Leiomyoma: An Unusual Pleural Tumor: Report of a Case

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Abstract
Smooth muscle neoplasms originating from the serosal membranes are extremely rare. Clinically they are usually silent, and they are mostly detected by chance only. They cannot be differentiated radiologically from other tumors of the pleura or the chest wall. A definite diagnosis can be established only by histological examination. We report an additional case of leiomyoma of the pleura documented by light microscopy and immunohistochemistry. So far as we examined, the present patient is the third case of the leiomyoma of the chest wall.

Anahtar sözcükler: Leiomyoma, pleura, chest wall

Received: 21.06.2007 Accepted: 10.01.2007

INTRODUCTION

Many histological types of chest wall neoplasms have been reported [1], however only a few primary leiomyoma of the chest wall have been reported. We describe a patient with a rare leiomyoma of the pleura documented by light microscopy and immunohistochemistry.

CASE REPORT

A 50-year-old woman was admitted to our hospital with compliant of chest pain. Chest roentgenograms, thoracic computed tomography and magnetic resonance imaging (Fig. 1) showed a right pleural-based mass, 4 cm in diameter, with a benign appearance and no indentation of lung and destruction of adjacent ribs. Physical examination was normal as well as routine blood biochemistry. Surgical intervention was decided for diagnosis and treatment.

Right posterolateral thoracotomy was performed for the resection of the tumor. A well-circumscribed, capsulated, ovoid, whitish-gray stiff tumor was arising from the parietal pleura and projected into the thoracic cavity (Fig. 2). There was not invasion with lung and chest wall, the mass was resected completely.

Immunohistochemical study indicated strong and consistent positive staining for Smooth Muscle Actin (SMA) (Fig. 3). The appearance with hematoxylin-eosin staining and the immunohistochemical pattern of staining in the resected specimen is reported as a leiomyoma of the parietal pleura. Postoperative course of the patient was uneventful, and she was discharged on the sixth postoperative day.

DISCUSSION

Leiomyomas are encountered commonly in the urogenital tract, occasionally in the gastrointestinal tract, and rarely in the respiratory tract. Pleural smooth muscle tumors are even more unusual.

To the best of our knowledge, only 5 cases of leiomyoma arising from the chest wall have been published to date [2-6]. Until now, a case of leiomyoma of chest wall has been defined by Tanaka and colleagues [2], 5 cases (but 3 leiomyosarcomas, 2 smooth muscle tumors with undetermined malignant potential) have been described by Moran and associates [3,4], a case of smooth muscle tumor with undetermined malignant potential has been defined by Proca and co-workers [5] and a case of a leiomyoma originated from the microvascular smooth muscle in the chest wall is presented by Nosa et al [6] (Table 1). Three of the published cases were conventional leiomyosarcomas, one was a tumor with undetermined malignant potential, while the other 3 had a bland histology suggestive of a leiomyoma. Radiographically, 6 of the neoplasms presented as solitary pleural masses (2 of them also involved the diaphragm), and the seventh encased the lung, similar to a mesothelioma. Histological, immunohistochemical, and electron microscopic studies confirmed smooth muscle differentiation for all 7 tumors [2-6].

In the cases of published studies, 5 were asymptomatic, one had empyema and one had chest pain [2-6]. Our case presented only chest pain.

Another disease that we should discusse here is the benign metastasizing leiomyoma (BML). BML is a rare disease that is usually detected years after hysterectomy or myomectomy [7]. The most commonly affected organs are the lungs, but benign metastasizing leiomyomas have been reported in lymph nodes, deep soft tissues, mesentery, bones, the central nervous system, and the heart [8]. The presence of estrogen and progesterone receptors supports their origin from uterine smooth muscle and therefore hormonal therapy can be a choice for this patients [8]. The urogenital tract ultrasound of our patient showed no evidence of leiomyoma.

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Table 1. Clinical features of reported cases of leiomyoma

Case	Author	Gender/age	Clinical course	Tumor size (cm)	Origin of the tumor	Follow-up after operation
1	Tanaka T et al[2]	F/40	Complete resection	3,5x3,0	Microvascular wall	17 Months. Alive and no recurrence
2	Moran CA et al[3]	F/21	Involving diaphragm, too huge to resect completely	-----	Vascular smooth muscle	4 Months. Alive
3	Moran CA et al4	F/23	Too huge to resect completely	10.0x9.0x5,5	Vascular smooth muscle	6 Months. Alive
4	Proca DM et al5	M/32	Detected 4 years after needle biopsy	4,3x7,0	No detail	12 Months. Alive and no recurrence
5	Nose et al6	F/55	Complete resection	1,5x1,5	Microvascular wall	26 Months. Alive and no recurrence
6	Our Case	F/50	Complete resection	4,0x4,0	Vascular smooth muscle	53 Months. Alive and no recurrence

It is suggested that the clinical course of leiomyoma of the chest wall is not always concordant with histological fi ndings.

