

# The Gerbode defect after the reconstruction of the NCC Sinus Valsalva Aneurysm - the importance of using 3DTOE

Ada Đozić<sup>1\*</sup>,  
Edin Begić<sup>1</sup>,  
Zorica Mladenović<sup>2</sup>

<sup>1</sup>General Hospital «Prim. dr. Abdulah Nakas», Sarajevo, Bosnia and Herzegovina

<sup>2</sup>Clinic of Cardiology, Military Medical Academy, University of Defense, Belgrade, Serbia

**KEYWORDS:** echocardiography, Gerbode defect, intracardiac shunt.

**CITATION:** Cardiol Croat. 2025;20(5-6):126. | <https://doi.org/10.15836/ccar2025.126>

**\*ADDRESS FOR CORRESPONDENCE:** Ada Đozić, General Hospital «Prim. dr. Abdulah Nakaš», Kranjčevićeva 12, 71000 Sarajevo, Bosnia and Herzegovina. / Phone: +387-33285-100 / E-mail: [ada.dozic@gmail.com](mailto:ada.dozic@gmail.com)

**ORCID:** Ada Đozić, <https://orcid.org/0000-0002-2664-810X> • Edin Begić, <https://orcid.org/0000-0001-6842-262X>  
Zorica Mladenović, <https://orcid.org/0000-0002-4668-3922>

**Introduction:** Presentation of the importance of using three-dimensional transesophageal echocardiography (3DTOE) in assessing the morphology and functionality of the shunt.

**Case report:** Figure 1 shows a bicuspid aortic valve with a persistent raphe between the non-coronary cusp (NCC) and right coronary cusp (RCC), and the coaptation line positioned between 11 o'clock and 5 o'clock. In the right sinus of Valsalva projection, a residual minimal fistulous communication (4.57x3.62 mm 3D reconstruction) is seen, allowing a connection between the left ventricle (LV) and right atrium (flow direction towards the LV, clearly identified by Color – Gerbode ventricular septal defect (VSD)).<sup>1-3</sup> The patient's findings additionally include anterior mitral leaflet prolapse at the A2 segment, along with several minor semi-clefts on the posterior mitral leaflet and mild mitral regurgitation (MR) with four jets. No thrombotic mass is observed in the left atrial appendage (LAA). The tricuspid valve is trileaflet, with prolapsing segments, leading to mild functional tricuspid regurgitation (TR). The interatrial septum shows slight aneurysmal dilation, with multiple perforations and detected flow.

**Conclusion:** The use of 3DTOE improves the understanding of complex cardiac structures by providing a more realistic and detailed visualization. It is becoming increasingly recommended for the identification, monitoring, and management of grown-up congenital heart (GUCH) patients.

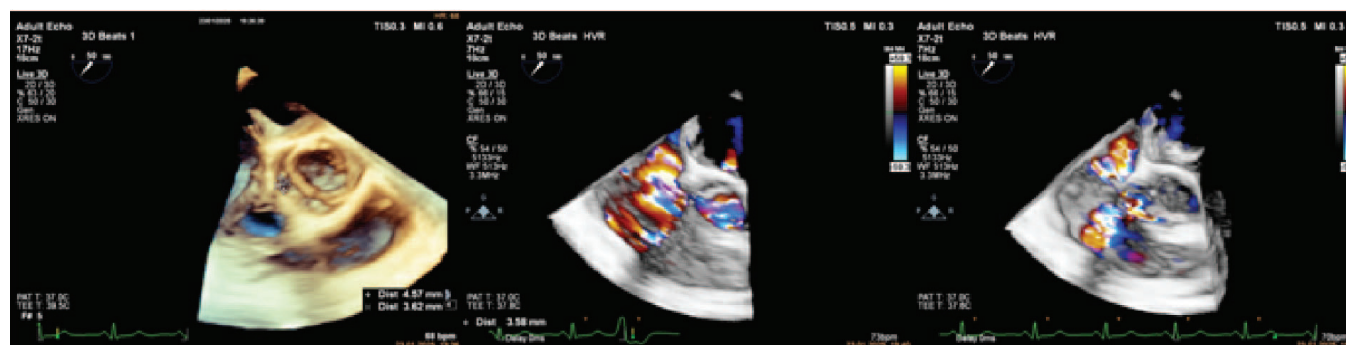


FIGURE 1. Fistulous connection between the left ventricle and right atrium (flow clearly identified by Collor – Gerbode defect).

RECEIVED:  
March 15, 2025

ACCEPTED:  
April 2, 2025



## LITERATURE

- Mladenovic Z, Milic G, Djuric P, Jovic Z, Begovic V, Begic E. The role of 3D transesophageal echocardiography in native mitral valve endocarditis - a case report and review of the literature. Technol Health Care. 2025;9287329241296813. <https://doi.org/10.1177/09287329241296813>
- Bonanni M, Trimarchi G, Benedetti G, D'Agostino A, Iuliano G, Manzo R, et al. Standardized 3D Transoesophageal Echocardiography Manoeuvre for Enhanced Tenting Height Evaluation During Transcatheter Mitral Valve Edge-to-Edge Repair. J Clin Med. 2024;13(21):6525. <https://doi.org/10.3390/jcm13216525>
- Faletra FF, Agricola E, Flachskampf FA, Hahn R, Pepi M, Ajmone Marsan N, et al. Three-dimensional transoesophageal echocardiography: how to use and when to use-a clinical consensus statement from the European Association of Cardiovascular Imaging of the European Society of Cardiology. Eur Heart J Cardiovasc Imaging. 2023 Jul 24;24(8):e119-e197. <https://doi.org/10.1093/ehjci/jead090>