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Solitary Fibrous Tumor of the Lung: A Case Report

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ABSTRACT

Solitary fibrous tumor (SFT) is a rare mesenchymal tumor of the pleura, which arises from visceral pleura and projects into the pleural cavity. This tumor is not related to asbestos exposure or cigarette smoking (1). We report a rare case of SFT of the lung. In this case report, we present the case of a giant SFT in a 76-year-old woman who presented with the complaint of chest pain on the left side for several months; SFT was proved on examination.

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Introduction

Solitary fibrous tumor of the pleura (SFTP) is a rare pleural pathology that is often caused by submesothelial fibroblasts and usually found in the lower parts of the chest. Before the advent of immunohistochemical tests and electronic microscopy, SFTP was classified into a large group of mesotheliomas (1, 2). Radiologically, it may appear as pleural thickening or an intrathoracic mass. This problem mostly occurs in the sixth and seventh decades of life; both genders are equally affected by this disease (3).

Case Presentation

A 76-year-old female presented to our hospital with complaint of chest discomfort for several months with no specific past medical history. Blood examinations were within normal limits (i.e., Hb: 12.1 gr/dl, HCT: 36.7%, leukocyte: 4300/mm^3, and thrombocyte: 159000 mm^3).

Chest X-ray showed a homogenous opacity in the left lower zone (Figure 1). An enhanced computed-tomography (CT) scan of the chest revealed a 15*8 cm,

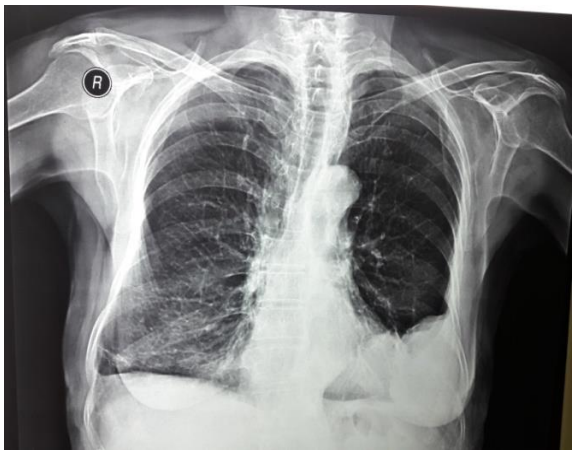

Figure 1. Chest X-ray of patient with SFT

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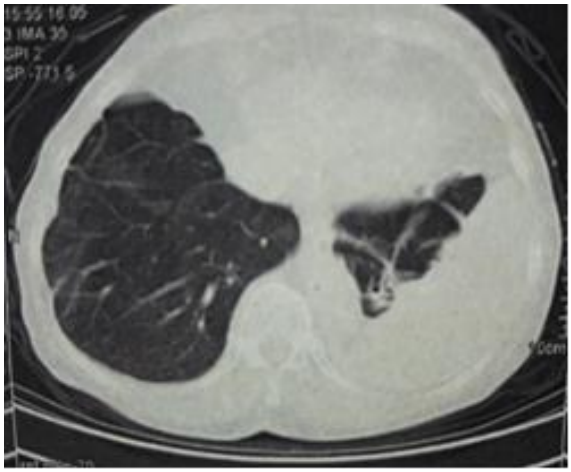


Figure 2. CT scan of patient with SFT

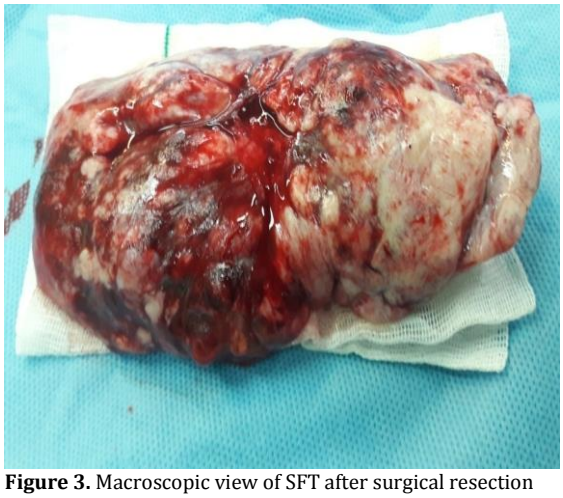
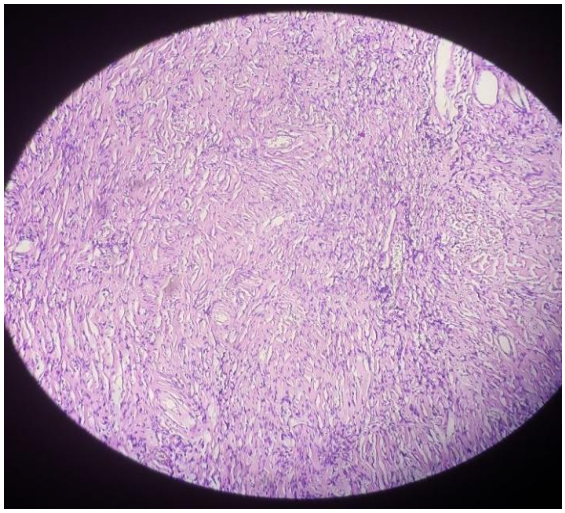


