First reported case of septal artery rupture after endo-myocardial biopsies

Hervé Pouliquen, Karine Warin Fresse, Magali Michel, and Patrice Guérin*

Cardiology, INSERM, UMR915, l’Institut du Thorax, Nantes, F-44000 France, Boulevard Jacques Monod, Saint Herblain 44800, France

* Corresponding author. Tel: +33 02 40 16 55 89, Fax: +33 02 40 16 55 73, Email: patrice.guerin@chu-nantes.fr

A 44-year-old man was referred to our hospital 3 years after heart transplantation for systematic endo-myocardial biopsies. The initial physical examination and transthoracic echocardiography were normal. The right internal jugular vein was punctured under local anaesthesia. Three heart biopsies of the right ventricular septum were obtained.

One hour after this procedure, the patient presented thoracic pain and right heart failure symptoms, which progressed towards cardiogenic shock. An emergency transthoracic echocardiography was performed. It showed a large haematoma of the interventricular septum, which grew quickly and induced a right medio-ventricular outflow tract obstruction without any pericardial effusion (Panel A).

An emergency cardiac catheterization was performed. It showed the rupture of a septal artery that feeds this septal haematoma (Panel B). To stop the progression of the haematoma, we decided to exclude this septal artery from the coronary circulation. As a consequence, we chose to implant a 3 x 15 mm stent graft in the left anterior descending artery to cover the origin of the septal artery (Panel C). This procedure immediately stopped the active bleeding and allowed the stabilization of the patient (Panel D).

The different computed cardiac tomography was carried out immediately and on the fifth day showed the absence of any residual bleeding (Panel E).

The patient left the hospital 14 days after this event. The haematoma continued to regress. The clinical evolution was spontaneously favourable. An echocardiographic control performed 2 months after this event shows a total normalization of the interventricular septum (Panel F).