

# A Leiomyoma Presenting as Middle Lobe Syndrome

DOI: <http://dx.doi.org/10.5915/22-2-13587>

Zeynep Misirligil, M.D.,\* Lutfu Gurbuz, M.D.,\* Dilshad Mungan, M.D.,\* Selim Erekul, M.D.,\*\*  
Sinasi Yavuzer, M.D.,\*\* Sevket Kavukcu, M.D.,\*\*\*  
Ankara, Turkey.

## Abstract

We describe a patient who had leiomyoma at the middle lobe bronchus presenting as the middle lobe syndrome. We reviewed the literature and found only 23 previously reported cases of bronchial leiomyoma. The purpose of this paper is to present a new case of intrabronchial leiomyoma.

**Keywords:** Leiomyoma, bronchial leiomyoma, middle lobe syndrome.

Leiomyoma of the lung and the bronchi is a rare tumor. In a recent literature review only 69 primary pulmonary leiomyomas, including 23 intrabronchial lesions, were identified.

These tumors were usually localized peripherally and only a few were found in the larger bronchi. The severity and type of symptoms were closely related to the location of tumor. An endobronchial lesion may not itself be apparent on a chest roentgenogram but its obstructive sequelae suggest its presence. Only a minority of the cases was correctly diagnosed by bronchoscopic examination, whereas in all others, the final histological diagnosis was established following surgery.<sup>2,3</sup>

We report a case in which leiomyoma was localized in the middle lobe bronchus presenting as the middle

lobe syndrome. To our knowledge, middle lobe syndrome secondary to leiomyoma has not been previously reported.

## Case Report

A 35 year old man was admitted to the Ankara Medical School Hospital on March 5, 1988, with the main complaints of cough and shortness of breath for the previous two months. He did not have any history of pain, hemoptysis, sputum production or weight loss. Physical examination of the thorax and other systems revealed no abnormal findings. His laboratory studies showed normal findings except an increase of the sedimentation rate (60 mm/h).

Posteroanterior and lateral roentgenograms of the chest on admission showed consolidation in the right middle lobe. (Figure 1-A) Axial computerized tomographic scan was made and the lesion was evaluated as pulmonary infection and infiltration, but the tumor could not be characterized. Bronchograms suggested obstruction of the right middle lobe bronchus showing a filling defect. (Figure 1-B)

Bronchoscopy revealed partial obstruction of the right middle lobe bronchus by a yellowish/white, round, encapsulated tumor. The histopathologic examination of the biopsy specimen showed that the tumor, which was partly covered by intact ciliated bronchial epithelium, also consisted of intersecting bundles of long spindle cells with eosinophilic cytoplasm and fusiform nuclei. No mitoses were

---

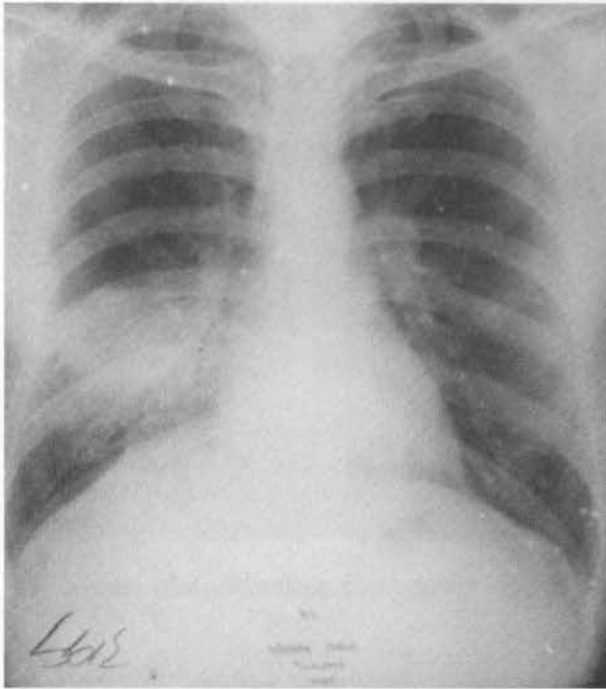
From the Department of Pulmonary Diseases  
Ankara University School of Medicine  
Ankara, Turkey

Reprint Requests: Zeynep Misirligil, M.D.  
Bardacil, SOK-68  
East - Ankara, Turkey.

