Case Report

Solitary Fibrous Tumour of the Pleura

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ABSTRACT

Solitary fibrous tumour (SFT) of the pleura is a rare, usually benign primary tumour of the pleura. Spectrum of presentation can vary from an incidental finding on chest radiograph done for some other purpose, features of compression of surrounding structures to symptoms resulting from the tumour *per se*. We report a case of a female who presented with complaints of cough and chest pain in whom a diagnosis of SFT was confirmed on tru-cut biopsy and immunohistochemistry studies. The patient underwent thoracotomy and successful removal of the tumour. **[Indian J Chest Dis Allied Sci 2013;55:167-169]**

Key words: Mesothelioma, Fibroma, Thoracotomy.

INTRODUCTION

The most common primary tumour of the pleura is the mesothelioma. Solitary fibrous tumour (SFT) of the pleura is an uncommon pleural tumour and has also been called a benign mesothelioma or fibroma.[1] Surgical resection by thoracotomy gives excellent results with a low recurrence rate and the diagnosis is established on histopathological examination. However, regular long-term follow-up is essential following tumour removal.

CASE REPORT

A 69-year-old female who was known to have hypertension and hypothyroidism and was being treated for the same was admitted with chief complaints of cough and left-sided chest pain. Cough was dry and intermittent in nature. She complained of chest pain over the left subcostal area that was insidious in onset, mild in nature and non-radiating. She did not complain of wheeze, haemoptysis or palpitations. The general physical examination was unremarkable; there was no evidence of lymphadenopathy or digital clubbing. Respiratory system examination revealed findings suggestive of a mass lesion in the left hemithorax.

The patient was euglycaemic. Chest radio-graph (Figure 1) showed a large homogeneous mass lesion in the left lower zone with smooth margins abutting the pleura. Contrast enhanced computed tomography (CECT) of the chest (Figure 2) showed a well-circumscribed mass with broad pleural base.

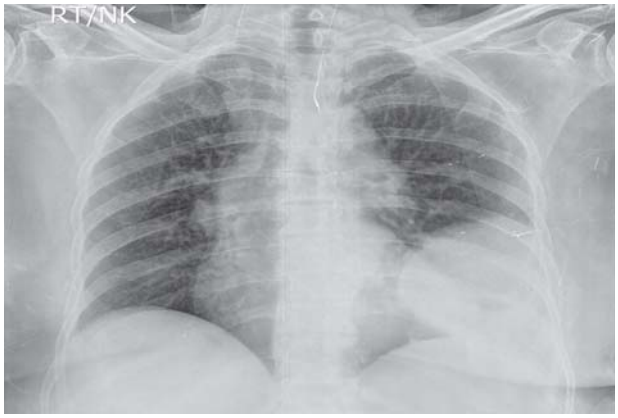

Figure 1. Chest radiograph (postero-anterior view) showing a round mass lesion in the left lower zone.

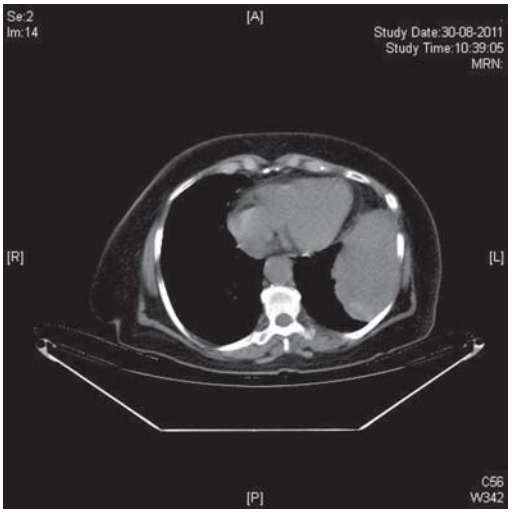

Figure 2. Computed tomography of the chest (mediastinal window) showing a well-circumscribed mass lesion in the left hemithorax.

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Computed tomography (CT) guided tru-cut biopsy revealed a mesenchymal spindle cell tumour (Figure 3A); mitosis was not evident. The tumour was positive for CD34 and vimentin (Figures 3B and 3C) and negative for cytokeratin (CK) suggestive of a SFT. Left thoracotomy was done and an encapsulated mass was removed.

On gross pathological examin-ation, the specimen measured 13cmx9cmx7cm with small piece of lung tissue forming its pedicle. The section was grey-white with whorled pattern. Immunohistochemistry confirmed it to be a SFT. The surgery was uneventful. Post-operative chest radiograph (Figure 4) showed expanded lung. The patient was discharged after few days with an advice to follow-up regularly.

