

Aneurysm of the sinus of Valsalva

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A 47 year-old female of south Asian origin presented with acute pulmonary oedema. Her background included previous investigation for bilateral lung nodules (which remain of uncertain aetiology) and complete heart block leading to dual chamber permanent pacemaker implantation one year previously.

A transthoracic echocardiogram identified an unruptured aneurysm of the right coronary sinus of Valsalva, and severe aortic regurgitation. An echodense structure suspicious of thrombus was noted inside the aneurysm. The images show an aneurysm of the right coronary sinus of Valsalva on the transthoracic echocardiogram and on a subsequent transoesophageal echocardiogram (Figs. 1, 2).

Aneurysms of the sinus of Valsalva are rare, with a prevalence of 0.09% in a large autopsy

series [1]. Among those undergoing open heart surgery, the incidence ranges from 0.14% to 0.96% [1], with higher frequencies in male and in Asian patients. Congenital aneurysms caused by weakness at the junction of the aortic media and the annulus fibrosus occur more commonly than acquired aneurysms, which are typically secondary to disease processes that involve the aortic root (e.g. atherosclerosis, syphilis, endocarditis, cystic medial necrosis, and chest trauma) [2]. Overall, about 65–85% of the aneurysms occur in the right coronary sinus, 10–30% in non-coronary sinuses and less than 5% arise from the left coronary sinuses [3].

Sinus of Valsalva aneurysms may remain clinically silent for many years. About half are associated with aortic regurgitation. Symptoms are

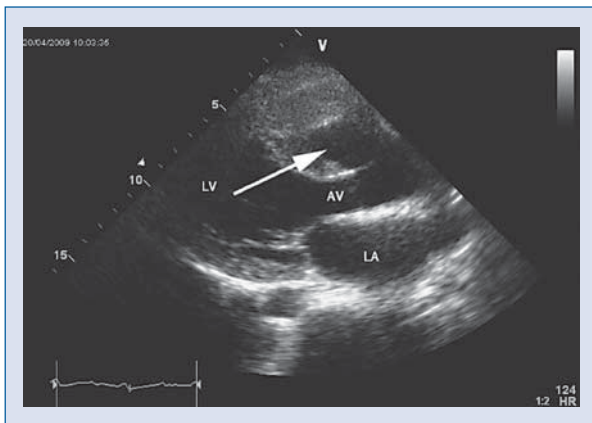


Figure 1. Transthoracic echocardiogram. Parasternal long axis view. The arrow marks the sinus of Valsalva aneurysm of the non-coronary cusp; LV — left ventricle; LA — left atrium; AV — aortic valve.

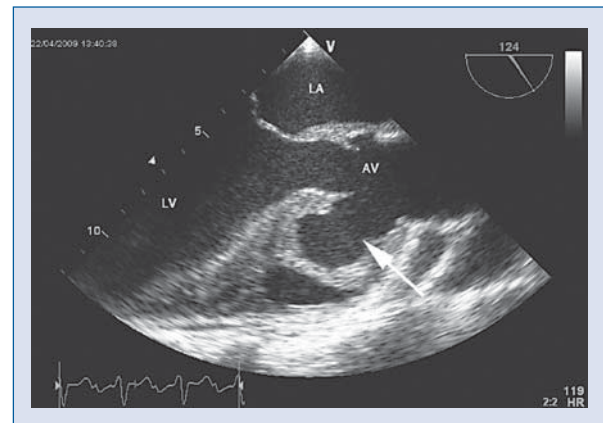


Figure 2. Transoesophageal echocardiogram. Long axis view (120°). The arrow marks the sinus of Valsalva aneurysm of the non-coronary cusp; LV — left ventricle; LA — left atrium; AV — aortic valve.

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occasionally caused by mechanical obstruction, with compression of the conducting system being an unusual cause of heart block. Intra-cardiac rupture occurs most commonly in the third or fourth decade of life and results in a dramatic presentation, with chest pain and heart failure. Surgical treatment is advised in the presence of rupture, compression of adjacent structures or in the presence of significant dilatation or aortic regurgitation [1]. Our patient underwent repair of the aneurysm of sinus of Valsalva along with an aortic valve replacement, and has subsequently been diagnosed with anti-neutrophil cytoplasmic antibody associated vasculitis.

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