

IMAGE FOCUS

doi:10.1093/ehjci/jet107

Online publish-ahead-of-print 3 June 2013

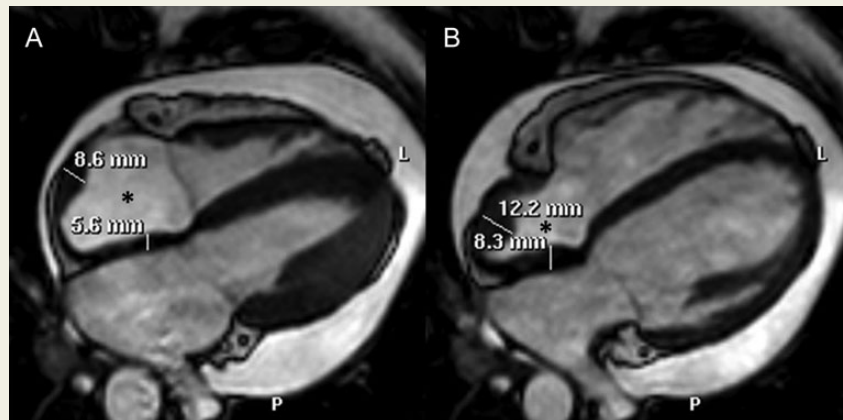
Hamartoma of mature cardiac myocytes: a cardiac tumour with preserved contractility

Giuseppe M. Raffa^{1*}, Giuseppe Tarelli¹, Luca Balzarini¹, Daniela Torta², and Lorenzo Monti¹

¹Unit of Cardiac Surgery and Radiology Department, Humanitas Clinical and Research Center, Via Manzoni 56, Rozzano, Milan 20089, Italy and ²Department of Cardiology, Ospedale San Paolo, Milan, Italy

* Corresponding author. Tel: +39 02 82244602; Fax: +39 0282244691, Email: giuseppe.raffa78@gmail.com

A 41-year-old woman suffering from chest pain underwent successful resection of a right atrial mass detected at cardiac ultrasound. A cardiac magnetic resonance (CMR) was performed as a complementary preoperative diagnostic tool. As a peculiar finding, we observed a preserved systolic thickening of the right atrial wall (Supplementary data online, Video S1). The right atrial free wall and the interatrial septum, involved by the tumour, showed a systolic thickening of 41 and 47%, respectively: a normal wall motion despite increased wall thickness (Panels A and B). Whether the



atrial wall thickening represents a partial separation of the bulk of the tumour from the rest of the atrial wall (but neither cleavage nor significant CMR signal differences inside the wall were detected), or a thickening of the atrial wall overlying the tumour, the thickening is systolic and measurable. However, the contraction was also observed in the interatrial septum representing thus a peculiarity of the tumour. To the best of our knowledge, this feature has never been described in cardiac tumours. A diagnosis of hamartoma of mature cardiac myocytes (HMCs) was made at histological examination.

HMCs are a rare benign cardiac tumour composed of mature hypertrophied myocytes variably interspersed among collagenous and adipose tissue. The presence of a notable amount of mature cardiac myocytes in the tumour likely relates with the preserved cardiac wall thickening and motion detected at CMR.

See Supplementary material for the echocardiographic (Supplementary data online, Figure 1A) and CMR images (Supplementary data online, Figure 1B–D) and histological features (Supplementary data online, Figure 1E and F) of HMCs.

Systolic thickening of the right atrial mass detected at CMR. *Right atrium. (A) CMR steady-state free precession (SSFP) image during atrial diastole showing a right atrial free wall and interatrial septum thickness of 8.6 and 5.6 mm, respectively. (B) CMR SSFP image during atrial systole showing a right atrial free wall and interatrial septum thickness of 12.2 and 8.3 mm, respectively. The thickened right atrial wall and the interatrial septum, unlike other cardiac tumours, preserve a normal thickening of >40% between diastolic and systolic phase ($12.2\text{ mm}/8.6\text{ mm} = 141.4\%$ and $8.3\text{ mm}/5.6\text{ mm} = 147.5\%$).

Supplementary data are available at *European Heart Journal – Cardiovascular Imaging* online.

Published on behalf of the European Society of Cardiology. All rights reserved. © The Author 2013. For permissions please email: journals.permissions@oup.com