






## Tricuspid valve prolapse with chordal rupture: a case report

 **Dijana Trninić\***,  
 **Jelena Jovanić<sup>1,2</sup>**,  
 **Bojana Ilić<sup>1</sup>**,  
 **Nina Žmarić<sup>1</sup>**,  
 **Jelena Đoković<sup>1</sup>**

<sup>1</sup>University Clinical Center of the Republic of Srpska, Banja Luka, Bosnia and Herzegovina

<sup>2</sup>University of Banja Luka, Faculty of Medicine, Banja Luka, Bosnia and Herzegovina

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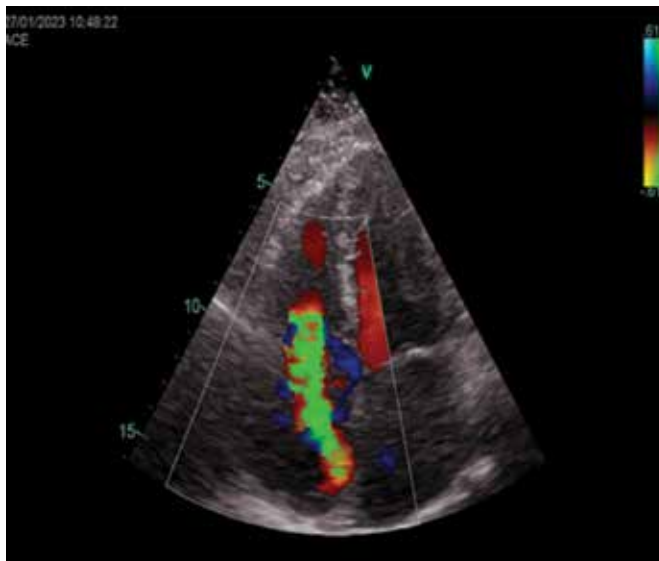
**\*ADDRESS FOR CORRESPONDENCE:** Dijana Trninić, University Clinical Centre of the Republic of Srpska, Ulica 12 beba bb, Banja Luka, Bosnia and Herzegovina. / Phone: +38765257145 / Fax: +38751342350 / E-mail: [dijana.t@blic.net](mailto:dijana.t@blic.net)

**ORCID:** Dijana Trninić, <https://orcid.org/0000-0001-5929-0573> • Jelena Jovanić, <https://orcid.org/0000-0002-9413-4362>  
Bojana Ilić, <https://orcid.org/0000-0002-8249-5494> • Jelena Đoković, <https://orcid.org/0000-0002-8945-6703>  
Nina Žmarić, <https://orcid.org/0009-0008-8761-0210>

**Background:** Moderate or severe tricuspid regurgitation is observed in 0.55% of the general population and its prevalence increases with age, affecting about 4% of the patients aged 75 years or more. Etiology is secondary in ≥90% of cases. Tricuspid valve prolapse (TVP) is rare on transthoracic echocardiography and of uncertain significance. Over 18 years is TVP was present in 0.3% of individuals. Seventy-five percent of those with TVP had associated mitral valve prolapse.<sup>1-4</sup>

**Case report:** 66-year-old patient presented with worsening condition in the form of frequent palpitations and a decrease in exercise tolerance. She has a history of moderately severe tricuspid regurgitation, ventricular premature ventricular contractions, and drug-controlled hyperthyroidism. On examination a pansystolic murmur was audible at the left lower sternal edge. The electrocardiogram showed a sinus rhythm with partial right bundle branch block. In the Holter 24-hours EKG-monitoring,

3560 VES, medium long coupling. Echocardiography shows severe tricuspid regurgitation (**Figure 1**). The jet of tricuspid regurgitation is directed in the largest part towards the interatrial septum. PISA radius 9mm, effective regurgitant orifice area (EROA) was 50 mm<sup>2</sup> and a regurgitant volume 60 mL. The right ventricle is borderline in size, TAPSE 22mm. The right atrium is slightly dilated (area 17cm<sup>2</sup>). Transesophageal echocardiography visualizes tricuspid valve prolapse (**Figure 2**) with rupture of the secondary chordae of the septal leaflet (**Figure 3**) and eccentric jet of



**FIGURE 1.** Transthoracic echocardiography: Apical four-chamber view. Severe tricuspid valve regurgitation jet.

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tricuspid regurgitation (**Figure 4**). The following hemodynamic parameters were obtained by catheterization of the right heart: RA 13mmHg, RV 55/2/18mmHg, PA 38/19/29mmHg, PCWP 18mmHg CO 6,04L/min, SV 86ml/beat PVR 1,8WOOD Units. The patient was referred to the cardiothoracic surgery department. Heart surgery was performed.



