

Diastolic paradoxical septal motion in Ebstein anomaly

A 36-year-old male was presented to our outpatient clinic with the chief complaint of progressive dyspnea. His symptoms worsened over the last 6 months, and the degree of dyspnea on admission corresponded to New York Heart Association grade III–IV. In his past medical history, he had been diagnosed as Ebstein's anomaly 10 years prior. Upon physical examination, he had also a holosystolic murmur at the subxiphoid area. Transthoracic echocardiography showed that the interventricular septum was significantly deformed, resulting in abnormal motion of the basal septum toward the left ventricular outflow tract (LVOT) dur-

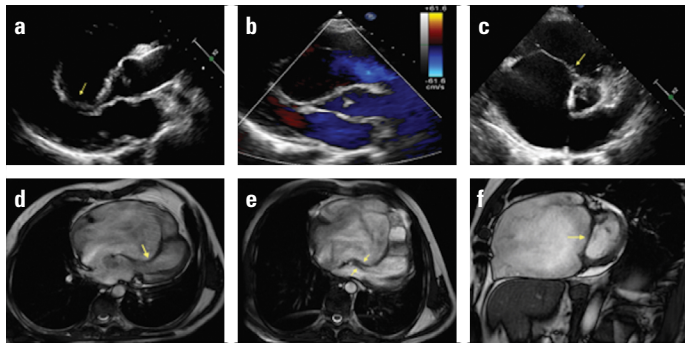


Figure 1. (a) Transthoracic echocardiography (parasternal long-axis view) showed that the interventricular septum was significantly deformed, resulting in an abnormal motion of the basal septum toward the left ventricular outflow tract during diastole. (b) Transthoracic echocardiography (parasternal long-axis view) showed that there was no turbulent flow at left ventricular outflow tract. (c) Transthoracic echocardiography (parasternal short-axis view) showed that tricuspid septal leaflet annular attachment (arrow) displaced toward apex and right ventricular outflow tract. (d) Axial sections of T2-weighted magnetic resonance image showed that paradoxical septal motion (arrow) toward the left ventricular outflow tract. (e) Axial sections of T2-weighted magnetic resonance image showed that the interventricular septum (arrow) contacts between mitral anterior leaflet (arrow) due to the paradoxical motion. (f) Coronal sections of T2-weighted magnetic resonance image showed impaired left ventricular diastolic filling (arrow)

ing diastole (Fig. 1a and Video 1). There was no turbulent flow and gradient on LVOT (Fig. 1b). Tricuspid septal leaflet annular attachment had been displaced toward to apex and right ventricular outflow tract (Fig. 1c and Video 2). The axial sections of T2-weighted magnetic resonance images demonstrated paradoxical septal motion toward LVOT (Fig. 1d and 1e, Video 3); also, coronal sequences showed impaired left ventricular diastolic filling (Fig. 1f and Video 4). Surgical management was recommended, and the patient underwent plication of atrialized right ventricle and tricuspid valvuloplasty.

Left ventricular geometry and cavity size may be affected due to enlarged atrialized right ventricle and tricuspid regurgitation in Ebstein anomaly. LVOT obstruction due to systolic bowing of the interventricular septum toward LVOT has been previously reported. This case report highlights diastolic paradoxical septal motion toward LVOT; this situation results in the reduction of the left ventricular diastolic volume and ejection fraction and it further contributes to the severity of dyspnea.

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Video 1. For Panel 1a

Video 2. For Panel 1c

Video 3. For Panel 1d and e

Video 4. For Panel 1f

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