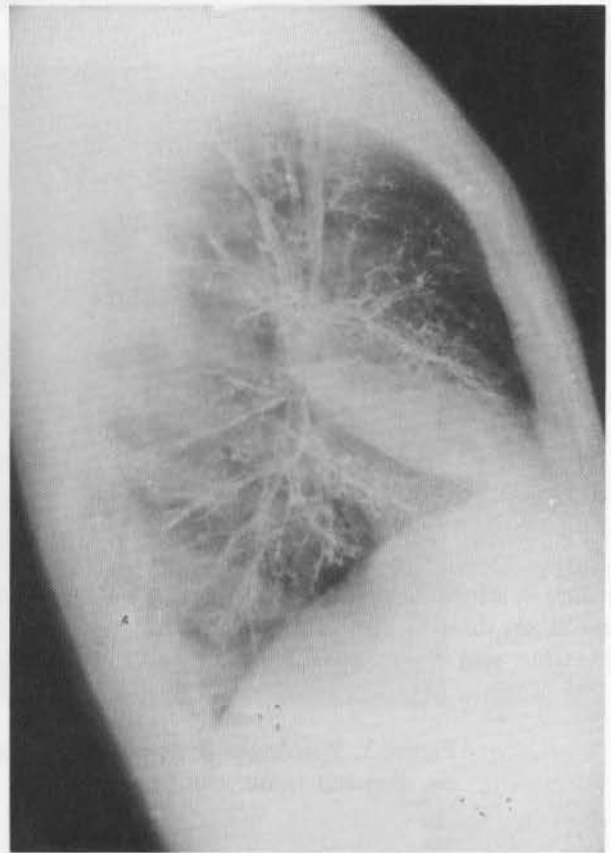
\*Department of Pulmonary Diseases, Ankara University School of Medicine, Ankara, Turkey.

\*\*Department of Pathology, Ankara University School of Medicine, Ankara, Turkey.

\*\*\*Department of Thoracic Surgery, Ankara University School of Medicine, Ankara, Turkey.



A



B

Figure 1-A & B. Posteroanterior roentgenogram and lateral bronchogram reveal consolidation in the right middle lobe and the filling defect in the bronchus.

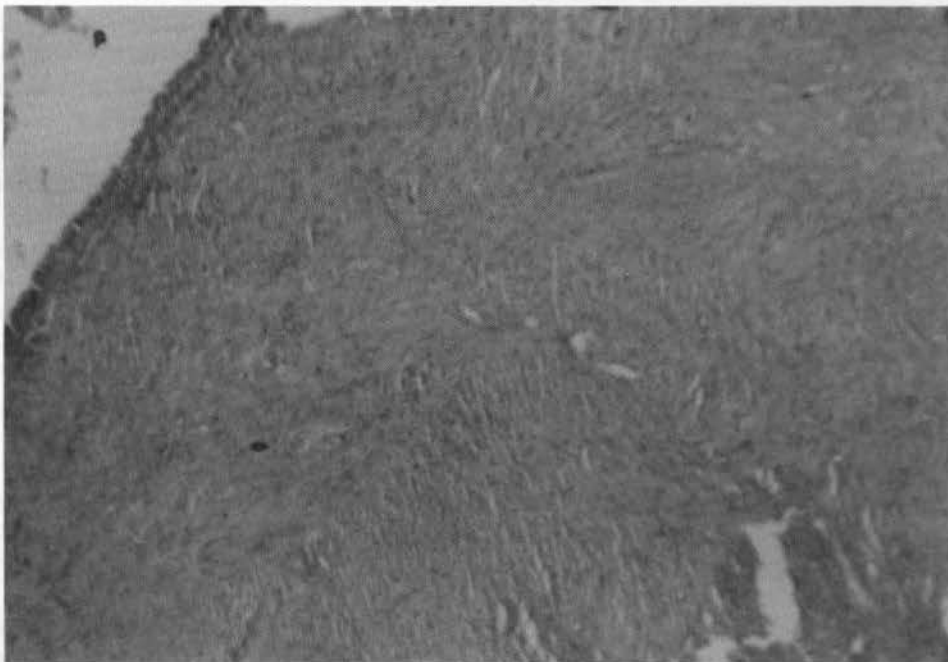


Figure 2. Under the bronchus epithelium at the right lower side of the picture, fusiform smooth muscle bundles can be seen. (Haemotoxylin and eosin x 30).

