Clinical vignette

Unruptured congenital aneurisms of the right and left sinuses of Valsalva

Konstantinos Zannis1*, Boyan Tzvetkov1, Jean-François Deux2, and Ernst Wilhelheim Matthias Kirsch1

1Department of Cardiothoracic Surgery, Henri Mondor Hospital, 51 avenue du Maréchal de Lattre de Tassigny, 94000 Creteil Cedex, France and 2Department of Medical Imaging, Henri Mondor Hospital, 51 avenue du Maréchal de Lattre de Tassigny, 94000 Creteil Cedex, France

*Corresponding author. Tel: +33149812172; fax: +3349812152. E-mail address: konstantinoszannis@gmail.com

Congenital unruptured aneurysms affecting both the right and left sinuses of Valsalva are extremely uncommon. We present the case of a 24-year-old African male admitted to our institution with a 1-year history of chest pain, palpitations, and progressive exertional intolerance. During the past 10 days, he had experienced an acute exacerbation of these symptoms. The chest radiograph delineated an abnormal cardiothoracic ratio. Electrocardiogram showed no ischemic changes and a first degree atrioventricular heart block associated with a complete right bundle branch block and an incomplete left bundle branch block. Transhoracic echocardiography showed two large aneurysms of the left and the right coronary sinuses of Valsalva. Transoesophageal echocardiography (TOE) was performed showing extension of the right sinus of Valsalva aneurysm into the interventricular septum and the left sinus of Valsalva aneurysm appearing as an extracardiac saccular protrusion (Panel A). A multi-slice computed tomography (CT) confirmed the diagnosis (Panel B). Considering the large size of the right and the extracardiac extension of the left coronary sinus aneurysms, operative repair was indicated. The operation was performed through median sternotomy under cardiopulmonary bypass (Panel C). Both aneurysms were repaired through the ascending aorta by closing their orifices with circular Dacron patches. The native aortic valve was preserved. Per-operative TOE confirmed complete aneurysm exclusion without increase in the known aortic regurgitation (Panel D). The patient was discharged from hospital on day 8 and is doing well 11 months after operation.

Panel A. TOE before surgical repair.
Panel B. Multi-slice CT-scan reconstruction.
Panel C. Intra-operative view of the aortic valve with the orifices of the right and left coronary sinus aneurysms.
Panel D. Post-operative TOE with left and right coronary sinus aneurysms obstructed. LA, left atrium; RA, right atrium; LcsA, left coronary sinus aneurysm; RCSA, right coronary aneurysm, Ao, aorta; LV, left ventricle, S, interventriculaire septum; RV, right ventricle.