Giant aneurysm of the right sinus of Valsalva causing right ventricular outflow obstruction

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A 60-year-old asymptomatic patient with a previous history of arterial hypertension and hyperlipidaemia presented in our centre for routine cardiology check-up. Transthoracic echocardiography revealed the presence of a large echoluent structure at the level of the right ventricle (RV), but suboptimal window made more detailed imaging of the structure difficult. For further evaluation of this finding, we performed transoesophageal echocardiography. This nicely depicted a giant aneurysm at the level of the right sinus of Valsalva with maximum diameter (aortic root excluded) ~5 cm (Panels A and B showing short-axis and long-axis views, respectively, An, aneurysm and Ao, aorta). The RV itself appeared dilated and hypokinetic. Moreover, the turbulent flow at the level of the right ventricular outflow tract (RVOT) during systole was detected with colour Doppler, clearly suggesting RVOT obstruction (arrow in Panel C). Continuous wave Doppler interrogation at the site of the obstruction revealed an RVOT gradient of 25–30 mmHg, whereas through the tricuspid regurgitation Doppler signal the RV systolic pressure was estimated 45–50 mmHg. Subsequently, contrast-enhanced computed tomography of the aortic root was performed using a 64-slice scanner. This confirmed the presence of the aneurysm of the right sinus of Valsalva, demonstrating the protrusion of the aneurysm towards the RV and the narrowing of the RVOT (arrow in Panel D; An, aneurysm and Ao, aorta). The right coronary artery was patent and originated just above the aneurysm. The patient opted for elective aneurysm repair.

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Coronary artery stents