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SCHWANNOMA MIMICKING TUBERCULAR LYMPH NODE – A RARE PRESENTATION IN MIDDLE MEDIASTINUM: A CASE REPORT

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Abstract:

Schwannoma (Neurilemmoma) is a benign neurogenic tumor arising from Schwann cells. It is most commonly found in posterior mediastinum. We, herein, present a rare presentation of schwannoma in middle mediastinum in a 74 years female presented with right sided chest pain and paratracheal lymphadenopathy. Initially, it was misdiagnosed as granulomatous inflammation and patient was put on antitubercular therapy for 6 months. Later on, EBUS guided FNA and Biopsy was done and cytological and histopathological diagnosis of schwannoma was made.

Key words: Schwannoma, Mediastinum, Lymphadenopathy, Case report

Introduction

Neurogenic tumors are one of the major causes of mediastinal masses.[1] Schwannoma is a benign tumor that arise from the nerve sheath of the peripheral nerves.[2] Schwannomas are the most common neurogenic tumors located in the posterior mediastinum and occur very rarely in the middle mediastinum.[1] The present study reports the case in a 74 years old female having a hilar mass.

CASE HISTORY

A 74 years old hypertensive female presented with right sided chest pain. The chest X-ray and CT scan revealed right paratracheal lymphadenopathy **(Figure 1)**. The patient underwent EBUS guided TBNA of the mass from a private hospital cytological report of granulomatous inflammation was rendered and patient was put on antitubercular therapy for 6 months in 2016. But the chest pain did not relieved and again the patient was evaluated in 2018. Again EBUS guided TBNA and biopsy of the mass was performed and samples were received in the department of pathology with a suggested clinical diagnosis of tuberculosis/ sarcoidosis. FNAC smears stained and examined showed respiratory lining cells, pigment laden macrophages along with groups of benign spindle cells embedded in pink stromal tissue suggestive of benign spindle cell lesion favouring the possibility of Neurofibroma or Solitary Fibrous Tumor **(Figure 2A, B)**. The histopathological examination of EBUS guided biopsy revealed hypo and hypercellular areas comprising of spindle shaped cells having bland nuclear chromatin, indistinct cytoplasm embedded in a fibromyxoid stroma. Immunohistochemical studies revealed positivity of vimentin and S100 with a negative staining of CD34, BCl 2, NSE, SMA, Desmin, Cytokeratin and Calretinin in spindle cells. A final diagnosis of Benign Mesenchymal Tumor favouring Neurilemmoma was made **(Figure 2C, D)**.

DISCUSSION

Neurogenic tumors are typically benign, encapsulated tumors with a peak incidence in third to fifth decades of life. [3] Neurogenic tumors constitutes about 12 – 39% of all mediastinal tumors, out of which 95% of these neurogenic tumors are schwannomas.[4] Embryonic cysts, pericardial cysts and primary/secondary lymph node tumors are more common in the middle mediastinum.[5] The majority of these neurogenic tumors originate in the posterior mediastinum, while anterior and middle mediastinal schwannomas are rare.[6] Mediastinal tumors have a female predilection with malignant transformation in

<10% of cases in adults.[5] Majority of the cases presents as an incidental findings on imaging studies and others presents with shoulder, flank, back, or chest pain; dysphagia; cough; and palpitations.[6]

In this case report, the patient presented with chest pain and lymphadenopathy. Initially, it was misinterpreted as tubercular lymphadenitis and later on, the patient was diagnosed as Schwannoma of middle mediastinum on EBUS guided TBNA and biopsy which is a rare site for this tumor. Therefore, it is difficult to ascertain a diagnosis on the basis of clinical manifestation and radiological investigations. The histopathological examination can aid in determining a definite diagnosis.[5]

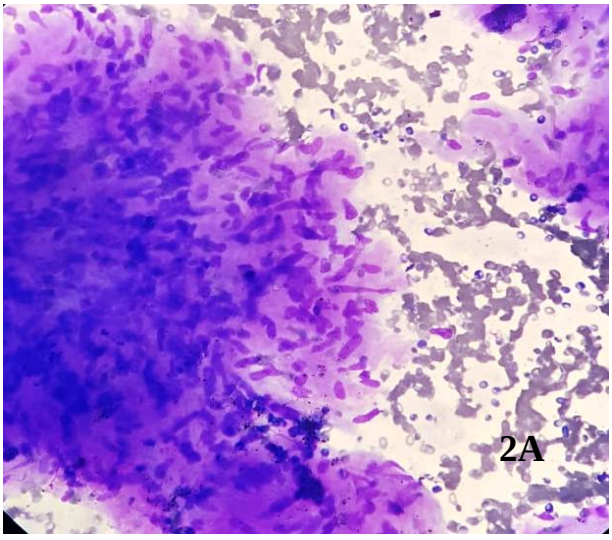
Histologically, a benign schwannoma comprised of two distinct regions, hypercellular regions with fascicles of benign spindle cells with wavy nuclei and pale eosinophilic cytoplasm and hypocellular areas with loose connective tissue. The spindle cells are strongly positive for S100 protein. Malignant schwannomas show atypia, mitoses, pleomorphism and necrosis. The diagnosis was made by CT, MRI, PET-CT scan and EBUS biopsy.[2]

