Acute pulmonary oedema: an unusual clinical presentation of unruptured sinus of Valsalva

Rashid Shahrabani, Rabindranath Chakraborty, John Valliathu

A 24-year-old man was admitted with a 5-day history of giddiness, a cough with whitish expectoration, breathlessness, and orthopnoea. The patient showed no marfanoid features. He was afebrile but dyspnoeic. His pulse (40 beats/min) was regular and he showed raised jugular venous pulsation with visible cannon waves. Blood pressure was 130/60 mm Hg. At auscultation an early diastolic murmur (grade 2/6) was heard at the lower sternal edge. An electrocardiogram showed complete heart block, and a chest x-ray taken with portable equipment showed cardiomegaly and frank pulmonary oedema. All haematological and biochemical variables were normal. Three blood cultures were negative. Cross sectional echocardiography confirmed the diagnosis of a dilated, unruptured aneurysm of the right coronary sinus dissecting into the interventricular septum and producing a cystic mass (fig A). Cardiac catheterisation confirmed the presence of an unruptured aneurysm of the right sinus of Valsalva dissecting into the upper part of the interventricular septum with grade 2/6 aortic regurgitation. There was no gradient across the outflow tract. The results of selective coronary angiography were normal.

The patient was treated for heart failure with intravenous frusemide and supplementary potassium and a transvenous temporary pacing wire was inserted. He underwent cardiopulmonary surgery. The ostium of the aneurysm was closed with Dacron patch and a permanent pacemaker was implanted. Postoperatively cross sectional echocardiography showed signs of mild aortic regurgitation. The cystic cavity in the septum had been completely obliterated (fig B).

Unruptured aneurysm of sinus of Valsalva is a rare anomaly that commonly affects the right coronary sinus.1 The aneurysm may present clinically as aortic regurgitation or as a mediastinal mass, cerebrovascular accident, or complete heart block. Some patients have presented with dyspnoea on exertion (NYHA functional class II).5,6 Our patient was orthopnoeic (NYHA functional class IV) with clinical and radiological features of frank pulmonary oedema. His condition improved considerably after successful surgical repair.

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R. Shahrabani, R. Chakraborty and J. Valliathu

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