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CASE REPORT

Complications of endomyocardial biopsy after heart transplantation. A lesser evil☆

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KEYWORDS
Heart transplantation;
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Abstract Endomyocardial biopsy is still the principal method for diagnosing cardiac allograft rejection. However, this procedure can be associated, albeit rarely, with potentially serious complications.

We describe the case of a patient with extensive anterior myocardial infarction without revascularization, who developed cardiogenic shock and required heart transplantation. Post-transplantation, a coronary artery fistula to the right ventricle associated with an aneurysm and two restrictive interventricular communications were detected.

PALAVRAS-CHAVE
Transplante cardíaco;
Biópsia do endomiocárdio;
Fístula coronária;
Comunicação interventricular restritiva

Complicações da biópsia endomiocárdica após transplante cardíaco. Um mal menor

Resumo A biópsia endomiocárdica continua a ser o principal método de monitorização da rejeição em recetores de transplante cardíaco. No entanto, este procedimento pode estar associado, ainda que raramente, a complicações potencialmente graves.

Descreve-se o caso de um doente com enfarte anterior extenso não revascularizado, com evolução em choque cardiogénico e necessidade de transplante cardíaco. Na fase pós-transplante é detetada fístula coronária para o ventrículo direito com aneurisma associado e duas comunicações interventriculares restritivas.

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Introduction

Endomyocardial biopsy is still the gold standard method to screen for rejection in orthotopic heart transplant recipients. It should be performed weekly in the first month and regularly during the first year after transplatation.[1] Complications related to the procedure have been reported, although they are rare and usually without long-term sequelae.[2] The most common are related to vascular access, but allergic reactions, cardiac perforation with tamponade, embolism, arrhythmias,[3] conduction disturbances, damage to the tricuspid valve apparatus with regurgitation,[4] and coronary fistulas[5–7] have also been described. Based on a case of coronary fistula to the right ventricle associated with an aneurysm and two restrictive interventricular communications in a heart transplant patient following multiple endomyocardial biopsies, we discuss the various therapeutic options available and question the systematic use of endomyocardial biopsy to detect allograft rejection.

Case report

A 52-year-old man, with hypertension, dyslipidemia, smoking and a family history of coronary artery disease as cardiovascular risk factors, was admitted to our department in April 2008 for anterior myocardial infarction of two days' evolution, without revascularization. On admission, the patient presented no murmur on cardiac auscultation; pulmonary auscultation revealed bibasal rales. His blood pressure was 105/89 mmHg and heart rate was 122 bpm. The electrocardiogram showed sinus tachycardia, incomplete right bundle branch block and Q waves in V1 to V4 and aVL, indicating an anterior infarction scar. Transthoracic echocardiography revealed left ventricular apical akinesia and hypokinesia of the entire anterior, lateral and interventricular septal territory, causing severe global systolic dysfunction. Coronary angiography performed on the first day of hospitalization revealed a dominant trifurcated left main and an occluded left anterior descending (LAD) ostium with no visible rim, with retrograde filling of a short distal segment. In view of the time since symptom onset, coronary anatomy and the clinical situation of incipient heart failure, it was decided to insert an intra-aortic balloon pump. Myocardial perfusion scintigraphy showed the entire LAD territory to be predominantly non-viable due to severe necrosis, and so cardiac magnetic resonance imaging was suggested. However, on the 10th day of hospitalization, the patient suffered cardiopulmonary arrest in ventricular tachycardia. He was resuscitated and ventilated, intravenous inotropic therapy was begun and a Biomedics™ left ventricular assist device was implanted, later replaced by a Berlin Heart™ type device. The patient then developed cardiogenic shock with multiple episodes

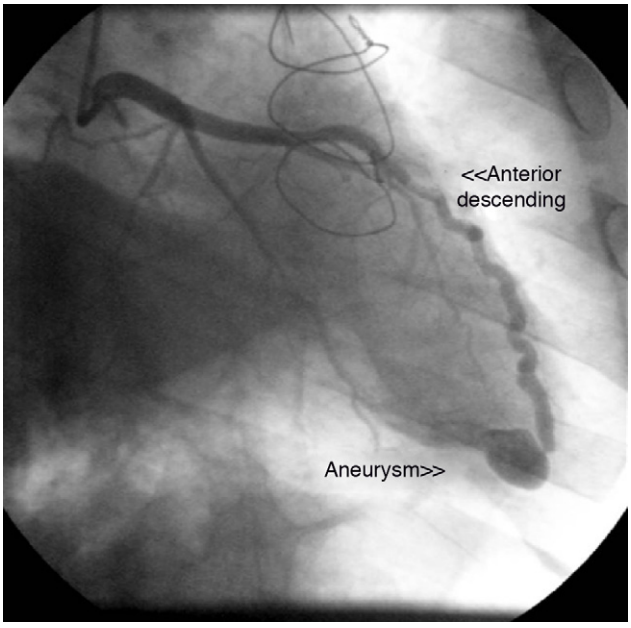

Figure 1 Coronary angiogram two years after heart transplantation showing a small fistula from the distal anterior descending artery to the right ventricle with an associated aneurysm.

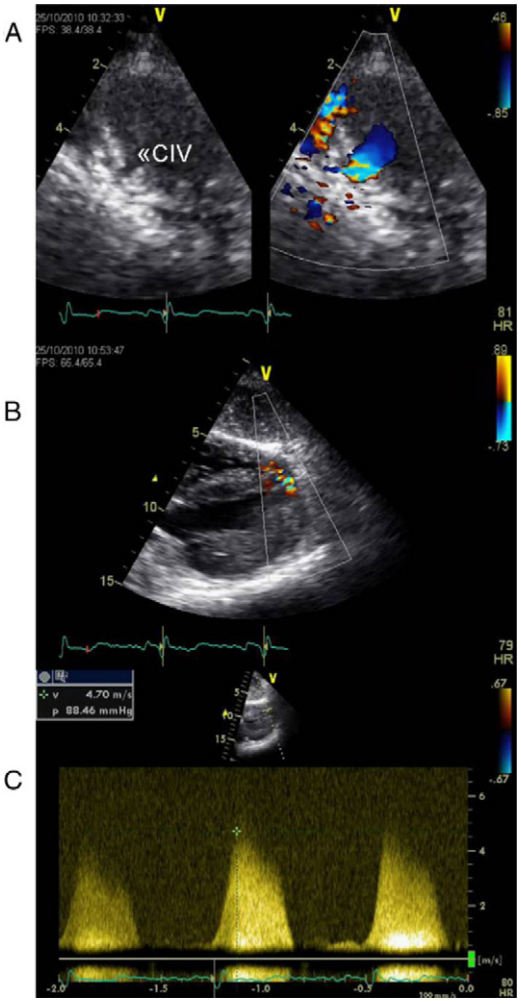

Figure 2 Transthoracic echocardiogram two years after heart transplantation showing two solutions of continuity (A and B) with two high-velocity jets (maximum 5 m/s) (C) from the left to the right ventricle, located in the apical and mid segments of the interventricular septum, that appear to be two restrictive interventricular communications. CIV: interventricular communication.