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Ancient Schwannoma of the Left Pleura: A Rare Case Report

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Abstract

Ancient schwannoma, a rare subtype of schwannomas, is a benign tumour typically diagnosed through imaging and histopathological examination. This case reports describes a 36 year old female who presented with cough. Initial evaluation revealed a mass lesion on left side of thorax via Chest X ray.

Keywords: Ancient schwannoma, pleural tumour, benign nerve sheath tumour

Introduction

Schwannomas are neurogenic, benign, solitary and encapsulated tumours originating from Schwann cells . Usually, sited in the head and neck region , mediastinum and cerebellopontine angle. The tumor is characteristically slow growing arising from nerve sheath cells at any location. Pleura is a very rare site for the schwannoma . While the primary treatment modality is surgery, ancient schwannomas—a subtype characterized by degenerative changes—are uncommon and rarely undergo malignant transformation. This report discusses a case of an ancient schwannoma of the pleura discovered incidentally in a patient presenting with chronic cough. (1)

Case Report

A 36 year old woman with no known comorbidities and no significant medical history presented with the complaints of non productive cough associated with shortness of breath on climbing upstairs for past one year . The cough was exacerbated by lying down and relieved in propped up position. Patient did not have any complaints of fever, chest pain, abnormal breath sounds ,throat pain, evening rise of temperature , unintentional weight loss, night sweats and previous lung infections . She does not have any history of alcohol and tobacco consumption . Chest xray suggestive of large cystic lesion in left pleura . Contrast-enhanced computed tomography thorax(on 5th April,2024) was suggestive of well circumscribed heterogeneously enhancing lesion measuring approximately 13.7 x 12.2 x 11.5cm, with multiple central cystic area in left pleural space with mass effect and partial collapse of left lower lobe .The patient was taken up for surgery on 15th July,2024 after informed consent. Under general anesthesia and single lung ventilation, the patient was placed in Right lateral decubitus position and Posterolateral thoracotomy was done and approached through 5TH ICS, pectoralis major, serratus anterior and latissimus dorsi muscles were opened in layers. Preoperative findings were Left pleura severely thickened & adhered to lung. Around 15 X 14 cm solid pleural mass present with small cystic changes. Adhesiolysis done. Left pleural mass excised in toto and sent for histopathological evaluation. Air leak was assessed & repaired with prolene 4-0 pledgeted sutures. Left lung expanded completely. Hemostasis achieved. 1 apical & 1 basal ICD inserted and chest wall closed in layers. On histopathological examination , gross description was

single globular soft tissue mass measuring 15x10x9.5cm. On serial sectioning homogenous grey yellow areas identified. Also identified were focal myxoid areas. (Figure-1) No bony tissue/cartilage areas identified. Microscopic impression on multiple section examination showed benign spindle cell tumor arranged in cellular and hypocellular areas.There are areas of degeneration and cyst macrophages.(Figure-2(A and B) On IHC analysis , tumor cells are positive for S100, Vimentin and negative for SMA, CD34, Desmin, WT1, mesothelium. TTF1. Ki67 labelling index is 2%.Features are suggestive of ancient schwanomma, left pleura. As complete resection of pleural mass was done therefore patient was kept of follow up to monitor recurrence.

Discussion

Schwannomas are benign, encapsulated , slow growing , nerve sheath tumor of Schwann cells. Malignant transformation is rare. They often present as a single tumour and are more commonly found in males than females, with ages between 50-60yrs. Most of the schwannomas are sporadic, although they can be associated with neurofibromatosis type 2 and Carney complex . Generally , they are located in the head and neck region, flexor surfaces of the extremities. They are not often located in the mediastinum and retroperitoneum. Pleural schwnnomas are extremely are neoplasms of thoracic cavity, and less frequently in the pleura. Usually , they are asymptomatic , until they attain a considerable size. Commonly they present with complaints of dyspnea, hemoptysis and pleural effusion .Our case presented with complaints of cough and shortness of breath . Diagnosing schwannoman with radiological imaging is often difficult in most of the scenarios . However, the presence of solid, solitary, and well-defined pleural tumor on imaging should raise suspicion for schwannoma and other potential differential diagnoses . For confirmation of diagnosis , Biopsy and immunohistochemistry staining is required.

In our histopathological examination, revealed positive immunohistochemistry staining for S100, Vimentin and negative for SMA, CD34, Desmin, WT1, mesothelium. TTF1. Ki67 labelling index is 2%.Microscopic impression on multiple section examination showed benign spindle cell tumor arranged in cellular and hypocellular areas. The preferred treatment consists of surgical excision of the tumour, offering definitive diagnosis and therapy in a single procedure with excellent prognosis. Recurrence rates following surgical resection of schwannomas are notably low, comprising less than 5 % of cases. However ,a 5 year follow up or early assessment upon symptom manifestation is needed. (2)(3)

