

Rheumatic involvement of the cleft mitral valve

A 67-year-old female patient was referred to our transesophageal echocardiography (TEE) laboratory for the evaluation of the severity of valve pathologies. Two-dimensional (2-D) transthoracic echocardiography (TTE) revealed rheumatic mitral valve with moderate mitral regurgitation (MR), moderate mitral stenosis (MS), and severe tricuspid regurgitation (TR). In 2-D TEE, we also identified rheumatic mitral valve with moderate MR and MS (Fig. 1, Video 1–3); 2-D and three-dimensional (3-D) TEE were obtained with the same machine (transducer X7-2t, Philips Electronics, Andover, MA). Live/Real-time 3D rather than off-line post-processing and 3-D reconstruction were performed. 3-D TEE revealed cleft-like defect on P₂ scallop of posterior mitral leaflet (Fig. 2a, Video 4). 3-D TEE color Doppler confirmed that the regurgitation originated from where the cleft-like defect was (Fig. 2b, Video 5); herein, we saw a cleft mitral valve with rheumatic involvement. 3-D TEE provides comprehensive anatomical overview by showing the valve from enface view and the 3-D TEE color Doppler helps to distinguish the exact localization of regurgitation.

Video 1. Four chamber view; two-dimensional transesophageal echocardiography which shows rheumatic involvement of mitral valve.

Video 2. 60° view; two-dimensional transesophageal echocardiography with color Doppler. Moderate mitral regurgitation is seen.

Video 3. Long-axis view; two-dimensional transesophageal echocardiography with color Doppler. Moderate mitral regurgitation is seen.

Video 4. Live/Real-time three-dimensional transesophageal echocardiography shows cleft-like defect on P₂ scallop of the posterior mitral leaflet.

Video 5. Live/Real-time three-dimensional transesophageal echocardiography with color Doppler shows regurgitation from cleft-like defect.

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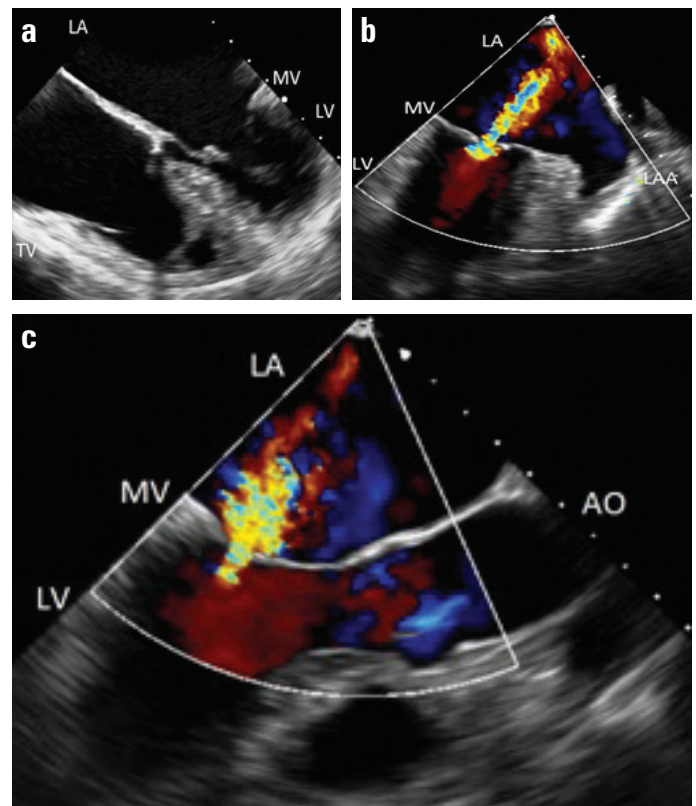


Figure 1. Two-dimensional transesophageal echocardiography (a). Four chamber view. LA-left atrium, LV-left ventricle, MV-mitral valve, RA-right atrium, TV-tricuspid valve are seen (b). 60° view with color Doppler. Mitral regurgitation and left atrial appendage (LAA) are also seen (c). Long-axis view with color Doppler. Mitral regurgitation and the aorta (AO) are seen

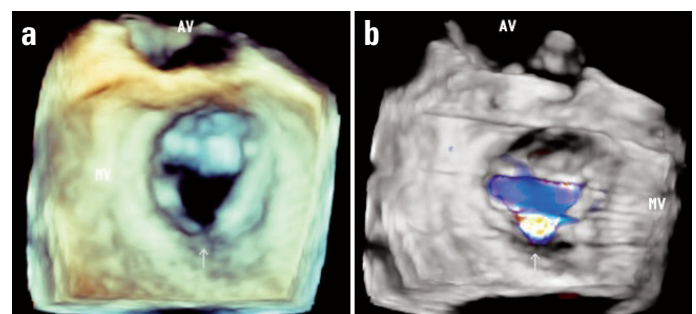


Figure 2. Live/Real-time three-dimensional transesophageal echocardiography (a). Arrow points cleft-like defect on P₂ scallop of posterior mitral leaflet. Aortic valve (AV) and mitral valve (MV) are also seen (b). Live/Real-time three-dimensional transesophageal echocardiography with color Doppler. Arrow points regurgitation from cleft-like defect