

CASE IMAGE

Barlow's mitral valve with a dancing chorda

Matthew Peters | McKenzie Schweitzer | A. Jamil Tajik 

Aurora Cardiovascular and Thoracic Services, Aurora Sinai/Aurora St. Luke's Medical Centers, Milwaukee, Wisconsin, USA

Correspondence

A. Jamil Tajik, Aurora Cardiovascular and Thoracic Services, Aurora St. Luke's Medical Center, 2801 W. Kinnickinnic River Parkway, Ste. 130, Milwaukee, WI 53215, USA.

Email: publishing14@aurora.org

Abstract

We present a case of a ruptured mitral valve chorda visualized using the high temporal and axial resolution of transthoracic M-mode echocardiography.

KEYWORDS

echocardiography, mitral valve prolapse, ruptured chorda

1 | CASE PRESENTATION

A 60-year-old female with a history of Barlow's disease presented to the cardiology clinic for evaluation of mitral valve regurgitation. She was symptomatic with dyspnea on exertion. A transthoracic echocardiogram (TTE)

demonstrated an elongated posterior mitral valve leaflet with prolapse (Figure 1A). Closer inspection revealed a ruptured mitral valve chorda with partial flail P2 segment (yellow arrowhead, Figure 1A). Color flow demonstrated severe mitral valve regurgitation with an anteriorly directed regurgitation jet (Figure 1B). Mitral regurgitant

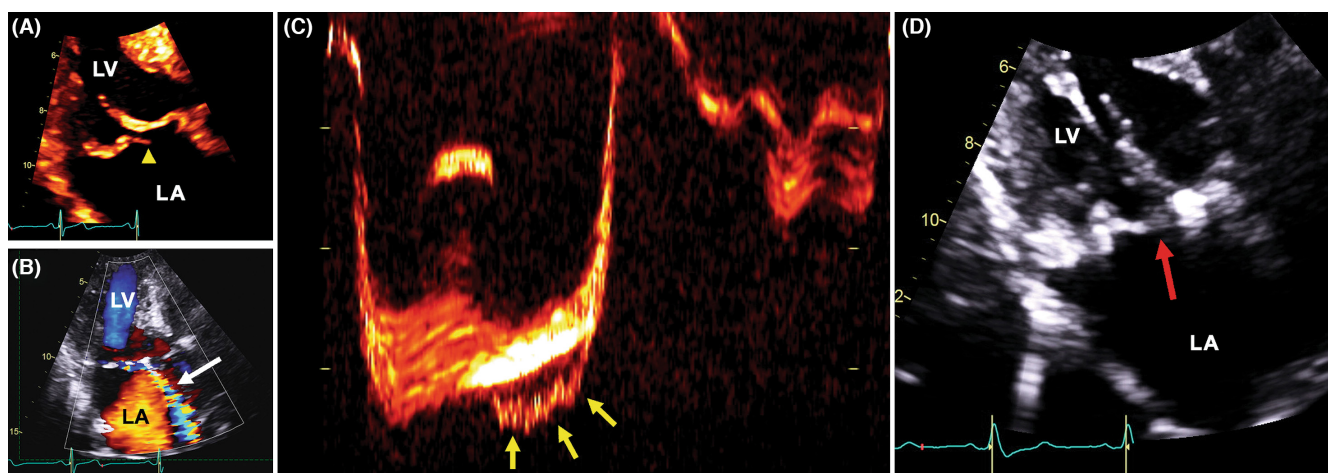


FIGURE 1 (A) Transthoracic echocardiogram (TTE) demonstrating prolapse of the posterior mitral valve leaflet on two-dimensional images (yellow arrowhead). (B) Color Doppler demonstrates an anteriorly directed mitral regurgitation jet (white arrow). (C) M-mode through the mitral valve leaflets shows high-frequency oscillations (yellow arrows) corresponding to the movement of a ruptured mitral valve chorda. (D) Postoperative TTE demonstrates a mitral annular ring repair with coaptation of the mitral valve leaflets during systole (red arrow). LV-left ventricle; LA-left atrium.

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volume was 75 mL, mitral valve effective regurgitant orifice area was 0.5cm² and left atrial volume index was 77 mL/m². M-mode through the mitral valve (Figure 1C) showed high-frequency oscillations (yellow arrows) corresponding with the dancing movement of the ruptured chorda. The frame rate of two-dimensional echocardiography does not allow clear visualization of the chaotic movement of the ruptured chorda, but the high temporal resolution of M-mode clearly demonstrated this phenomenon. The patient underwent surgical mitral valve repair with a mitral valve annuloplasty ring and resuspension of a ruptured primary chorda of the P2 segment. The postsurgical TTE demonstrated coaptation of the mitral valve leaflets with mild to moderate residual mitral valve regurgitation (Figure 1D). This case highlights the unique ability of M-mode echocardiography to identify rapidly moving fine structures, such as ruptured chordae, which can be difficult to visualize on two-dimensional echocardiography.

AUTHOR CONTRIBUTIONS

Matthew Peters: Conceptualization; data curation; visualization; writing – original draft; writing – review and editing. **McKenzie Schweitzer:** Conceptualization; data curation; visualization; writing – review and editing. **A. Jamil Tajik:** Conceptualization; data curation; visualization; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

ORCID

A. Jamil Tajik  <https://orcid.org/0000-0002-4784-1275>

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