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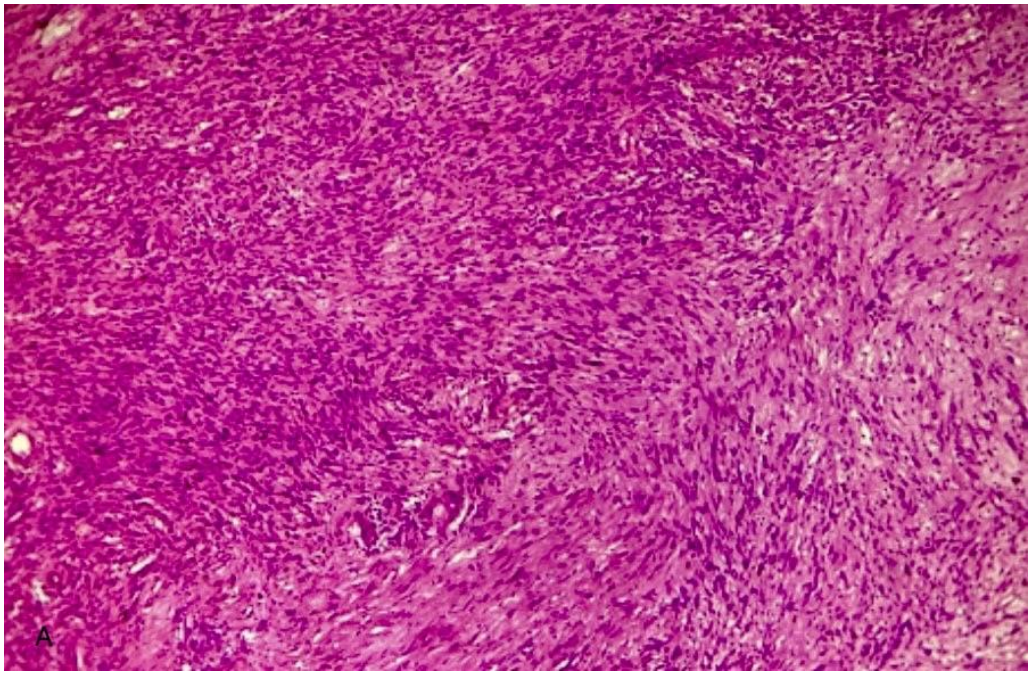
Figure-1: Gross Tumour section



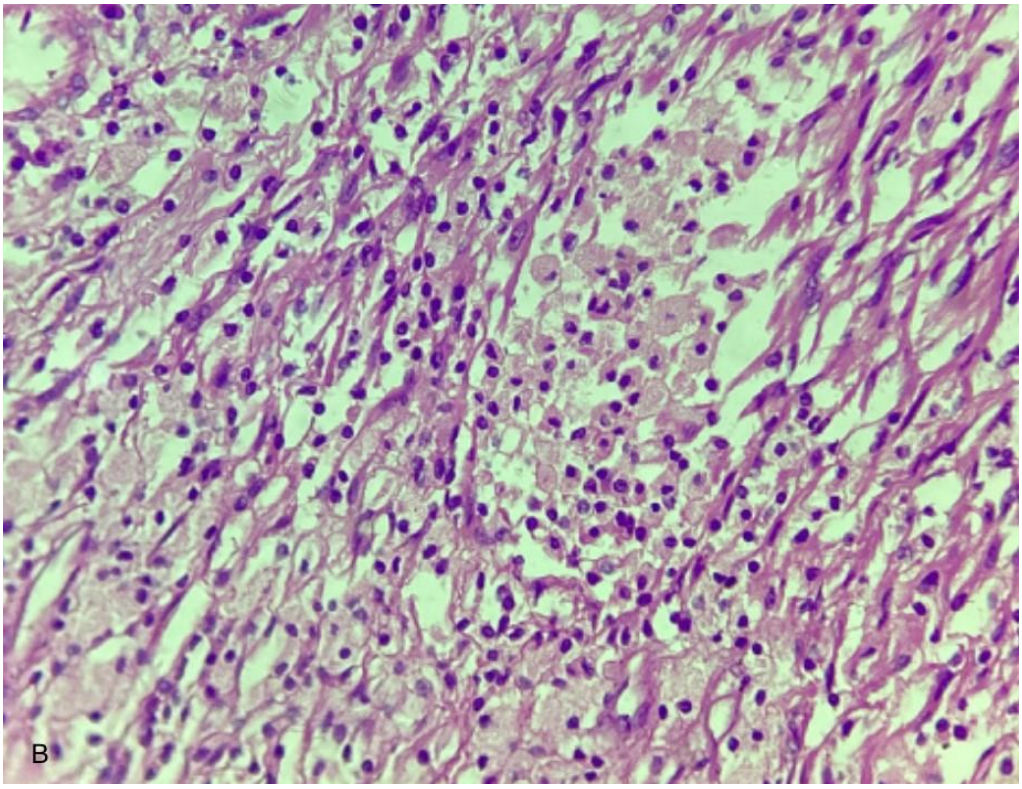


Figure - 2(A and B): Microscopy findings (on low and high power) comprises a biphasic pattern of compact, hypercellular Antoni A areas and myxoid, hypocellular Antoni B areas