

Giant Solitary Fibrous Tumor of the Pleura Treated by Video-Assisted Surgery: a Case Report

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Solitary fibrous tumors of the pleura are rare, with unpredictable clinical manifestations. By the time of diagnosis, the size and consistency of the tumor usually preclude the use of minimally invasive surgical techniques. We present a case of a 34-year-old male with a solitary fibrous tumor of the visceral pleura masquerading as a mediastinal tumor. The tumor was removed by video-assisted thoracic surgery.

Key words: *Solitary fibrous tumor of the pleura. VATS (video-assisted thoracic surgery). Surgery. Thoracoscopy.*

Tumor fibroso solitario gigante de pleura: un caso tratado por cirugía videoasistida

Los tumores fibrosos solitarios de pleura son tumores raros, que tienen una presentación clínica impredecible. Dados su consistencia y el tamaño en el que normalmente se diagnostican, no suelen ser casos en los que pueda realizarse una intervención con técnicas de cirugía poco agresiva. Presentamos el caso de un varón de 34 años afectado de un tumor fibroso solitario de pleura visceral que simulaba un tumor mediastínico y se trató con cirugía torácica videoasistida.

Palabras clave: *Tumor fibroso solitario de pleura. VATS (cirugía torácica videoasistida). Cirugía. Toracosopia.*

Introduction

Solitary fibrous tumors of the pleura are neoplasms of the mesenchymal tissue of the pleural mesothelium. Such tumors are rare, the diffuse malignant form—mesothelioma—being the most common (75%-90%).¹ Both a malignant and a benign form of solitary fibrous tumor exist, in a ratio of 7:1.² Such tumors are normally asymptomatic and are often diagnosed by incidental findings from x-ray tests, except when their size produces compression-related clinical symptoms (such as dyspnea and coughing).³ We found no cases in the literature of patients treated by video-assisted thoracic surgery.⁴ We report a case of a solitary fibrous tumor of the visceral pleura masquerading as a pleuropulmonary tumor. The tumor was removed by video-assisted thoracic surgery.

Clinical Observations

A 34-year-old male smoker (30 cigarettes/day), with a history of visceral leishmaniasis in his youth, was admitted to our hospital with a 2-year history of chronic cough; no other signs or symptoms were present. A large tumor was detected

in the left hemithorax after admittance to the hospital. The patient was in good general condition. He was conscious and alert, with normal cardiac auscultation; the only observation of note was decreased vesicular respiration in the left hemithorax.

A computed tomography (CT) scan revealed a soft tissue density corresponding to a tumor 12 cm in diameter, covering the upper two thirds of the left hemithorax. The tumor appeared to be a slow-growing, nonaggressive extrapulmonary tumor with a broad pleural base, possibly a large neurogenic tumor of the posterior mediastinum (Figure 1). Twenty-four hours later, a second contrast-enhanced CT scan revealed a heterogeneous density. The findings from fine needle aspiration were inconclusive because the sample obtained was insufficient. The results of fiberoptic bronchoscopy and spirometry were normal.

On October 18, 2002, an exploratory video-assisted thoracoscopy with three 12 mm entry ports confirmed the presence of a solid tumor in the visceral pleura, attached to both lobes of the left lung and to the parietal pleura near the spinal column (Figure 2). A 5 cm utility incision was placed at the fifth intercostal space—without the use of a rib spreader—to extirpate the tumor after detaching it from the posterior wall. The wedge resection was expanded to include the segments of the upper and lower lobes of the left lung to which the tumor was attached. Given the large size and consistency of the fibrous tumor, the utility incision had to be widened by approximately 6 cm in the anterolateral area to extract the excised tissue in a plastic bag.

The tumor was 15 cm in diameter, well-encapsulated, with a firm consistency. Under a microscope, the cross section of the tumor appeared fascicular and brownish. No areas of

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Figure 1. Computed tomography image of the tumor.

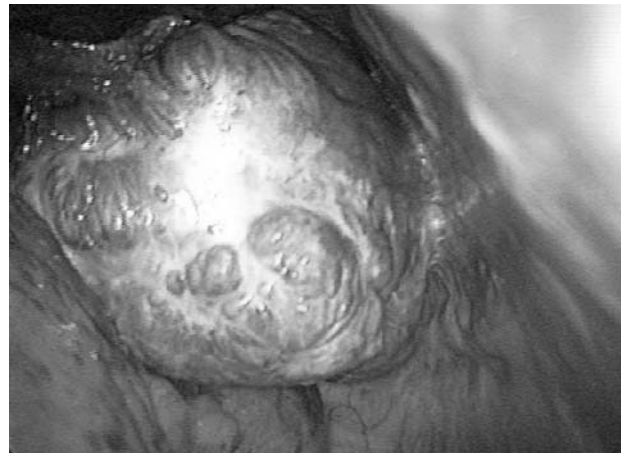


Figure 2. Intraoperative appearance of the tumor through the video-assisted thoracoscope.

necrosis or hemorrhage were found, but the tumor was attached to the visceral pleura. Immunohistochemical tests of the fibroblast cells were positive for vimentin, CD34, Bcl-2, and Mic-2, and negative for actin, desmin, and S-100. The proliferation index was very low (less than 1%). The diagnosis, given this information, was solitary fibrous tumor of the pleura.

A clinical picture of hemothorax developed 12 hours after the intervention, requiring a revision of the pleural cavity through the same entry site. Blood clots were removed from the cavity, but no cause for the hemorrhage was found. Following this incident, the postoperative course was excellent; the patient recovered quickly and was discharged from the hospital 7 days after the operation.

Discussion

Solitary fibrous tumors of the pleura are relatively rare and generally asymptomatic. They affect men more than women and may have diverse forms of presentation, the most common being a tumor smaller than 10 cm, discovered by chance from a chest x-ray or a CT scan, with no symptoms. Larger tumors may involve dyspnea, chest pain, fatigue, and dry cough caused by the space occupied by the tumor.

Solitary fibrous tumors most often originate in the visceral pleura. Cardillo et al⁵ found that 87.28% of solitary fibrous tumors in their series originated in the visceral pleura and only 12.72% in the parietal pleura. In our patient, the tumor was firmly attached to both pleural membranes, and hispathological study was required to confirm its origin in the viscera.

These tumors are normally difficult to diagnose before surgery, but we disagree with the opinion of Taspete et al,⁶ whose study concludes that a

thoracotomy is inevitable because it both diagnoses and treats the tumor, assuring that it is completely excised. We believe that all undiagnosed thoracic tumors should first be evaluated by video-assisted thoracoscopy because the cavity can be fully explored, the neoplasm biopsied and diagnosed, and a decision made as to the best approach for excising (if possible) the tumor—all without the invasiveness of a thoracotomy. In the case presented here, the decision was made to extirpate by video-assisted thoracic surgery. Most solitary fibrous tumors are malignant (7 times more common than benign tumors), as was the tumor in our patient. However, it was quite accessible and we believe that malignant tumors (whether lung tumors or not) can be resected using this method by following the protocols of oncological surgery: extracting the excised tissue in a plastic bag to avoid seeding the chest wall.

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