Aorto-right ventricular fistula as an occasional finding

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Abstract
Aorto-right ventricular fistulas are defects of the aortic wall in the area above the right coronary cusp, where it separates aorta and right ventricular outflow tract. Often, these injuries are due to trauma or infective endocarditis. We report an occasional finding of such a fistula, without these causes. There were no other abnormalities on the aortic valve, root or the ascending aorta.

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Case presentation
A 54-year-old man, with an unremarkable medical history, was admitted to the hospital because of stroke. He was treated with aspirin, dipyridamole, statin and low molecular weight heparins. Trans-thoracic echocardiography could not reveal structural cardiac abnormalities. Holter tape recording could not document atrial fibrillation. During further work-up, transesophageal echocardiography excluded an open foramen ovale, atrial septal defect and intracardiac thrombosis. However, we found a fistula between the aorta above the right coronary cusp, and the right ventricular outflow tract (Figs. 1 and 2). The aortic valve was normal without regurgitation. Diameters of the aortic root and ascending aorta were within normal limits. There was no right ventricular overload. Endocarditis prophylaxis and regular cardiac follow-up were recommended.

Discussion
Aorto-cardiac fistulas are relatively rare. Often, they are a complication of trauma or infective endocarditis.1–4

A 2 × 2 cm contact surface between the aorta above the right coronary cusp and the right ventricular outflow tract, is the target area for an aorto-right ventricular fistula.1
In a literature study, 1 5 of 18 patients with an aorto-right ventricular fistula due to trauma required emergency exploration because of hemodynamic instability and there was a need for surgery in 17 patients.

In a series 3 of 346 consecutive cases of infective endocarditis, 9 patients were found to have an aorto-cardiac fistula. Four of these had a ruptured abscess of the right sinus of Valsalva. Mortality in the patients with aorto-cardiac fistulas was high (55%).

In another series, 4 of 106 cases of endocarditis, 6 patients with a cardiac fistula were found and 2 of them had an aorto-right ventricular fistula.

In a literature study 5 of 175 cases, the major cause of an aorto-cardiac fistula (76%) was a rupture of a congenital aortic sinus aneurysm.

In conclusion, we report the case of a patient with an aorto-right ventricular fistula as an occasional finding. Neither infective endocarditis, nor trauma was the cause of this lesion. Also, with the exception of aorto-right ventricular fistula, there were no other abnormalities on the aortic valve, the aorta root and the ascending aorta.

References