

Atypical localization of a left atrial myxoma at the free edge of mitral valve

Fabrizio Rosati¹, Adrian Baranchuk², Kevin Ren³, Darrin M. Payne¹, Andrew Hamilton¹, Dimitri Petsikas¹, Gianluigi Bisleri¹

¹Division of Cardiac Surgery, ²Division of Cardiology, ³Division of Pathology, Kingston General Hospital, Queen's University, Kingston, ON, Canada

Correspondence to: Gianluigi Bisleri, MD. Division of Cardiac Surgery, Kingston General Hospital, Victory, 3, K7L 2V7 Kingston, ON, Canada. Email: gianluigi.bisleri@queensu.ca.

Submitted Apr 24, 2018. Accepted for publication Jun 12, 2018.

doi: 10.21037/jtd.2018.06.90

View this article at: <http://dx.doi.org/10.21037/jtd.2018.06.90>

Introduction

Myxomas represent more than 50% of benign cardiac neoplasm and are the most frequent cardiac tumors (1). Recent studies showed these neoplasms are commonly located in the left atrium (>90%), usually as a pedicled mass arising from the inter-atrial septum at the border of the fossa ovalis (2). Intra-cardiac masses should be differentiated as they could potentially represent a primary or secondary metastatic mass or endocarditis vegetations. We present a case of an exceedingly rare myxoma location, arising from the free-edge of the posterior mitral valve (MV) leaflet, which was incidentally identified in a 20-year-old female investigated for recent onset shortness of breath.

Case presentation

A 20-year-old female referred worsening dyspnea during moderate exertions and was therefore referred for an echocardiogram following the incidental finding of a systolic murmur. Past medical history included May-Turner syndrome (anatomical variant where the right common iliac artery overlies and compresses the left common iliac vein against the lumbar spine) with recurrent deep vein thrombosis requiring oral anticoagulation, obesity and antiphospholipid antibody syndrome.

The trans-esophageal echo revealed the presence of a 2 cm × 1 cm lobulated mass attached on the free edge of the posterior mitral leaflet with protrusion into the left ventricle during the cardiac cycle; furthermore, there was an evidence of a moderate MV regurgitation with a central

jet possibly in relation to the mass and a mild-moderate annular dilatation (*Figure 1A,B*).

Via a conventional surgical approach and under general anesthesia, the valve was approached through a left atriotomy. Intraoperative findings confirmed the atypical location of this atrial mass with a small pedicle arising from the free-edge of the MV posterior leaflet (*Figure 1C,D*). After a successful excision, there was evidence of residual central MV regurgitation (*Figure 2*) (3), thus suggesting the need for an annuloplasty. Annuloplasty with a semi-rigid band (CG Future, Medtronic, Minneapolis, MN, USA) was performed with an excellent result (*Figure 1C,D* and *Figure 3*) (4).

Histopathological analysis confirmed the diagnosis of left atrial myxoma.

Discussion

This case depicts a very unique anatomical location of a left atrial myxoma posing a differential diagnosis with vegetation, fibroelastoma and thrombus or a malignant mass. Past medical history and physical examination of this patient did not show any supporting criteria for the diagnosis of infective endocarditis at the level of the MV (5). Moreover, healed vegetations appear as high density and mobile masses with associated irregular thickening of the valve leaflets (6): all the above features were not found in the pre-operative echocardiogram. Conversely, fibroelastomas commonly involve valves, especially aortic or MV but usually appear as a homogeneous well-delineated mass with uniform echogenicity (1,7). Primary

