

## Caso Clínico

## A mass in the right atrium: A diagnostic dilemma

Santiago Colunga Blanco<sup>a,\*</sup>, María Martín Fernández<sup>a</sup>, Cecilia Corros Vicente<sup>a</sup>, Rubén Álvarez Cabo<sup>b</sup>, M. Aurora Astudillo González<sup>c</sup><sup>a</sup> Cardiología, Hospital Universitario Central de Asturias, Oviedo, Asturias, Spain<sup>b</sup> Cirugía Cardíaca, Hospital Universitario Central de Asturias, Oviedo, Asturias, Spain<sup>c</sup> Anatomía Patológica, Hospital Universitario Central de Asturias, Oviedo, Asturias, Spain

## A B S T R A C T

**Keywords:**  
Myxoma  
Right atrium  
Echocardiography  
Tumors  
Cardiac MRI

In this article we highlight the importance of cardiac imaging techniques and proper differential diagnosis to tackling the evaluation of cardiac masses in the right chambers.

© 2016 Sociedad Española de Cirugía Torácica-Cardiovascular. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Masa en la aurícula derecha: un dilema diagnóstico

## R E S U M E N

**Palabras clave:**  
Mixoma  
Aurícula derecha  
Ecocardiografía  
Tumores  
Resonancia magnética cardíaca

En este artículo queremos resaltar la importancia de las técnicas de imagen cardíaca en el adecuado diagnóstico diferencial a la hora de abordar el estudio de las masas cardíacas en las cavidades derechas.

© 2016 Sociedad Española de Cirugía Torácica-Cardiovascular. Publicado por Elsevier España, S.L.U. Este es un artículo Open Access bajo la licencia CC BY-NC-ND (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

A 68-year old woman with previous aortic valve replacement with a mechanical prosthesis three years ago was admitted to our hospital with a recent onset atrial fibrillation. Transthoracic echocardiography was performed. It described a well-circumscribed polypoid mass in the right atrium which seemed to be attached to the septal leaflet of the tricuspid valve (Fig. 1A and B). Subsequently a transesophageal echocardiography confirmed this finding (Fig. 1C and D: 17 mm × 12 mm ovoid mass without obstructing tricuspid valve). Otherwise, right cavities were normal and prosthesis had also a normal function.

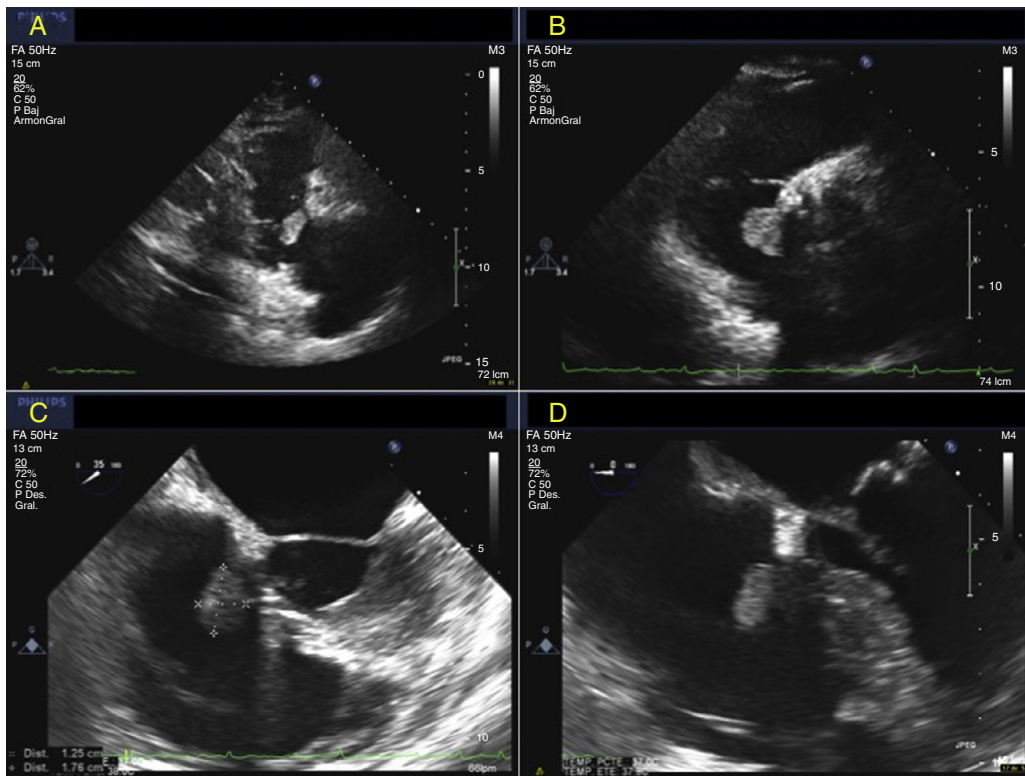
In the absence of clinical signs of endocarditis, suspected diagnosis of tumor was established.<sup>1,4</sup> Cardiac MRI for a better characterization was performed. It confirmed a well-defined mobile mass in the right atrium attached to the septal leaflet of the tricuspid,

