

Cardiac Imaging

An Octopus-Like Myxoma Depicted by Real-Time 3D Transesophageal Echocardiography

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A 72-year-old woman was admitted for echocardiographic evaluation of a transient ischemic attack that had occurred three weeks earlier. She was hypertensive, in atrial fibrillation, and was receiving chronic anticoagulation therapy, with a good prothrombin time.

The transthoracic echocardiogram revealed the presence of a mobile mass located in the left atrium, consistent with left atrial myxoma. The mass protruded into the mitral valve (Figure 1A) without findings of obstruction (Figure 1B; red arrows indicate the signs that correspond to tumor plop). Multiplane transesophageal echocardiography (2D-TEE) was performed in order to identify additional anatomic information about the mass.^{1,2} The tumor was broadly attached to the interatrial septum (Figure 2; green arrows indicate the site of attachment).³ The use of real-time 3D-TEE allowed the irregular size of the mass to be accurately appreciated,⁴⁻⁵ and it became clear that it consisted of two parts. The portion of the mass towards the attachment was a rather homogenous and dense echogenic structure, measuring 1.8×2.4 cm, with a multilobular surface and several echolucent areas evenly scattered within it (Figure 3A, blue arrow).⁶ The distal portion was composed of a number of irregular and highly mobile papillary excrescences, of gelatinous nature, originating from the central

mass, which protruded through the mitral valve during diastole (Figure 3A, red arrow).⁷ In addition, the broad attachment to the interatrial septum was confirmed with the use of real-time 3D-TEE (Figure 3B, yellow arrows). The mass was successfully surgically resected, and the histological findings were consistent with a cardiac myxoma.⁸⁻⁹

References

1. Mügge A, Daniel WG, Haverich A, Lichtlen PR. Diagnosis of noninfective cardiac mass lesions by two-dimensional echocardiography. Comparison of the transthoracic and transesophageal approaches. *Circulation*. 1991; 83: 70-78.
2. Alam M, Sun I. Transesophageal echocardiographic evaluation of left atrial mass lesions. *J Am Soc Echocardiogr*. 1991; 4: 323-330.
3. Jang KH, Shin DH, Lee C, Jang JK, Cheong S, Yoo SY. Left atrial mass with stalk: thrombus or myxoma? *J Cardiovasc Ultrasound*. 2010; 18: 154-156.
4. Papadopoulos CH, Michalakeas CA, Paraskevaidis I, Ikonomidis I, Anastasiou-Nana M. Differential diagnosis of a left atrial mass: role of three-dimensional transoesophageal echocardiography. *Hellenic J Cardiol*. 2010; 51: 546-548.
5. Mehmood F, Nanda NC, Vengala S, et al. Live three-dimensional transthoracic echocardiographic assessment of left atrial tumors. *Echocardiography*. 2005; 22: 137-143.
6. Gadhinglajkar S, Sreedhar R. Intraoperative evaluation of left atrial myxoma using real-time 3D transesophageal echocardiography. *Ann Card Anaesth*. 2010; 13: 180-181.

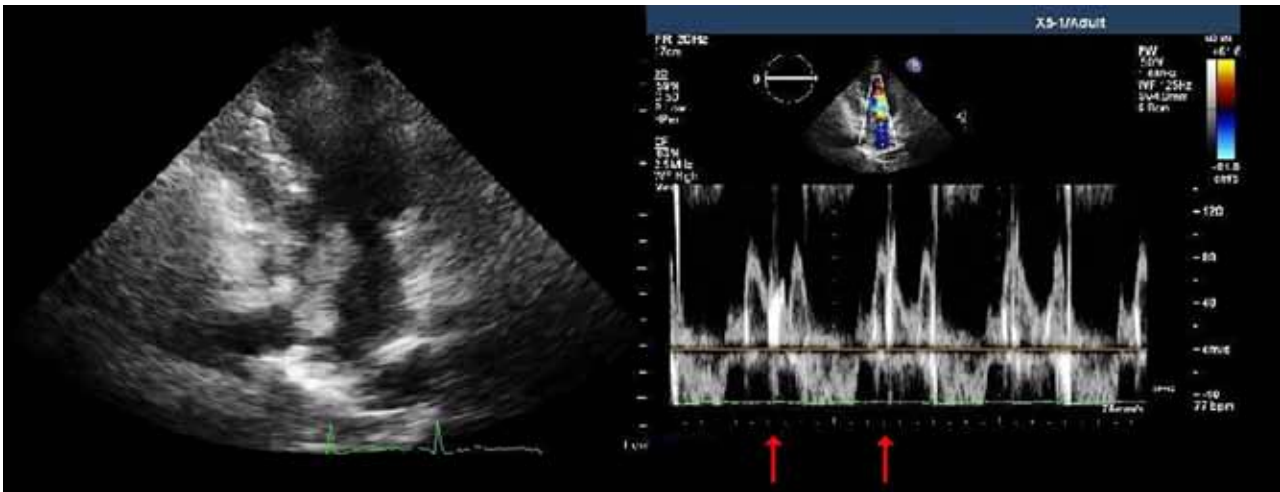


Figure 1. A. Transthoracic view of the mass protruding through the mitral valve. B. Transmitral flow. Red arrows indicate the signs that correspond to tumor plop.



Figure 2. Transesophageal 2D view of the mass. Green arrows indicate the site of attachment.



Figure 3. A. Transesophageal 3D view of the mass showing the homogenous and dense proximal portion (blue arrow) and its papillary excrescences (red arrow). B. Transesophageal 3D full volume view depicting the broad attachment of the mass to the interatrial septum (yellow arrows).

7. Borges AC, Witt C, Bartel T, Müller S, Konertz W, Baumann G. Preoperative two- and three-dimensional transesophageal echocardiographic assessment of heart tumors. *Ann Thorac Surg.* 1996; 61: 1163-1167.
8. Pucci A, Gagliardotto P, Zanini C, Pansini S, di Summa M, Mollo F. Histopathologic and clinical characterization of cardiac myxoma: review of 53 cases from a single institution. *Am Heart J.* 2000; 140: 134-138.
9. Baikoussis NG, Siminelakis SN, Kotsanti A, Achenbach K, Argyropoulou M, Goudevenos J. Multiple cerebral mycotic aneurysms due to left atrial myxoma: are there any pitfalls for the cardiac surgeon? *Hellenic J Cardiol.* 2011; 52: 466-468.