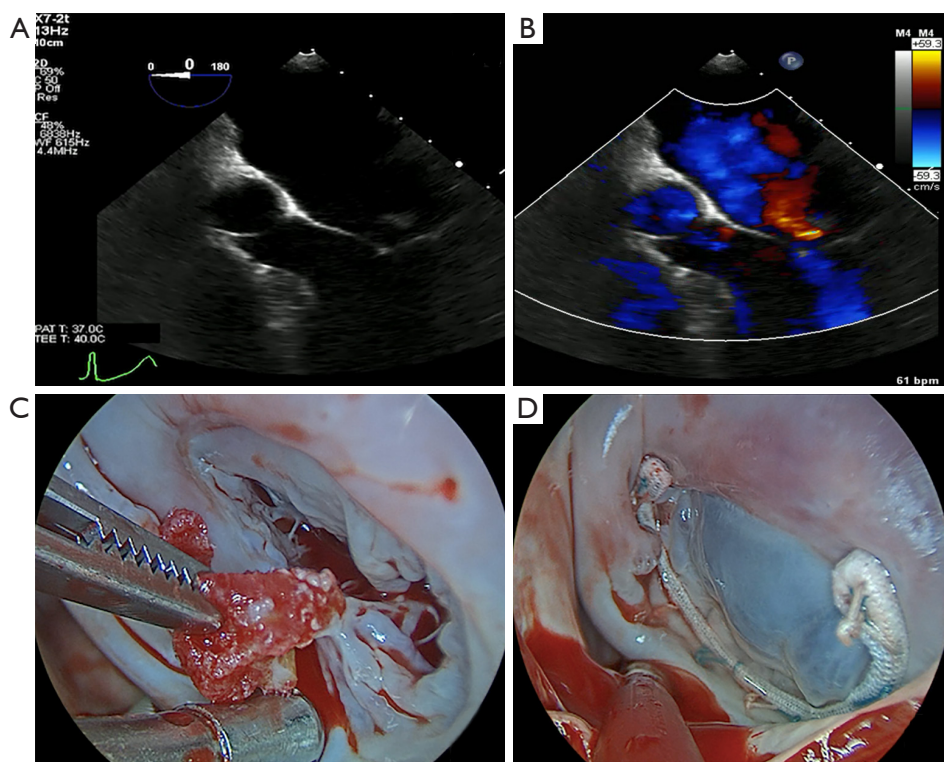


Figure 1 Trans-esophageal echocardiogram showing: (A) lobulated mass at the level of the free edge of the posterior mitral valve leaflet and (B) moderate central mitral valve jet. (C) Intraoperative finding of a left atrial mass with a small pedicle arising from free edge of the posterior leaflet of the mitral valve; (D) mitral valve annuloplasty by means of incomplete semi-rigid band.



Figure 2 Residual central mitral valve regurgitation after complete mass excision (3).

Available online: <http://www.asvide.com/article/view/26161>

osteosarcoma frequently has extensive calcifications while metastases commonly involve the right cardiac chambers (8). A diagnosis of native MV thrombus could have been also unlikely since such entity typically occurs



Figure 3 Intraoperative mitral valve competence test after annuloplasty by means of incomplete semi-rigid band (4).

Available online: <http://www.asvide.com/article/view/26162>

on prosthetic MVs. Moreover, most of the thrombi are less mobile and no pedicle is usually present, unlike the current case (9).

A definitive diagnosis as an exceedingly rare MV

myxoma was confirmed with histopathological analysis after complete surgical excision. After mass removal, central moderate MV regurgitation after competence test was corrected by means of incomplete ring annuloplasty with an excellent result. Patient was discharged at home 7 days after surgery and transthoracic echocardiogram showed no remnants of the mass at the level of MV posterior leaflet and no residual regurgitation.

Acknowledgements

None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Informed Consent: Patient signed informed consent for related scientific/research activities.

References

1. Yu K, Liu Y, Wang H, et al. Epidemiological and pathological characteristics of cardiac tumors: a clinical study of 242 cases. *Interact Cardiovasc Thorac Surg* 2007;6:636-9.
2. Amano J, Kono T, Wada Y, et al. Cardiac myxoma: its origin and tumor characteristics. *Ann Thorac Cardiovasc Surg* 2003;9:215-21.
3. Rosati F, Baranchuk A, Ren K, et al. Residual central mitral valve regurgitation after complete mass excision. *Asvide* 2018;5:652. Available online: <http://www.asvide.com/article/view/26161>
4. Rosati F, Baranchuk A, Ren K, et al. Intraoperative mitral valve competence test after annuloplasty by means of incomplete semi-rigid band. *Asvide* 2018;5:653. Available online: <http://www.asvide.com/article/view/26162>
5. Durack DT, Lukes AS, Bright DK. New criteria for diagnosis of infective endocarditis: utilization of specific echocardiographic findings. *Duke Endocarditis Service. Am J Med* 1994;96:200-9.
6. Cahill TJ, Prendergast BD. Infective endocarditis. *Lancet* 2016;387:882-93.
7. Ryu SW, Beom MS, Kim SR, et al. Cardiac papillary fibroelastoma. *Rev Port Cardiol* 2015;34:507-8.
8. Zhang PJ, Brooks JS, Goldblum JR, et al. Primary cardiac sarcomas: a clinicopathologic analysis of a series with follow-up information in 17 patients and emphasis on long-term survival. *Hum Pathol* 2008;39:1385-95.
9. Mehra S, Movahed A, Espinoza C, et al. Horseshoe thrombus in a patient with mechanical prosthetic mitral valve: A case report and review of literature. *World J Clin Cases* 2015;3:838-42.

Cite this article as: Rosati F, Baranchuk A, Ren K, Payne DM, Hamilton A, Petsikas D, Bisleri G. Atypical localization of a left atrial myxoma at the free edge of mitral valve. *J Thorac Dis* 2018;10(7):E581-E583. doi: 10.21037/jtd.2018.06.90