Multimodal imaging approach to intracardiac masses for proper diagnosis, measurement, and definitive surgery

To the Editor,

Dr. Demirkol and his colleagues reported the "volume measurement of a cardiac myxomatous lesion with three-dimensional echocardiography".[1] While we appreciate their technical skills, we disagree that using echocardiography alone is the most reliable and most efficient approach to volume measurements of intracardiac myxomatous masses.

Although the authors correctly noted that they obtained reliable measurements of the mass with three-dimensional echocardiography by comparing with postoperative measurements of the mass, the methodological approach used to reach these results warrants further discussion.

It is strongly recommended that, besides echocardiography, which gives information about the size, localization and mobility of the mass, a multimodal approach be carried out in these patients[2] because echocardiographic findings are not specific and because discrimination between primary cardiac tumors, such as myxoma, and other cardiac masses remains challenging. In applying a multimodal diagnostic approach, computed tomographic (CT) imaging and/or cardiac magnetic resonance imaging (MRI) have played a major role in providing satisfactory information regarding the diagnosis of myxoma.[2,3] MRI provides further information with respect to localization, insertion site, and size of the mass.[3] In addition, it provides specific information about tissue characteristics that facilitate the differentiation between myxoma and thrombi. Indeed, MRI is one of the best modalities for showing other intrathoracic pathologies regarding primary malignancies and/or cardiac excrescences.[2]

In the article, there was no further information about multimodal imaging regarding the other intrathoracic pathologies such as malignancies.[1] If the patient was taken to surgery without multimodal assessment of the mass, that would represent an insufficient preoperative diagnosis for an accurate and definitive surgical strategy. If further modalities were carried out but not included in the report, it reveals another shortcoming. In addition, we would like to comment that preoperative cardiac MRI or CT imaging would show another important reference of volumetric quantifications of the mass, which could be compared with postoperative findings.

In conclusion, while three-dimensional echocardiography gives significantly important information about intracardiac myxomatous lesions, MRI should be performed to determine the exact nature of the mass, which may be helpful in deciding the therapeutic approach.

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Conflict-of-interest issues regarding the authorship or article: None declared

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Authors reply

To the Editor,

We would like to thank the author for his valuable suggestions about our case image.[1] The author has emphasized the role of multimodality imaging including computed tomographic imaging and/or cardiac magnetic resonance imaging in the diagnosis of myxoma. Cardiac magnetic resonance imaging has an important role in the evaluation of cardiac masses and provides valuable information about tumor characteristics such as size, shape and surface features.

Echocardiography is the first-line diagnostic tool for cardiac masses. If a mass is strongly suspected by transthoracic echocardiography, transesophageal echocardiography (TEE) should be applied. TEE provides high sensitivity (97%), especially in atrial masses, and allows for better delineation of anatomical features, such as shape, contour, calcification, and presence of a stalk. Three-dimensional (3D) TEE is increasingly being used in general clinical practice and is helpful in the evaluation of complex cardiac masses. Correlative pathologic findings demonstrate that 3D TEE accurately identifies left atrial myxomas and provides detailed morphologic description of the tumors, which may have clinical importance.[2] Thrombus should be considered in the differential diagnosis.[3] Operative resection is the primary therapy for myxoma and thrombus. Because our findings were suggestive of myxoma, we did not perform further imaging modalities for the differential diagnosis. In this case image, we aimed to reveal the importance of 3D TEE in volume measurement of a cardiac myxomatous lesion.

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Conflict-of-interest issues regarding the authorship or article: None declared

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