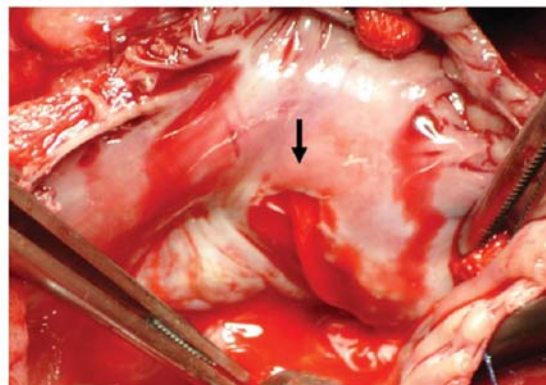


Fig. 3A - Open right atrium with fistula (arrow).

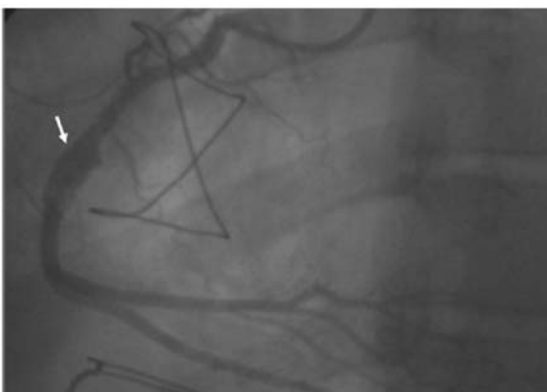


Fig. 2B - Control coronary angiography showing a normal right artery (arrow).

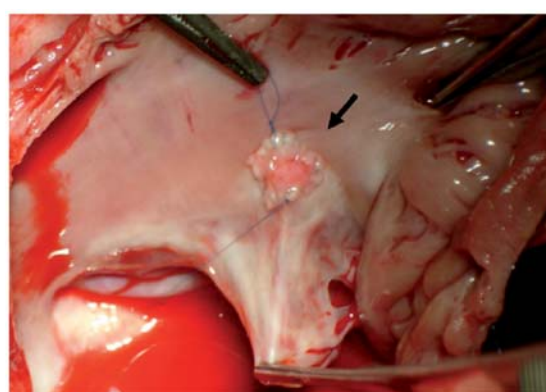


Fig. 3B - Closure of fistula, from within the right atrium with a saphenous vein patch (arrow).

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