hypointense in gradient echo sequences and with early and late heterogeneous gadolinium hyperenhancement (Fig. 2A–D). Once the study was completed the most likely diagnosis of myxoma was established.<sup>1–3</sup>

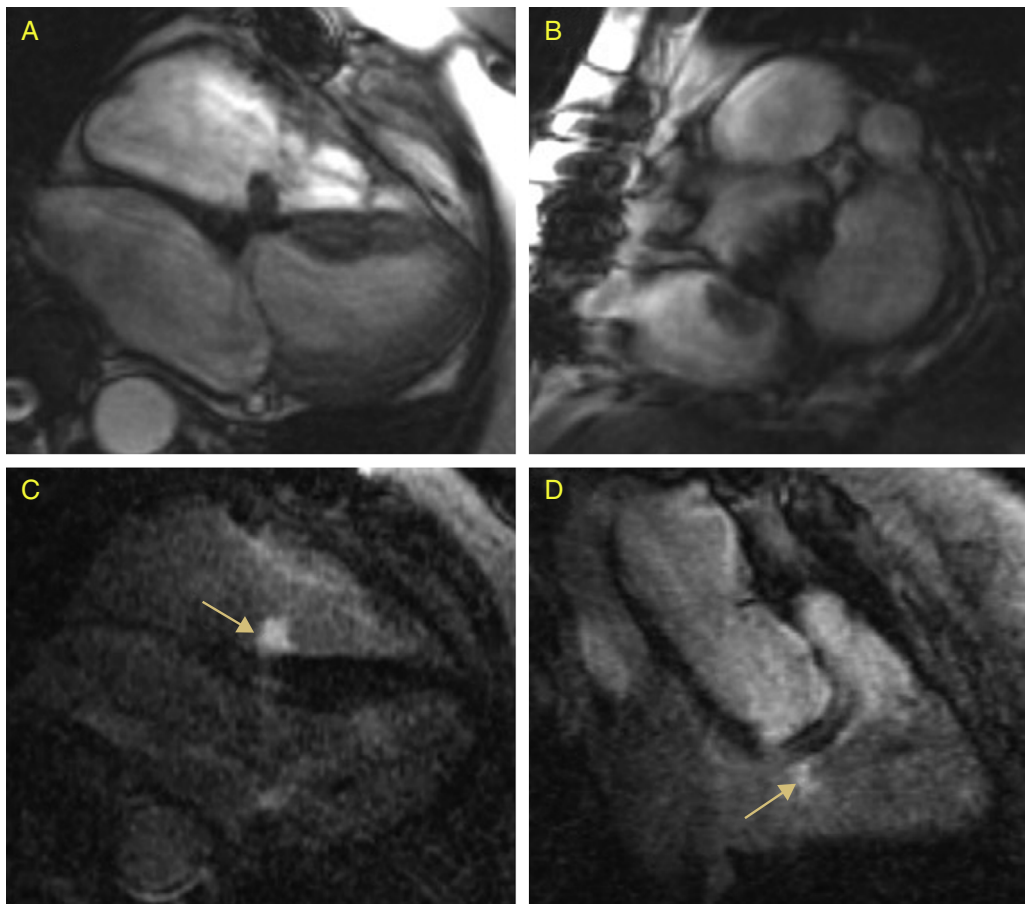
Surgical resection was performed. Intraoperative biopsy was compatible with myxoma and histopathological study confirmed the diagnosis (Fig. 3 A and B)

Intracardiac primary tumors are rare and highly variable in their clinical expression. It can range from incidental diagnosis, as in our case, to sudden death. Although myxomas are the most frequent primary tumors, right atrial is an atypical location leading to a diagnostic dilemma.<sup>2–4</sup> Differential diagnosis with malignant tumors, metastasis, vegetations and even with normal variants must be taken into account.