Figure 3. Macroscopic view of SFT after surgical resection



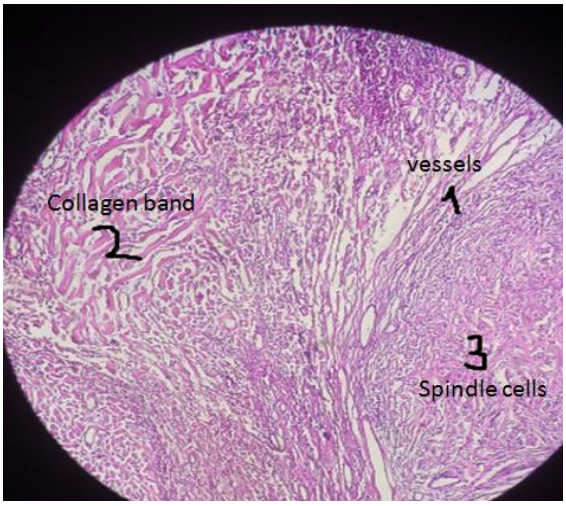


Figure 4. Microscopic view of patient

lobular, homogenous, soft-tissue mass in the left lung (Figure 2).

Transthoracic fine needle biopsy with the guidance of CT scan showed spindle cell lesion. Immunochemical evaluations were negative for actin, desmin, and S-100 protein and positive for CD34. On the basis of immunohistochemical tests, we diagnosed SFT. Thus, the patient was candidate for surgery. At thoracotomy, a pedunculated, 15*9*4 cm mass was observed in the left lower lob and resected (Figure 3).

The pathologic finding was a section of the lung with well-differentiated lesion mass composed of spindle cells with attenuated nuclei arranged around vessels haphazardly in a collagenized background (figures 4).

Discussion

SFT is a mesenchymal neoplasm arising from pleura. Ultra-pleura sites include the meninges, nose, oral cavity, uterus, kidney, salivary gland, thyroid, breast, kidney, bladder, and spinal cord (4, 5). Histologically, tumor cells are composed of spindle cells with equal collagen groups, and spindle tumor cells are found in a "haphazard pattern". This pattern is characterized by random distribution of spindle cells and collagen fibers (6). Due to their atypical clinical and radiographic appearance, the diagnosis of SFTs is challenging. CT scan of the chest for SFT usually represents a well-defined round or ovoid tumor. The tumor may be 1 to 30 cm in size, but usually more than 7 cm, with soft tissue density and occasional calcification. Intravenous contrast agent administration shows heterogeneous enhancement (7).

Although the prognosis of benign pleural fibrous tumors is generally good, it has been reported occasionally. The highest risk of recurrence (63%) is reported in benign and sessile type of tumors, while the lowest risk of recurrence (relapse less than 2%) appears in benign pathological and pedunculated morphological tumors (3). Histochemical studies show positive Bcl-2 and CD34 and negative S100, cytokeratin, actin, and desmin. Positive CD34 has

been used as a diagnostic marker for SFPT, and the loss of CD34 in high-grade CTs following malignant transformation has also been described (8, 9). The most successful treatment for SFTs is surgery. Previous studies reported the use of adjuvant radiotherapy or chemotherapy for malignant SFTs. However, the effectiveness of this treatment has not yet been established (10).

In conclusion, SFT arising from lung parenchyma is extremely rare, and complete surgical resection is the best treatment for SFTs. Long-term follow-up with radiological imaging is required to monitor the recurrence and metastasis of this type of tumor.

Acknowledgments

None.

Conflict of Interest

The authors declare no conflict of interest.

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