Right ventricular outflow tract obstruction caused by sinus of Valsalva aneurysm

Dita Schaffelhoferová, Jiří Haniš, Ladislav Pešl

Department of Cardiology, Heart Centre, Nemocnice České Budějovice, a.s., České Budějovice

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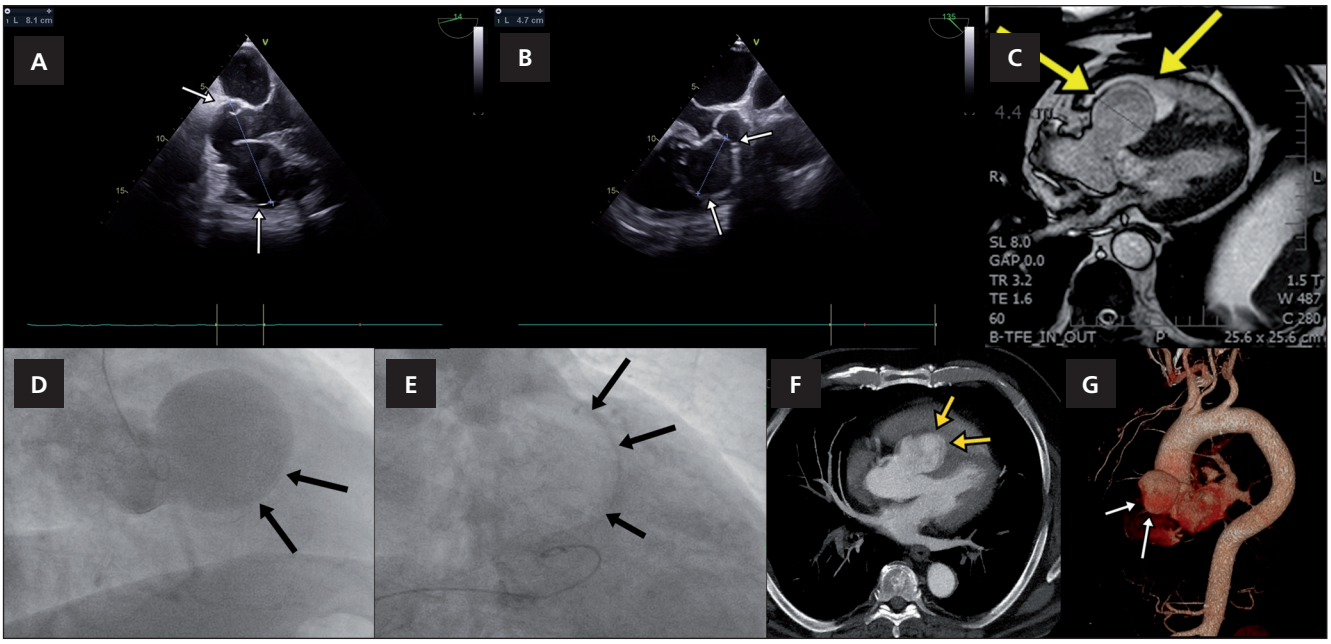

Fig. 1 – Transesophageal echocardiography shows an aneurysm of the right Valsalva sinus (A and B). The maximum measurement including the aortic valve is 81 mm (A), the diameter of Valsalva aneurysm itself is 47 mm (B). Cardiac magnetic resonance proves sub-pulmonary right ventricular outflow tract obstruction caused by sinus of Valsalva aneurysm (C). Right Valsalva sinus aneurysm is also demonstrated in aortography (D), right-sided cardiac catheterization (E), and cardiac computed tomography (F and G).

A 66-year-old man presented to hospital with progressive exertion dyspnea. Echocardiography and cardiac magnetic resonance imaging revealed sub-pulmonary right ventricular outflow tract obstruction caused by aneurysmal dilatation of the right Valsalva sinus with a diameter of 47 mm (Fig. 1, panels A–C). At the same time echocardiography demonstrated mild aortic regurgitation and severe tricuspid regurgitation with echocardiography signs of significant resting pulmonary hypertension with a peak gradient at the tricuspid orifice of 70 mmHg. The patient underwent selective coronary angiography with aortography, which did not show a short-circuit defect or coronary disease (Fig. 1, panel D). The obstruction of the right ventricular outflow tract was also confirmed by right-sided cardiac catheterization with high right ventricular pressures and low pulmonary pressures (Fig. 1, panel E). Cardiac computed tomography angiography was performed to assess precise dimensions of the sinus of Valsalva aneurysm (Fig. 1, panels F, G). Considering the future risk of aneurysm rupture, surgical intervention was recommended.

Address: MUDr. Dita Schaffelhoferová, Department of Cardiology, Heart Centre, Nemocnice České Budějovice, a.s., B. Němcové 585/54, 370 01 České Budějovice, e-mail: dituse@gmail.com

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The Valsalva sinus aneurysm is a very rare, life-threatening cardiac anomaly that can be either congenital or acquired, and is defined as an extension of the aortic root area between the annulus and the sinotubular junction of the aorta.[1,2] The right coronary sinus is most often affected by an aneurysm, but its prolapse into the outflow tract of the right ventricle and causing a dynamic obstruction of blood flow is an extremely rare presentation.[2,3] The incidence of the more common congenital form ranges from 0.1% to 3.5% of all congenital heart diseases.[3]

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None declared.

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