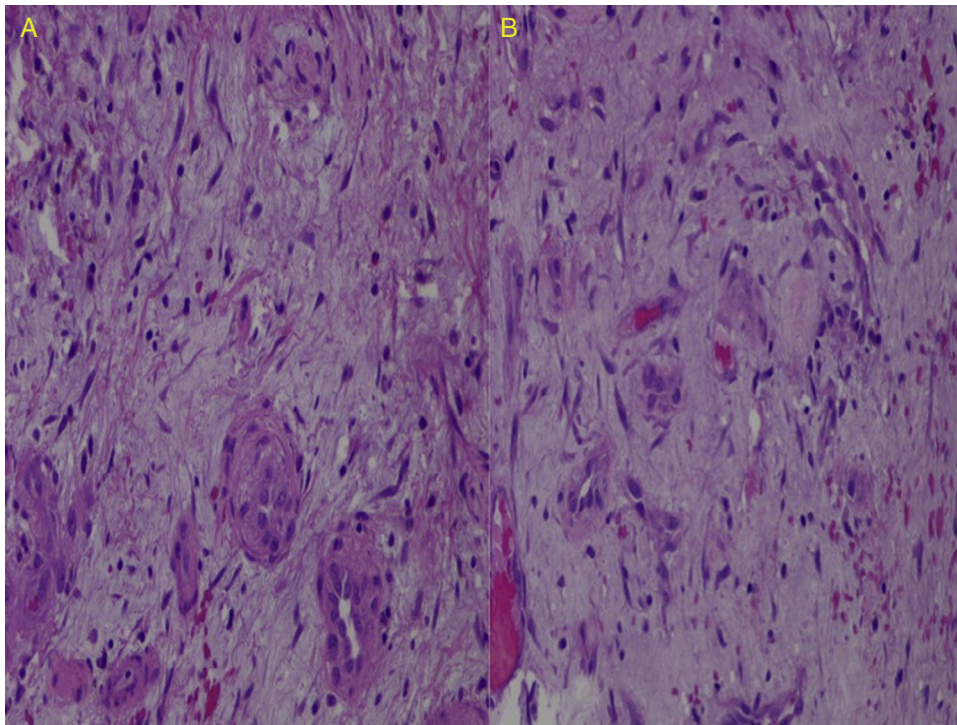
\* Corresponding author.  
E-mail address: [santicolunga@hotmail.com](mailto:santicolunga@hotmail.com) (S. Colunga Blanco).



**Fig. 1.** (A) and (B) TTE polypoid mass in the right atrium attached to the septal leaflet of the tricuspid valve. (C) and (D) Transesophageal echocardiography confirmed the previous findings.



**Fig. 2.** (A) and (B) Gradient echo sequences. A mass in the right atrium attached to the septal leaflet of the tricuspid, hypointense. (C) and (D) Enhancement sequences. Early and late heterogeneous gadolinium hyperenhancement.



**Fig. 3.** Histopathological study confirmed diagnosis of mixoma.

#### **Ethical disclosures**

**Protection of human and animal subjects.** The authors declare that no experiments were performed on humans or animals for this investigation.

**Confidentiality of data.** The authors declare that no patient data appears in this article.

**Right to privacy and informed consent.** The authors declare that no patient data appears in this article.

#### **References**

1. Nakabayashi K, Murata S, Kato H, Oka T. The differentiation of giant right atrial myxoma from metastatic cancer with the use of multiple imaging modalities. *Intern Med.* 2016;55:925–8.
2. Ridge CA, Killeen RP, Sheehan KM, Ryan R, Mulligan N, Luke D, et al. Giant right atrial myxoma: characterization with cardiac magnetic resonance imaging. *Clin Imaging.* 2010;34:231–3.
3. Fieno DS, Saouaf R, Thomson LE, Abidov A, Friedman JD, Berman DS. Cardiovascular magnetic resonance of primary tumors of the heart: a review. *J Cardiovasc Magn Reson.* 2006;8:839–53.
4. Muñoz Serret D, García E, Páez J, Hernández E. Mixoma gigante de aurícula derecha. Presentación de un caso. *Cir Cardiovasc.* 2013;20:203–5.