

CASE REPORT

GIANT-CELL RICH ATRIAL MYXOMA: REPORT OF TWO CASES AND REVIEW OF LITERATURE

Hina Tariq, Nadira Mamoon

Shifa International Hospital, Islamabad-Pakistan

The cases of two middle age males are presented who were incidentally diagnosed to have atrial myxoma. Both of them underwent successful surgical interventions. Histologically, both myxomas showed abundant multinucleated giant cells, in addition to typical myxoid stroma with stellate and cord-like structures.

Keywords: Atrial myxoma, multinucleated giant cells,.

J Ayub Med Coll Abbottabad 2016;28(1):197-8

INTRODUCTION

Myxoma is the commonest primary tumor of the heart, arising more frequently in the left than the right atrium.¹ Approximately one-fourth of them are right-sided. These tumors are diagnosed with accuracy by cardiac catheterization and angiography.² We present two cases of atrial myxoma in which multinucleated giant cells were a prominent microscopic finding.

FIRST CASE

An apparently healthy 32 year old male was advised echocardiography during screening for a routine medical exam. The echocardiography showed a large left atrial myxoma encroaching on the mitral valve. He underwent successful surgical resection. Operative findings were of a large friable left atrial myxoma with a wide septal origin.

The surgical specimen consisted of a soft, irregular, tan white, polypoidal gelatinous tissue. It measured 4.54.5×4.5 cm with a stalk, about 1.2×1.2 cm. The lesion had a large thrombus adherent to it. No areas of necrosis and calcification observed.

On microscopy, the predominant cells found were multinucleated giant cells comprising four to eight nuclei and eosinophilic cytoplasm. A portion of the growth showed typical features of myxoma. It comprised of stellate cells, round-to-polygonal cells, arranged as cord-like structures at places surrounded by myxomatous loose stroma. Many areas showed hemorrhage and infarction. Hemosiderin-laden macrophages and lymphoplasmacytic infiltrate were also seen. Mitosis and pleomorphism were absent.

SECOND CASE

A 45-years-old male was admitted with the complaint of palpitations for about 1 year. The palpitations were of sudden onset, which later settled without any medications. The patient was normotensive, non-diabetic, and otherwise hemodynamically stable.

Gross and microscopic findings were similar to first case. Immuno-histochemical panel was applied, and tumor giant cells were negative for CD68, ASMA, Desmin, and S100.

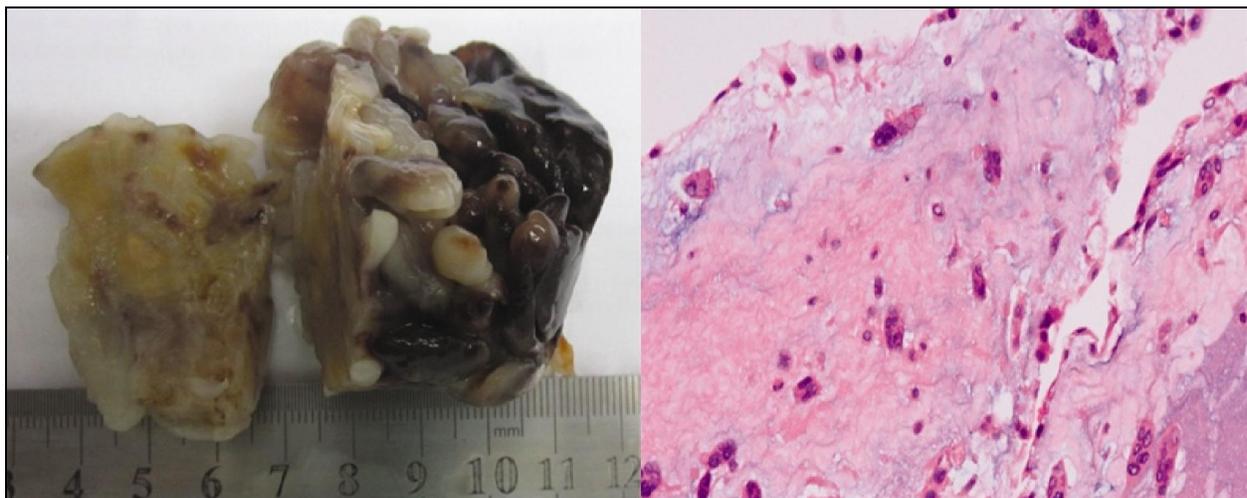


Figure-1: Specimen consisted of a soft, irregular, tan white, polypoidal gelatinous tissue. Myxoma showing abundant multinucleated giant cells in addition to myxoid stroma with stellate and cord-like structures

DISCUSSION

Myxomas make up about one-half of all primary cardiac tumors. The first left atrial myxoma was described in a post-mortem examination in 1845.² The clinical presentation depends on its anatomic location.² Around 75% of these tumors arise from the left atrium and 18% from the right atrium, as reported in the literature.² Typically, two discrete types of myxoma are solid myxoma and papillary myxoma.³

The microscopic findings described by Frederick and Richard, include stellate or globular myxoma cells embedded in myxoid substance. They have also mentioned vessel-like and gland-like structures, along with mononuclear infiltrate and hemorrhage in the background.⁴

In addition to the above histopathological features, Rosai and Ackerman, and Geral and Charles, have described surface thrombosis, Gamnagandy bodies, ossification, cartilaginous tissue formation and extramedullary hematopoiesis. Presence of thymic and foregut remnants are also mentioned.

In the WHO 2004 classification (blue book), besides the above findings, moderate cytological atypia, mitotic activity and expression of cytokeratin by the epithelium have been defined.

In only one study by Yu-Sheng Lin *et al.*, multinucleated giant cells are described in 40% cases, in addition to other features, like inflammation in 50%, hemorrhagic foci in 10% of patients, in addition to other findings.⁵ These cells were reported to be Desmin positive but our cases showed negative staining.

CONCLUSION

The multinucleated giant cells are a microscopic feature of myxoma which has not been emphasized previously and needs to be recognized. Their histogenesis needs also to be looked into.

REFERENCES

1. Hemachandran M, Kakkar N, Khandelwal N. Giant-cell-rich myxoma of right atrium an ultrastructural analysis. *Cardiovasc Pathol* 2003;12(5):287-9.
2. Charokopos NA, Rouska E, Pliakos C, Pagourelis ED, Artemiou P, Foroulis C, *et al.* Atypical atrial myxomas in two asymptomatic patients: a case report. *Cardiovasc Ultrasound* 2009;7:45.
3. Anvari MS, Boroumand MA, Karimi A, Abbasi K, Ahmadi H, Marzban M, *et al.* Histopathologic and clinical characterization of atrial myxoma: a review of 19 cases. *Lab Med* 2009;40(10):596-9.
4. Lamparter S, Moosdorf R, Maisch B. Giant left atrial mass in an asymptomatic Patient. *Heart* 2004;90(5):e24.
5. Lin YS, Jung SM, Wu HH, Shiu TF, Tzai FC, Chu JJ, *et al.* Survivin expression in cardiac myxoma. *Chang Gung Med J* 2001;34(4):360-6.

Address for Correspondence:

Dr Nadira Mamoon, Shifa International Hospital, H-8/4, Islamabad-Pakistan

Ph: +92 51 8463873

Email: nmamoon@live.com