Two balls around aortic root: multiple huge unruptured aneurysms of the Valsalva sinus

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A 45-year-old man presented with chest tightness and shortness of breath for 3 months, with no chest pain. Auscultation of the heart revealed a moderate diastolic murmur in the second to third left intercostal space. Transthoracic echocardiogram revealed two huge aortic sinus aneurysms [the largest diameter of the left coronary sinus (LCS) and right coronary sinus (RCS) was 56.5 and 56.8 mm, respectively] (Panel A, see Supplementary data online, Figure S1A) with moderate-to-severe aortic valve regurgitation (Panel B), a normal size of aortic root (diameter: 28 mm, see Supplementary data online, Figure S1B), and a 58% ejection fraction. Cardiac computed tomography (CT) and CT angiography (CTA) were performed to clarify the pathology. Horizontal (Panel C), coronal (Panel D), and 3D coloured volume-rendered CTA images displayed huge left and right coronary sinus aneurysms, like two balls around the aortic root (Panels E and F, see Supplementary data online, Figure S1E). The measured values of CT are shown in Supplementary data online, Figure S1C–E. Preoperative transoesophageal echocardiography showed the left and the right aortic sinus dilatation and aortic valve regurgitation (see Supplementary data online, Figure S1F). These findings were confirmed at operation (Panel G). Then, the patient was successfully performed with aortic valve annuloplasty (Panel H), aortic sinus repair, and coronary artery ostia graft.

Multiple huge unruptured Svas are very rare. The inferred pathological mechanism was a weakness at the junction of the aortic media and the annulus fibrosis. Once huge SVA was diagnosed, it required surgical intervention immediately.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.