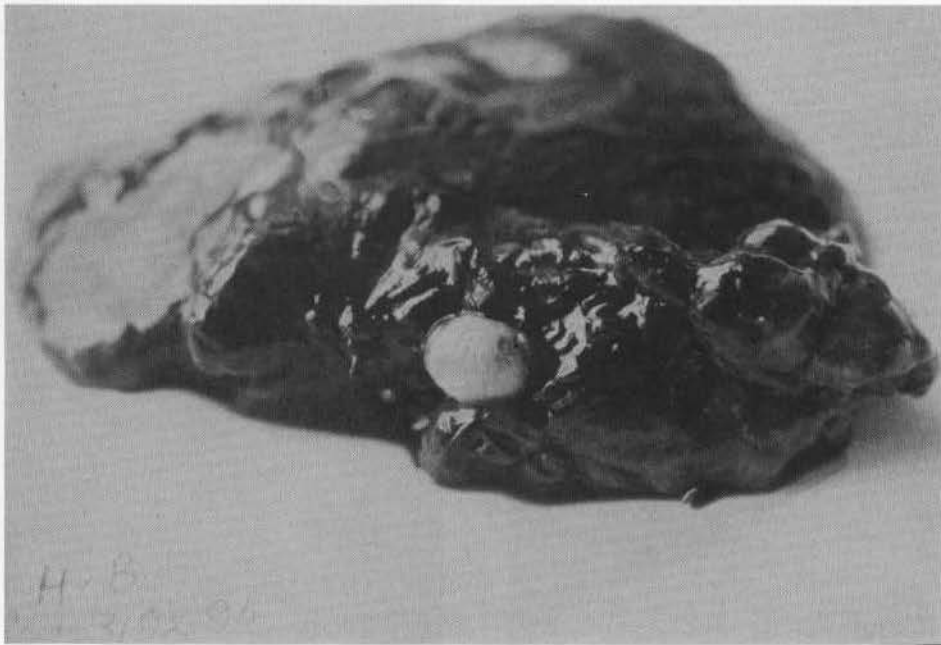


Figure 3. Within the hyperemic lung tissue a rounded, encapsulated, yellowish, 1.5 cm diameter tumor can be seen.

seen. With special stains (Von Gieson and Masson's Trichrome) the cells showed the features of smooth muscle and the diagnosis of leiomyoma was made. (Figure 2)

A right posterolateral thoracotomy was performed. During the operation it was observed that the lumen of middle lobe bronchus was obstructed by a yellowish/white, round tumor, and also that its lobe was destroyed. For that reason lobectomy was performed. Histopathologic examination of the surgical specimen confirmed diagnosis. Severe inflammatory changes were seen in the lung parenchyma distal to the tumor.

The excised lobe with the tumor is shown in Figure 3.

The patient's postoperative course was uncomplicated and he was discharged on the seventh postoperative day. One month following lobectomy he had no complaints.

#### Discussion

Leiomyomas account for about 1.5% of benign tumors of the lower respiratory tract.<sup>3</sup> Primary leiomyomas may occur in pulmonary parenchyma or arise from the trachea bronchial wall. Intrabronchial lesions have rarely been reported. Bronchiectatic changes or obstructive atelectasis distal to the bronchial obstruction have also been observed in leiomyomas.<sup>1-5</sup>

When the right middle lobe syndrome occurs in childhood and adolescence, usual etiological agents are primary tuberculosis, sarcoidosis or histoplasmosis. Rarely, benign tumors may produce a similar picture. We add this case of leiomyoma of the bronchus presenting as the middle lobe syndrome.

Although bronchoscopic removal of the intrabronchial leiomyoma has been reported, most intrabronchial leiomyomas have been resected by lobectomy or pneumonectomy.<sup>1,4,5</sup> In this case lobectomy was done, since bronchoscopic removal could not be performed and the middle lobe had been destroyed.

#### References:

1. Yamada H et al: Intrabronchial leiomyoma treated by localized resection via bronchotomy and bronchoplasty. *Chest* 1987; 91:283-285.
2. White SH et al: Leiomyomas of the lower respiratory tract. *Thorax* 1985; 41: 306-311.
3. Yellin A, Rosenman Y, Lieberman Y: Review of smooth muscle tumors of the lower respiratory tract. *Br J Dis Chest* 1984; 78: 337-351.
4. Taylor LT, Miller DD: Leiomyoma of the bronchus. *J Thorac Cardiovasc Surg* 1969; 57: 284-288.
5. Shahian DM, McEnany MT: Complete endobronchial excision of leiomyoma of the bronchus. *J Thorac Cardiovasc Surg* 1979; 77: 87-91.