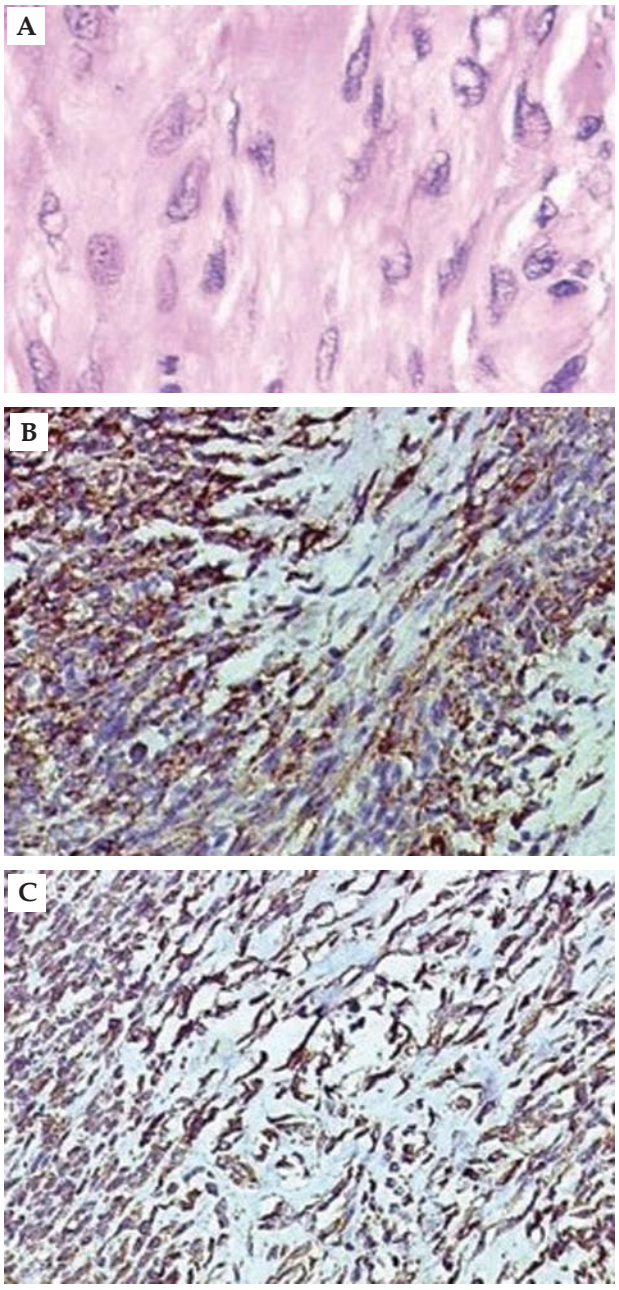

Figure 3. Histopathological photographs showing (A) spindle cells (Haemotoxylin and Eosin stain×400); (B) positivity in tumour cells (CD 34 stain×200); (C) diffuse positivity in tumour cells (Vimentin stain×200).

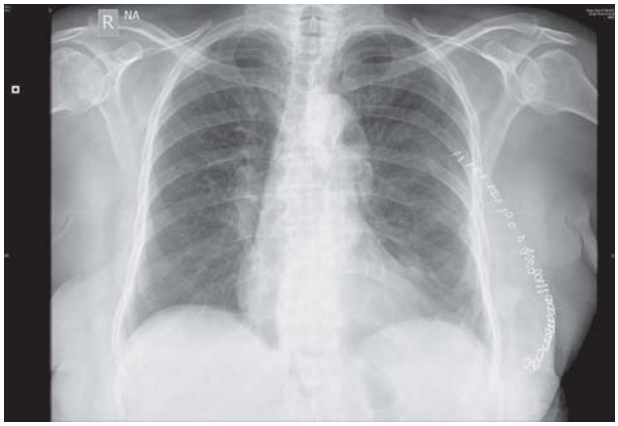

Figure 4. Post-operative chest radiograph (postero-anterior view) showing surgical staples with no remnant mass in the left lower zone.

DISCUSSION

SFT is a rare localised mesenchymal neoplasm most commonly arising in the pleura.[1] However, extra-serosal occurrence in the lung, thyroid gland, paranasal sinuses, liver and mediastinum have been described in the literature.[2] The first pathologic description was given by Klemperer and Rabin in 1931.[2] SFTs are usually observed in the middle-aged adults with no gender predilection. The median age of diagnosis is 50 years. In 78% to 88% of cases, SFT has been observed to be of benign nature.

SFT's are usually an incidental finding on chest radiograph or may present with symptoms and signs due to compression of surrounding structures when sufficiently large.[3] The clinical features attributed to compression are wheezing, atelectasis, cough and chest pain. The para-neoplastic syndromes associated with SFT include hypertrophic osteo-arthropathy and hypoglycaemia. Hypertrophic osteoarthropathy has been reported in 20% of cases.[4] Various theories have been postulated regarding its occurrence, the most common being either increased production of hyaluronic acid by the tumour or an increased production of hepatocyte growth factor. Hypoglycaemia, which is observed in up to 2% to 4% of the cases, is attributed to the production of insulin-like growth factor II.[5]

The chest radiograph shows a well-circumscribed mass lesion of varying size usually abutting the pleura. Though intralpeural lesion with peduncle attached to visceral pleura are not very uncommon, associated pleural effusion is seen in small number of cases.[6] The imaging modality of choice is CECT as it not only helps in confirming the mass lesion but also

knowing the size, location, planning diagnostic procedure and surgery after histological confirmation. The diagnosis of tumour requires histopathological specimen. Usually the tumour presents as a pleural-based mass lesion which can be approached by ultrasound-guided or CT-guided tru-cut biopsy.

Presentation at an unusual location may prove to be a diagnostic challenge. On histopathological examination, the tumour cells show a whorled appearance with bizarre growth of short spindle cells with scanty cytoplasm. On rare occasions mitotic figures can be seen. Immunohistochemistry analysis shows positivity for CD34 antigen.

Surgical resection of SFT by thoracotomy is the main stay of treatment; video-assisted thoracoscopic surgery can be useful in resecting smaller tumours.[7] The prognosis is excellent with low recurrence rates. Occasionally the recurrence of SFT can be in the form of malignant tumour.[8] Recurrence, whether benign or malignant, should be considered for repeat-surgery. Adjuvant chemotherapy may be considered in case of malignant tumours where complete resection was not possible, or with positive margins. Regular follow-up following surgical removal is essential as this tumour can recur years after removal.

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