**FIGURE 2.** Transesophageal mid-esophageal four-chamber view; tricuspid valve prolapse.

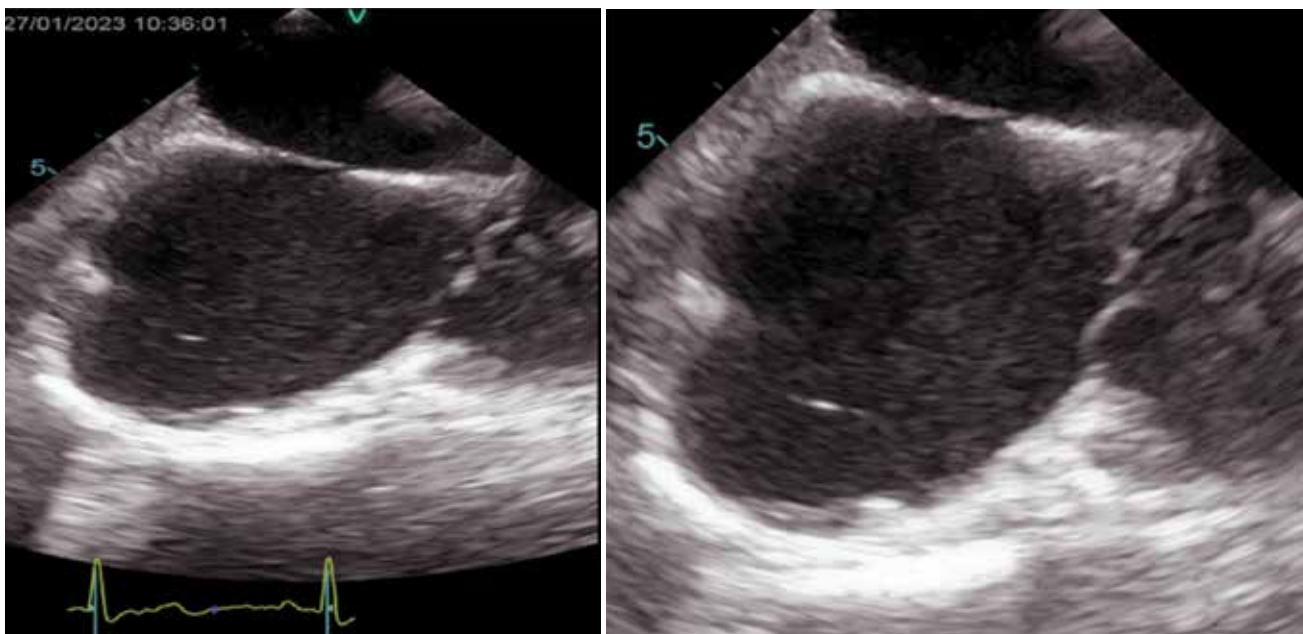


FIGURE 3. (A, B) Transesophageal mid-esophageal four-chamber view: rupture of the secondary chordae of the septal leaflet.

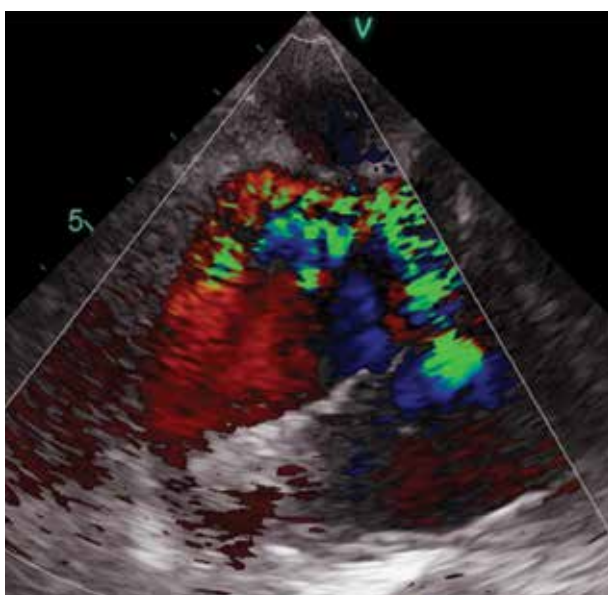


FIGURE 4. Transesophageal mid-esophageal four-chamber view: jet of tricuspid regurgitation.

**Conclusions:** Severe tricuspid regurgitation is associated with impaired survival and worsening heart failure. Appropriate timing of intervention is crucial to avoid irreversible RV damage and organ failure with subsequent increased surgical risk. When surgery is performed, valve repair is preferred over replacement. Valve replacement is associated with a higher mortality rate. Surgical repair is possible in the vast majority of cases of tricuspid valve and chordal anomalies. For patients at increased surgical risk novel percutaneous interventions may offer an alternative treatment.

#### LITERATURE

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