Multimodality imaging of a papillary fibroelastoma of the mitral valve

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A 34-year old man presented with a speech disorder and multiple areas of brain ischaemia. Transthoracic echocardiography (TEE) and a 256-slice computed tomography (CT) angiography revealed the origin of these events: a mobile mass located on the posterior mitral valve (Fig. 1, Supplementary Videos 1 and 2). During surgery, a papillary fibroelastoma was found (Fig. 2).

Supplementary material (Video 1 and Video 2) is available at EjCTS online.
Figure 1: Imaging of the fibroelastoma. (A) TTE (long-axis) during systole, showing a mobile echogenic round mass on the posterior mitral valve leaflet; (B) three-dimensional volume rendered reconstruction and (C) double-oblique CT images, showing a small mass of an irregular shape attached to the posterior mitral valve leaflet.

Figure 2: Macroscopy and microscopy. (A) The papillary fibroelastoma after left atriotomy attached to the mitral valve. P2 is pulled upwards by a suture placed at the base of the fibroelastoma (arrow). (B) The size of the fibroelastoma is 7 mm with a thin stalk. The irregular surface of the fibroelastoma is highlighted by small amounts of blood left in the ‘crypts’. Note its gelatinous structure at the borders of the tumour. (C) The central stalk of the fibroelastoma consists of fibrous tissue (red colour). A nodule of loose connective tissue, indicating mucoid degeneration, is localized centrally and a few clustered black-staining elastic fibres are also seen (Elastica van Gieson, ×100).