A 50-year-old asymptomatic woman without medical history was admitted to neurology department with stroke. Electrocardiography performed at that moment showed atrial fibrillation. Physical examination findings included grade IV/VI murmur in mitral area radiating to axilla. Transthoracic echocardiogram showed normal ventricular size and function, with severe atrial enlargement. Myxomatous mitral valve with prolapse of leaflets generating moderate to severe mitral regurgitation was visualized with Doppler color flow. Two jets were observed, 1 eccentric and the other directed posteriorly. Patient was referred to a cardiologist for clinical evaluation. Transesophageal echocardiography was performed to complete study of mitral regurgitation. Cleft posterior mitral valve leaflet bisecting posterior leaflet into 2 segments of identical morphology with myxomatous appearance was detected in 3D images (See Figures A, B and Videos 1, 2*). Cleft mitral valve is uncommon, and when present, anterior leaflet is involved more often than posterior leaflet. Regurgitation in these cases usually occurs as result of poor leaflet coaptation. Recognition of this clinical entity and coexistent anomalies can identify patients who need to be closely monitored for progression of symptoms and any ventricular dysfunction.

Figures--(A) 3D transoesophageal echocardiography of mitral valve. (B) Parasternal long axis of mitral valve. *Supplementary video files associated with this presentation can be found in the online version of the journal.