World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(CASE REPORT)

INFLAMMATORY MYOFIBROBLASTIC TUMOR IN THE POSTERIOR MEDIASTINUM: A CASE REPORT

El aini Sarah [1, 2, *], El aamadi Wafae [1, 2], Bouchikh Mohamed [1, 2] and Achir Abdellah [1, 2]

[1] Department of thoracic surgery, Ibn Sina Hospital, Rabat, Morocco.
[2] Faculty of Medicine and pharmacy, Mohammed V University of Rabat, Morocco.
* Corresponding Author

World Journal of Advanced Research and Reviews, 2026, 31(03), 623–625

Publication history: Received on 02 August 2026; revised on 09 September 2026; accepted on 11 September 2026

Article DOI: https://doi.org/10.30574/wjarr.2026.31.3.2356

ABSTRACT

Inflammatory myofibroblastic tumor is a term used to describe a benign and rare process most commonly involving the lung and orbit but found in nearly every site in the body. This entity has been described by several names and histologic presentations and as mimicking neoplastic processes.

We report a rare case of Inflammatory myofibroblastic tumor in the right posterior mediastinum. The diagnosis was confirmed through the pathological examination of the surgical specimen. This case highlights the uncommon localization of the tumor in the mediastinum and its surgical resection technique.

Keywords: Mediastinum, Inflammatory myofibroblastic tumor, Video assisted thoracic surgery, Posterior mediastinum.

1 INTRODUCTION

Inflammatory myofibroblastic tumor or inflammatory pseudotumor is a rare benign tumor composed of spindle cells with variable infiltrate of inflammatory cells and fibrous tissue. Although the lung is the best known and most common site, inflammatory myofibroblastic tumor occurs in diverse extrapulmonary locations (1).

2 CASE REPORT

A 37-year-old patient, without any notable medical history, has been experiencing occasional chest pain for the past 7 years; not related to respiration; there were no other pulmonary manifestations. His vital signs and physical examination were unremarkable.

A chest X-ray was conducted, indicating a well-delineated opacity present in the posterior mediastinum. He was referred to our department for further surgical treatment. Computed tomography of the chest demonstrated a large masse in the right posterior mediastinum, there was no evidence of metastases or lymphadenopathy. The MRI revealed a 55mm oval lesion located at the costovertebral groove level, exhibiting a mixed intense signal on T2 and low signal on T1,

accompanied by marked enhancement and central necrosis. The boundaries appear well-defined with regular contours. Additionally, there is foraminal enlargement at the D8-9 level, resulting in a pseudo-hourglass configuration (Figure: 1).

The surgical procedure involved a thorough excision of the tumor via right Video-Assisted Thoracoscopic Surgery (VATS). During exploration, a solid subpleural mass was discovered situated within the costovertebral groove, ensconced in the intercostal space, and firmly attached to the neighboring structures, exhibiting significant vascularity.

On gross pathology a 5 cm rounded encapsulated nodule, exhibiting a grayish-white heterogeneous appearance with a fleshy cystic center and hemorrhagic rearrangement, in proximity to the intact capsule.

Histopathology revealed a spindle cell proliferation with an inflammatory component consisting of plasma cells and small lymphoid cells. Immunohistochemical investigations were positive for muscle specific actin; EMA and S100; and negative for cytokeratine stains; CD34 and desmine. Because of these findings a malignant tumor such a sarcoma was unlikely and the process was diagnosed as an inflammatory pseudotumor.

3 DISCUSSION

Inflammatory myofibroblastic tumor is a rare neoplasm that originates in the soft tissues and is composed of distinctive pseudosarcomatous inflammatory lesion with spindle cell proliferation (1). Histologically, inflammatory pseudotumor is composed of fibrosis, necrosis, granulomatous reaction and various inflammatory cells including histiocytes, myofibroblasts, plasma cells, and lymphocytes (2). The most frequently reported site of IMT is in the lung, while it occurs less commonly in the liver, spleen, stomach, orbit, urinary bladder (3), and rarely, the mediastinum. IMT was originally viewed as a reactive tumor-like lesion because of the favorable outcome of most of these lesions after complete surgical resection. However, the local recurrence rate of IMT is approximately 25%, and the metastatic rate ranges from 5% to 11% in various studies (1;4;5).

