Left coronary sinus to pulmonary artery fistula, complicated by pulmonary valve endocarditis

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A 63-year-old woman presented to hospital with a 4-day history of constitutional symptoms and a continuous murmur on examination. There was no significant past medical history. Inflammatory markers were markedly elevated with a C-reactive protein of 190 mg/L and a WCC of $22.5 \times 10^9$ per litre. Transthoracic echocardiography was non-diagnostic. A two-dimensional transoesophageal echocardiogram demonstrated a communication between the aortic root and pulmonary artery, with a probable vegetation on the pulmonary valve and mild pulmonary regurgitation (Panel A; AoV, aortic valve; TV, tricuspid valve; PV, pulmonary valve). A three-dimensional full-volume acquisition (Panel B) demonstrated a well-defined fistula between the left coronary sinus and main pulmonary artery, 2–3 cm above the pulmonary valve. The fistula appeared separate to the left coronary ostium. A large vegetation was clearly evident on the pulmonary valve.

Clinically, the patient was completely asymptomatic after empirical antibiotic therapy. The organism was later identified as one of the HACEK group, *Aggregatibacter actinomycetemcomitans*.

CT and invasive coronary angiography confirmed that the fistula was separate to the left coronary artery ostium and ruled out communication with the coronary circulation (Panels C and D; LCA, left coronary artery; RCA, right coronary artery; PA, pulmonary artery).

It is very rare for aorto-pulmonary fistulae to occur in the absence of Sinus of Valsava aneurysms. It was agreed at a Joint Cardiology/Cardiothoracic meeting that this was a rare congenital abnormality and the presence of pulmonary hypertension at right heart catheterization necessitated intervention. She has been referred for surgical ligation.

Supplementary material
Supplementary material is available at *European Heart Journal* online.