

Late Giant Left Ventricular Outflow Tract Pseudoaneurysm After Aortic Valve Replacement

We describe the case of a 52-year-old female patient who underwent aortic valve replacement 9 years ago using a 19 mm mechanical Carbomedics prosthesis, due to infectious endocarditis of the aortic valve. The patient was referred for a coronary angiography after being diagnosed giant calcified left ventricular outflow tract pseudoaneurysm and aortic prosthetic valve dysfunction with an ambulatory echocardiography. Coronary arteries were free from angiographic disease. Her case was presented in a medical-surgical session, where it was decided to complement the study with cardiac magnetic resonance imaging, positron emission computed tomography and cardiac computed tomography (Figure 1 A, B and D) to assess the surgical approach, and positron emission tomography-cardiac computed tomography (Figure 1 C) to rule out any active infectious process. After these complementary studies, the patient underwent cardiac surgery with favorable clinical outcome.

Pseudoaneurysm is defined as a myocardial wall rupture that is contained by pericardial adhesions or wall. It has been demonstrated that the use of hypothermia in surgical interventions can increase the stiffness of the extracorporeal circulation tubing, and

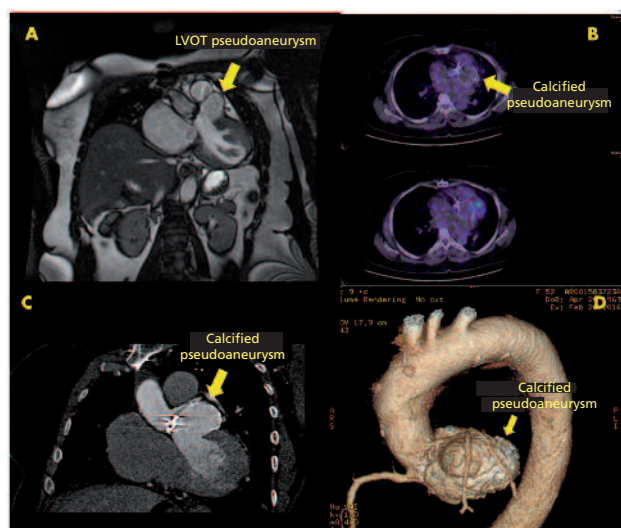


Fig. 1. **A.** Cardiac magnetic resonance image showing left ventricular outflow tract (LVOT) pseudoaneurysm. **B.** Positron emission computed tomography scan-cardiac computed tomography scan revealing calcified pseudoaneurysm with no evidence of macroscopic periprosthetic infection. **C.** Cardiac computed tomography scan indicating calcified pseudoaneurysm. **D.** Cardiac computed tomography scan showing volumetric reconstruction of calcified left ventricular outflow tract pseudoaneurysm.

tubes in contact with the endocardium could damage the cardiac walls due to friction and small traumas, later causing a pseudoaneurysm in that site. (1)

The most common sites for pseudoaneurysms of the ascending aorta are the aortotomy site, the aortic cannulation site and the proximal anastomosis of venous transplants or grafts, and less common sites are found in aortic sutures after heart transplantation or in prosthetic valve infective endocarditis. The time elapsed between surgery and the onset of this condition varies from the first few days to 10-20 years after the procedure. A pseudoaneurysm may grow to become a huge pulsatile mass that compresses the trachea, bronchi, the superior vena cava, and the main pulmonary artery. (2)

Delayed pseudoaneurysms can also be the result of thoracic injuries. About 2% of patients with thoracic aortic trauma treated with a conservative approach or with undiagnosed aortic injuries will develop a delayed pseudoaneurysm, more than 90% of which are located in the aortic isthmus. (3)

In 1998, Katsumata et al. published a series of nine late pseudoaneurysms, two of which were treated conservatively with positive outcome. (4) Although there are small series of cases like the one described above, we believe this condition should be treated surgically as soon as possible, after being diagnosed with the cardiac imaging tools currently available.

Conflicts of interest

None declared.

(See authors' conflicts of interest forms on the website/Supplementary material).

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