The clinical behavior is generally considered indolent depending on the site of the lesion and the symptoms could result from pressure exerted on adjacent structures; leading to manifestations such as dyspnea; chest pain or hemoptysis. Imaging findings are non-specific; CT may show mediastinal IPT encasing various structures. The lesion is often heterogeneous on contrast-enhanced images, reflecting its varied cellular components (2).

It remains difficult to distinguish IMT from a malignant tumor on the basis of imaging.

The differential diagnosis in mediastinum includes several neoplastic and non-neoplastic conditions, such as solitary fibrous tumor (SFT), inflammatory fibrosarcoma, Hodgkin's disease, neurogenic tumors and sclerosing/fibrosing mediastinitis (6).

In general, the primary therapeutic approach is surgery if the anatomic location is amenable to a resection. If operative extirpation is not possible, these lesions are typically biopsied and observed, or treated with a variety of regimens that may encompass non-steroidal anti-inflammatory agents, steroids, radiation, and chemotherapeutic agents (7). Spontaneous regression of IMT has been reported sporadically in lung, liver, orbit, urinary bladder, and elsewhere (8).

4 CONCLUSION

IMT is a rare tumor that can develop in any location. However, its occurrence in the mediastinum is rare. The primary focus of treatment should remain on achieving complete surgical removal to avoid recurrence.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

Acknowledgments

The authors would like to acknowledge and sincerely thank all the co-authors for their valuable contributions and active participation in this work.

Funding Source

No funding source.

Disclosure of conflict of interest

The authors declare no conflicts of interest regarding this manuscript.

REFERENCES

[1] Coffin, Cheryl M. M.D.; Watterson, Jan B.A.; Priest, John R. M.D.; Dehner, Louis P. M.D.. Extrapulmonary Inflammatory Myofibroblastic Tumor (Inflammatory Pseudotumor) A Clinicopathologic and Immunohistochemical Study of 84 Cases. The American Journal of Surgical Pathology 19(8):p 859-872, August 1995.

[2] Patnana M, Sevrukov AB, Elsayes KM, Viswanathan C, Lubner M, Menias CO. Inflammatory pseudotumor: the great mimicker. AJR Am J Roentgenol. 2012 Mar;198(3):W217-27. doi: 10.2214/AJR.11.7288. PMID: 22358018.

[3] Narla LD, Newman B, Spottswood SS, Narla S, Kolli R. Inflammatory pseudotumor. Radiographics 2003; 23:719–729.

[4] Coffin CM, Humphrey PA, Dehner LP (1998) Extrapulmonary inflammatory myofibroblastic tumor: a clinical and pathological survey. Semin Diagn Pathol 15:85–101

[5] Coffin CM, Patel A, Perkins S, Elenitoba-Johnson KS, Perlman E, Griffin CA (2001) ALK1 and p80 expression and chromosomal rearrangements involving 2p23 in inflammatory myofibroblastic tumor. Mod Pathol 14:569–576

[6] Makimoto Y, Nabeshima K, Iwasaki H, Ishiguro A, Miyoshi T, Shiraishi T, Iwasaki A, Shirakusa T. Inflammatory myofibroblastic tumor of the posterior mediastinum: an older adult case with anaplastic lymphoma kinase abnormalities determined using immunohistochemistry and fluorescence in situ hybridization. Virchows Arch. 2005 Apr;446(4):451-5. doi: 10.1007/s00428-004-1170-6. Epub 2005 Mar 19. PMID: 15778844.

[7] Kovach SJ, Fischer AC, Katzman PJ, Salloum RM, Ettinghausen SE, Madeb R, Koniaris LG. Inflammatory myofibroblastic tumors. J Surg Oncol. 2006 Oct 1;94(5):385-91. doi: 10.1002/jso.20516. PMID: 16967468.

[8] Sugiyama K, Nakajima Y. Inflammatory myofibroblastic tumor in the mediastinum mimicking a malignant tumor. Diagn Interv Radiol. 2008 Dec;14(4):197-9. PMID: 19061164.