Even though the histopathological malignant findings were not detected, the tumor may increase in size with local invasion if the tumor is not resected completely [6].

CONCLUSION

Despite its benign histological appearance, smooth muscle tumors of the pleura have a low malignant potential, and therefore complete resection and follow-up of patients is advised 5,6. Observation alone must be reserved for patients who refuse or are not suitable for surgery. Additional cases with long term follow-up are necessary to better define the prognosis. After a period of 53 months follow up, our patient is healthy and has no sign of recurrence.

In addition, clinicians should remember to include this rare entity in the differential diagnosis of chest wall and pleural tumors.

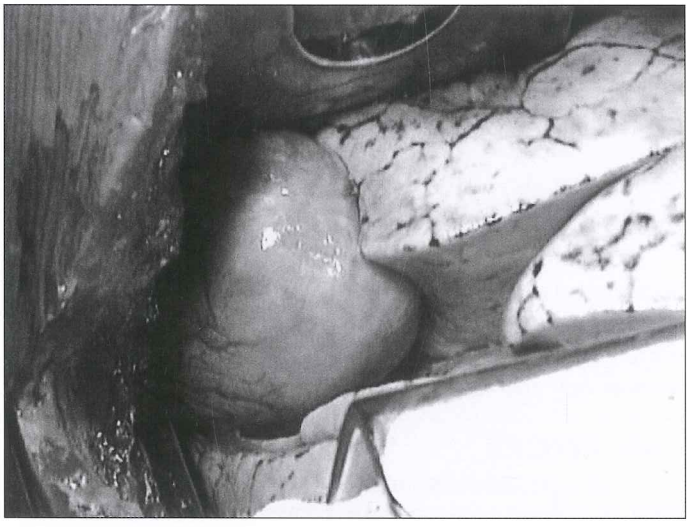

Figure 2. Operative image resembling a capsulated, solid mass originating from the parietal pleura

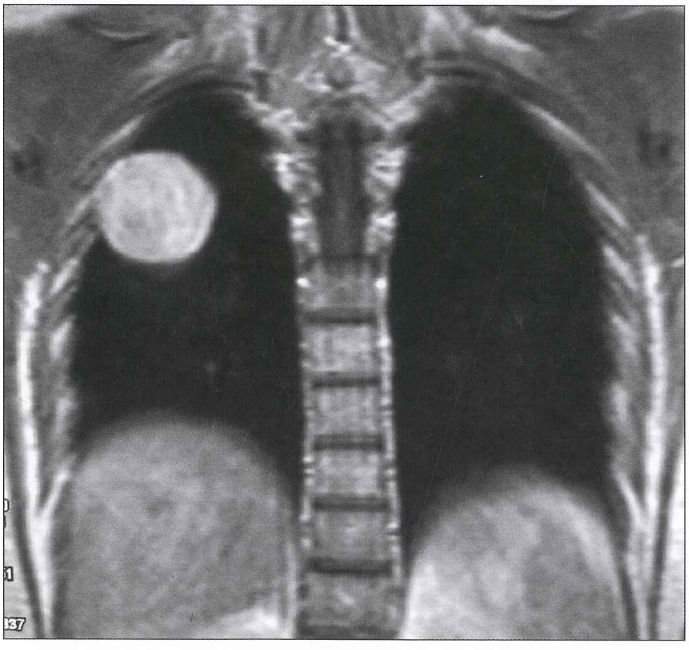

Figure 1. Magnetic resonance imaging of the chest showing a 4 cm diameter heterogeneous mass adjacent to the chest wall

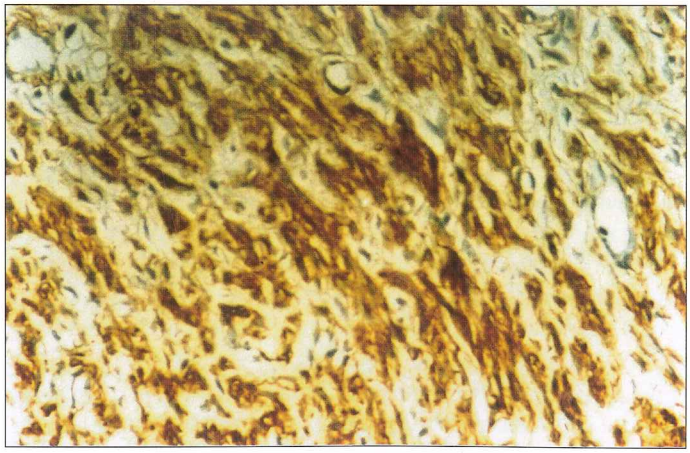

Figure 3. Magnetic resonance imaging of the chest showing a 4 cm diameter heterogeneous mass adjacent to the chest wall

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