

Left Cardiac Intracavitory Metastases from a Primary Thigh Myxofibrosarcoma Associated with Systemic Embolization: Clinical Case Challenge

Fernanda Andrade¹, Letticya Machado¹, Cristina Bittar¹, Isabela Costa¹, Thalita González¹, Marcel Almeida¹, Fernanda Costa¹, Ludmila Barberino¹, Silvia Fonseca¹, Carolina Silva¹, Stéphanie Rizk¹, Ludhmila Hajjar¹

¹Cancer Institute of São Paulo, University of São Paulo

BACKGROUND

- Myxofibrosarcoma (MFS) represent approximately 5% of soft tissue sarcoma diagnoses and metastasis frequency ranges from 9.5% to 23.6%.
- However, intracardiac metastasis is extremely rare, only represents 3% to 5% of all cardiac metastases.

CASE REPORT

- 52-year-old woman diagnosed with MFS high grade in December 2018, initially treated with surgery and radiotherapy (RT). After seven months the tumor had a local recurrence and a new approach was required.
- In November 2019, the patient was hospitalized due abdominal pain associated with stop flatus and a computed tomography (CT) was performed. The CT image showed a heart with elongated hypoattenuating image inside the left ventricle and thrombosis of the superior mesenteric artery with extension to the left jejunal branch.
- Echocardiogram (ECHO) showed hyperechogenic image adhered to the lateral and inferior left ventricular wall, with moving components, measuring approximately 4.0 x 2.5 cm, which may correspond to thrombus or tumor – Figure 01.
- Cardiac magnetic resonance (CMR) confirmed tumoral infiltrative lesion in the left ventricular intracavitory topography located in the basal and middle lateral segments, measures about 4.0 x 2.5 x 3.5 cm. Presence a small image with low signal interspersing the lesion suggests thrombi – Figure 02.
- The diagnosis of left cardiac intracavitory metastases from a primary thigh MFS associated with systemic embolization (mesenteric ischemia) was confirmed. A full anti-coagulation was started, and oncology team initiated systemic treatment with doxorubicin in association with cardiac RT.

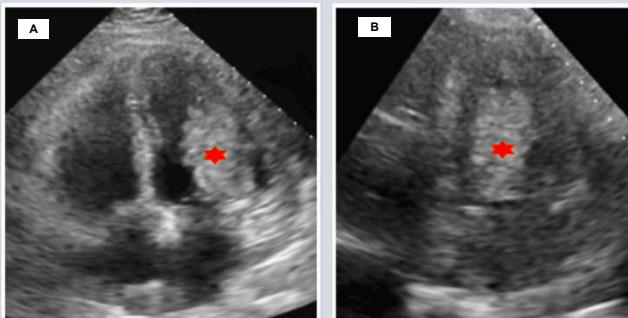


Figure 1: ECHO – Hyperechogenic image adhered to the left ventricular (Red marking).
A: Apical four chamber - Lateral wall; B: Apical two chamber - Inferior wall.

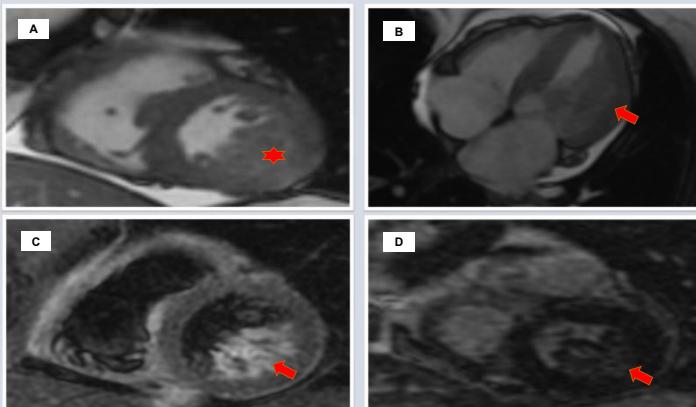


Figure 2: CMR showing the tumor (Red marking) – A: Short-axis; B: Four-chamber; C: T2-weighted - Myocardial edema in heterogeneous mass; D: Late gadolinium enhancement - Heterogeneous mass uptake.

DISCUSSION

- MFS is a rare type of cancer, usually affects older patients (fifth to seventh decade of life), and men are affected slightly more than women.
- Common sites of presentation are the extremities (77%), with a predilection for the lower than upper extremities. It has been reported in the skin, breast, heart, but it is uncommon.
- Risk of recurrence in high-grade tumors can reach 62% and the RT is important to improve local control.
- Frequency of metastasis varies from 9.5% to 23.6% and lung is the most frequently involved.
- Primary lung cancer represents 39% of cardiac metastases, followed by breast cancer (12%) and hematologic malignancies (10%).
- Including all cases of cardiac metastasis, pericardium is the most frequently involved (69%), followed by epicardium (34%) and endocardial and intracavitory metastases are rare.
- No specific reports are available for patients with left cardiac metastases from MFS.
- Although uncommon, the clinical manifestation presented is extremely severe, requiring aggressive systemic treatment.

REFERENCES

- Roland C., Wang WL, Lazar A., Torres K. Myxofibrosarcoma. [\[http://dx.doi.org/10.1016/j.soc.2016.05.008\]](http://dx.doi.org/10.1016/j.soc.2016.05.008) 2016.
- Mentzel T., Calonje E., Wadden C., et al. Myxofibrosarcoma. Clinicopathologic analysis of 75 cases with emphasis on the low-grade variant. *Am J Surg Pathol*. 1996, Vols. 20(4):391-405.
- Tsuchie H., Kaya M., Nagasawa H., Emori M., Murahashi Y., Mizushima E., Miyakoshi N., Toshihiko Y., Shimada Y. Distant metastasis in patients with myxofibrosarcoma. *UPSALA JOURNAL OF MEDICAL SCIENCES*. 2017, Vol. [\[http://dx.doi.org/10.1080/03009734.2017.1356404\]](http://dx.doi.org/10.1080/03009734.2017.1356404).
- Goldberg A., Blankstein R., Padera R. Tumors Metastatic to the Heart. *Circulation*. 2013, Vols. 128:1790-1794.

DISCLOSURES

All the authors have no conflicts of interest to disclose.