

Images in cardiovascular medicine

Rupture of an aneurysm of the noncoronary sinus of Valsalva into the right atrium: the "wind sock" echocardiographic appearance

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(Ital Heart J 2001; 2 (3): 237-238)

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Received December 4, 2000; accepted December 21, 2000.

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A 33-year-old woman was referred to the echocardiography service of our hospital for the evaluation of a heart murmur. The patient was completely asymptomatic and the murmur had been heard for the first time during routine physical check-up; it was continuous, graded 3/6, and heard best at the left sternal border of the second intercostal space and radiated to the left side of the back.

Two-dimensional transthoracic echocardiography revealed an enlargement of the right chambers and of the noncoronary sinus of Valsalva; however, using this technique, no rupture could be detected in this anatomical structure.

In the 4-chamber apical view (Fig. 1), a little mass fluctuating just below the tricuspid septal leaflet was also seen; in the same

area color Doppler detected turbulent flow, the origin of which could not be identified by pulsed and color imaging. The suspicion of infective endocarditis was excluded on the basis of the patient's history and of laboratory analysis^{1,2}.

The diagnosis was clarified at transesophageal biplane echocardiography.

Transesophageal echocardiography confirmed the presence of dilation of the noncoronary sinus of Valsalva. Furthermore, it demonstrated a small fistula of the sinus wall with the classic "wind sock" appearance and projecting and fluctuating into the right atrium³ (Fig. 2).

Contrast and color Doppler techniques showed that blood was shunted from the sinus of Valsalva through the "wind sock" into the right atrium (Figs. 3 and 4). Surgery,

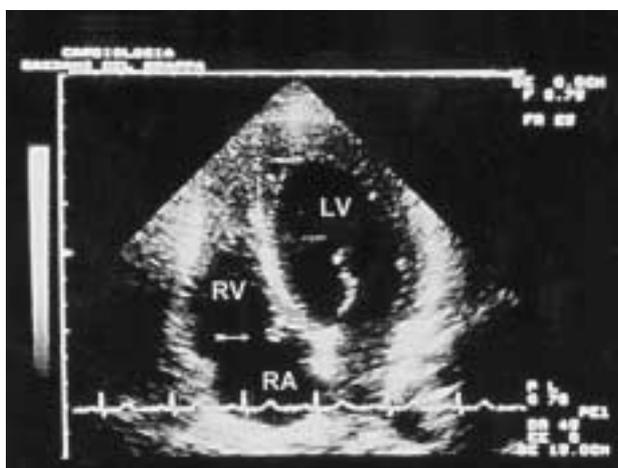


Figure 1. Apical 4-chamber view shows a little fibrous mass (arrow) just below the tricuspid septal leaflet. LV = left ventricle; RA = right atrium; RV = right ventricle.

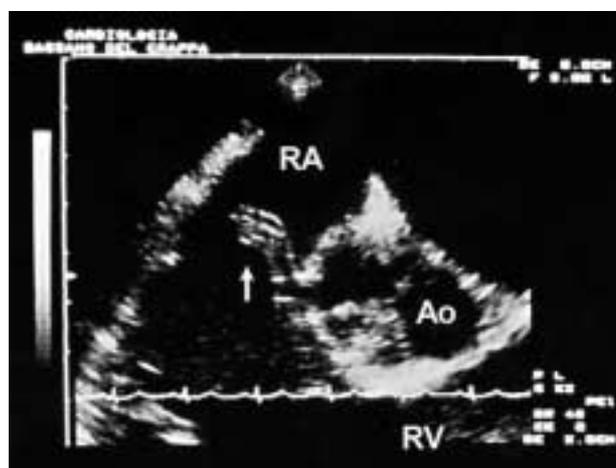


Figure 2. Longitudinal transesophageal view showing a discontinuity of the enlarged noncoronary sinus of Valsalva. Proximal to its edges, a fibrous structure with a "wind sock" appearance (arrow) may be seen. Ao = aorta. Other abbreviations as in figure 1.

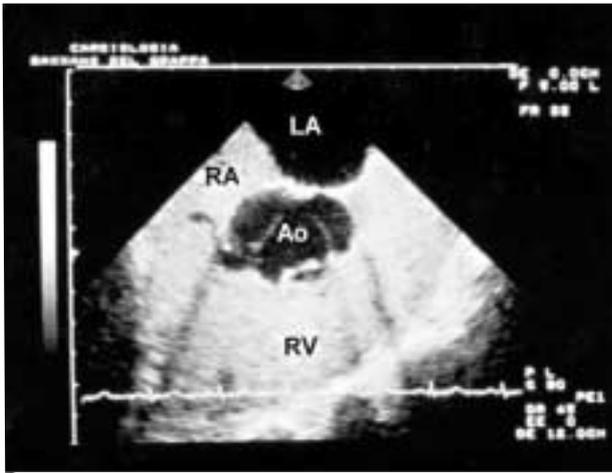


Figure 3. Contrast echocardiography shows right chamber opacification with a "minus effect" due to the ruptured sinus of Valsalva and the left-to-right shunt. LA = left atrium. Other abbreviations as in figures 1 and 2.



Figure 4. Turbulent flow into the right atrium as seen at color Doppler imaging. Abbreviations as in figures 1 and 2.

which consisted of repairing the ruptured sinus of Valsalva with a pericardial patch, confirmed the clinical and echocardiographic findings.

References

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