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IMAGES IN CARDIOLOGY

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Non-coronary sinus of Valsalva aneurysm rupture

A 36-year-old woman presented with chest pain, dyspnoea and fatigue. There was a grade 2/6 systolic murmur and long decrescendo grade 3/4 diastolic murmur at the right sternal border. Transthoracic echocardiography showed a defect connecting the aorta (non-coronary sinus of Valsalva) and right heart at the level of the tricuspid valve (upper panels). Right heart catheterisation demonstrated a step up in oxygen saturation from 74% in the superior vena cava to 80% in the right atrium and 84% in the right ventricle, indicative of a left to right shunt. Qp:Qs was 1.8:1. Right atrial pressure was 8 mm Hg and mean pulmonary capillary wedge pressure was 13 mm Hg. Supravalvular aortography in the left anterior oblique projection showed a high velocity jet from the aorta to the right side of the heart. Careful examination of the cinematographic images indicated that the shunt flow entered the right atrium and hit the closed tricuspid valve leaflets in systole (lower panel), but passed unimpeded into the right ventricle through the open valve in diastole. Surgical repair of the non-coronary sinus of Valsalva to right atrium fistula was performed. A membranous “windsock” (1.5 cm in length, 0.6 cm in diameter and 0.1 cm in thickness), which

Transthoracic echocardiography in the parasternal short axis view at the level of the aortic valve. A colour flow jet from the aorta enters the right heart at the level of the tricuspid valve.

entered the right atrium adjacent to the anteroseptal commissure of the tricuspid valve, was resected and the defect repaired with bovine pericardium. The postoperative course was uneventful.

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Aortogram in the left anterior oblique projection. This image shows the contrast jet from the aortic root hitting the closed tricuspid valve in systole and filling the right atrium.