Obstructive thrombosis of a bileaflet mitral valve assessed with real-time three-dimensional transoesophageal echocardiography

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A 55-year-old woman was admitted for sub-acute ischaemia of the left leg. Three years earlier, the patient underwent a mitral replacement with a bileaflet valve for a symptomatic rheumatic mitral valve disease. Two months before admission, she presented a non-severe acute biliary pancreatitis associated with a time interval with international normalized ratio lower than 2.5.

Lower limb angiography confirmed the occlusion of the left common femoral artery. Transoesophageal echocardiography (TEE) using a fully sampled 3D matrix TEE probe (Philips Medical Systems, Andover, MA, USA) showed a large obstructive thrombus appended to the mitral valve and restricting the movement of one of the leaflets (Panels A–C). Mean mitral gradient and pressure half time were measured with continuous Doppler at 16 mmHg and 240 ms, respectively. The patient underwent urgent mitral valve replacement. Images obtained with real-time 3D TEE matched closely to per-operative view of the thrombus obstructing the mitral prosthesis (Panel D).

Supplementary material is available at European Heart Journal online.

Panels A–C. Transoesophageal echocardiography with multi-planar simultaneous 2D views (Panels A and B), real-time volume rendering 3D view (Panel C), and movie (Supplementary material online) from the left atrial side showed an obstructive thrombus (white arrows) appended to the bileaflet mitral valve.

Panel D. Per-operative view after removal of the prosthetic mitral valve confirmed the presence of a large thrombus (black arrow) restricting the movement of the upper leaflet.