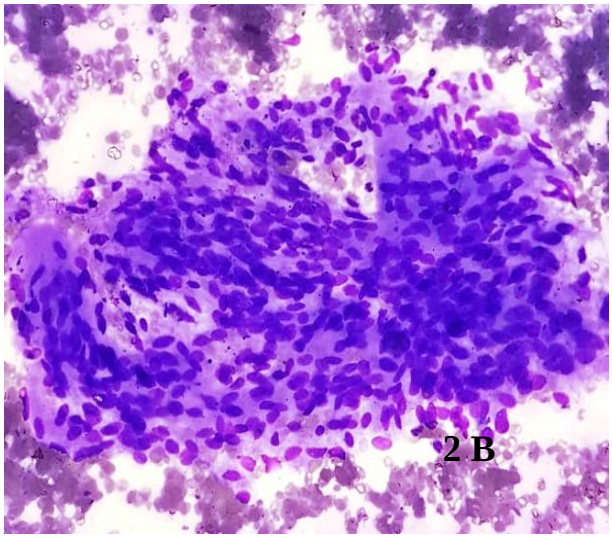
Transthoracic fine needle aspiration provides valuable information for the diagnosis of Schwannoma; however excision of the tumor is required for definitive diagnosis and treatment.[1] The surgical approach depends on the tumor's characteristics, location, and size.[2] Excision through thoracotomy is performed according to size and localization of the tumor. Videothoracoscopic resection is an alternative to thoracotomy for encapsulated tumors without invasion.[1]

To conclude, Schwannoma in the middle mediastinum is a rare entity. The diagnosis of schwannoma should also be kept in mind for the middle mediastinum. A combination of imaging techniques, such as CT, MRI and EBUS guided biopsy, facilitate the diagnosis.

1A **1B**

Figure 1: A. Chest X- Ray shows hilar lymphadenopathy; B. CT Scan showed right paratracheal lymphadenopathy





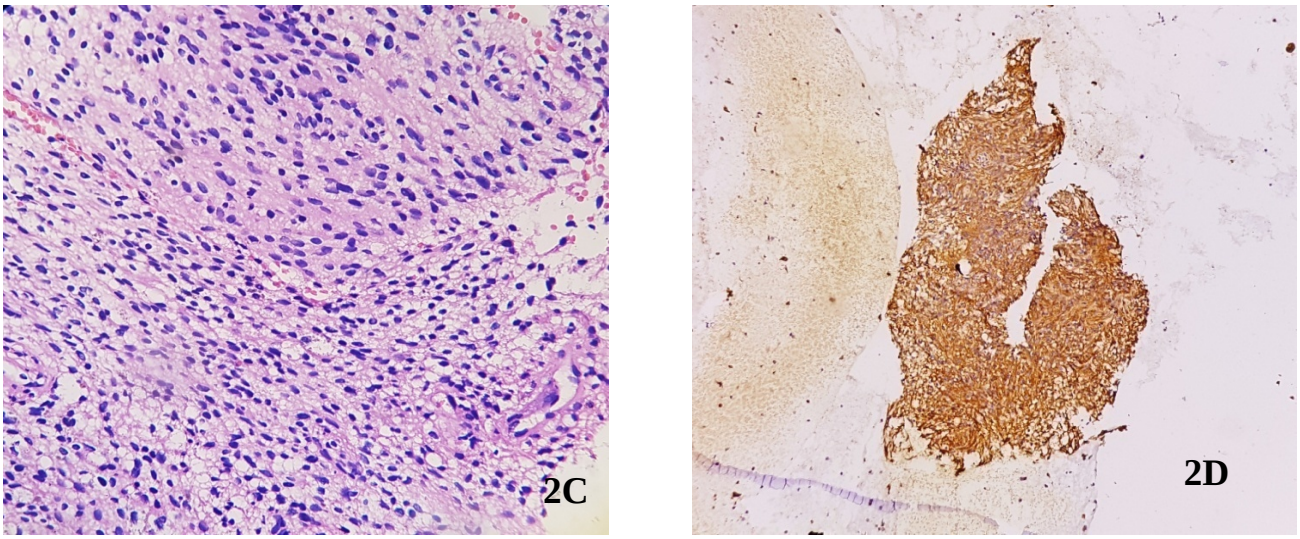


FIGURE 2: A,B. Microphotograph of EBUS guided TBNA of the mass showing groups of benign spindle cells embedded in pink stromal tissue suggestive of benign spindle cell lesion (Leishman, 400x); C. Microphotograph of EBUS guided biopsy showing features of Schwannoma (H & E, 400x); D. Immunohistochemical studies showed strong S100 positivity (H & E, 100x).

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