





## Cardiac masses – a sight to behold

 Iva Jurić,  
 Dražen Mlinarević\*,  
 Marko Stupin,  
 Sandra Makarović

University Hospital Centre  
Osijek, Osijek, Croatia

**KEYWORDS:** echocardiography, contrast echocardiography, endocarditis, myxoma, thrombus.

**CITATION:** *Cardiol Croat.* 2019;14(3-4):68. | <https://doi.org/10.15836/ccar2019.68>

**\*ADDRESS FOR CORRESPONDENCE:** Dražen Mlinarević, Klinički bolnički centar, J. Huttlera 4, HR-31000 Osijek, Croatia. / E-mail: [dmlinare@gmail.com](mailto:dmlinare@gmail.com)

**ORCID:** Iva Jurić, <https://orcid.org/0000-0002-0975-3039> • Dražen Mlinarević, <https://orcid.org/0000-0003-3246-4056>  
Marko Stupin, <https://orcid.org/0000-0001-7296-1669> • Sandra Makarović, <https://orcid.org/0000-0002-7487-1189>

Cardiac masses are an important and often impressive finding during echocardiography. Masses can be present in any cardiac cavity and they can cause functional obstruction to blood flow with serious consequences. The most common masses are thrombi, tumors and vegetations. While the definitive diagnosis is usually obtained from pathology report, with echocardiography we can establish the localization, size, mobility, echogenicity and the likely diagnosis. Vegetations are infectious masses, irregularly shaped, with a chaotic movement pattern and most commonly located on the upstream side of valve leaflets. Cardiac tumors can be primary or nonprimary, the latter ones being more common. Metastases to the heart are most frequently associated with melanoma, lung, breast or hematological neoplasms. Primary cardiac tumors are mostly benign but can cause significant obstruction to blood flow. Myxomas are the most common benign tumors, followed by papillary fibroelastomas. Primary malignant cardiac tumors are rare, and they include angiosarcomas, rhabdomyosarcomas, fibrosarcomas and mesotheliomas. Thrombi are masses associated with areas of limited blood flow – most commonly left ventricular aneurysms. Initial transthoracic echocardiography (TTE) in the evaluation of cardiac masses can be supplemented by 3D imaging, transesophageal echocardiography (TEE) and especially by contrast echocardiography. A comprehensive TTE/TEE examination paired with clinical information can reasonably suggest what type of mass is present.<sup>1-4</sup> In our presentation we will discuss three patients with the three most common cardiac masses (tumor, thrombus and vegetation) and with different clinical outcomes. We will focus on the echocardiographic examination and the advantages of contrast echocardiography.

**RECEIVED:**  
February 28, 2019

**ACCEPTED:**  
March 24, 2019



### LITERATURE

- Otto CM. Textbook of clinical echocardiography. Philadelphia, PA: Elsevier/Saunders; 2019.
- Kirkpatrick JN, Wong T, Bednarz JE, Spencer KT, Sugeng L, Ward RP, et al. Differential diagnosis of cardiac masses using contrast echocardiographic perfusion imaging. *J Am Coll Cardiol.* 2004 Apr 21;43(8):1412-9. <https://doi.org/10.1016/j.jacc.2003.09.065>
- Mankad R, Herrmann J. Cardiac tumors: echo assessment. *Echo Res Pract.* 2016 Dec;3(4):R65-R77. <https://doi.org/10.1530/ERP-16-0035>
- Peters PJ, Reinhardt S. The Echocardiographic Evaluation of Intracardiac Masses: A Review. *J Am Soc Echocardiogr.* 2006 Feb;19(2):230-40. <https://doi.org/10.1016/j.echo.2005.10.015>