A 20-year-old white woman was found to have a small mass in the right hilum on a routine chest roentgenogram (Fig. 1). Roentgenograms taken elsewhere two years earlier had shown that the mass was present, but smaller in size. She had no pulmonary symptoms, and physical examination was entirely negative.

Routine laboratory studies were normal with the exception of those pertaining to her known diabetes. Skin tests for tuberculosis, histoplasmosis and blastomycosis were negative.

Bronchoscopic examination was reported as negative and cytologic studies obtained from the bronchial washings disclosed no evidence of malignant cells.
Diagnosis: **Leiomyosarcoma of the Bronchus**

**Discussion**

The posteroanterior roentgenogram of the chest (Fig. 1) reveals a well circumscribed, oval mass measuring 2.2 cm. in diameter in the right lower hilar region. The anteroposterior laminogram (Fig. 2) shows no evidence of calcification or cavitation within the mass.

Included among the many conditions to be considered in the differential diagnosis are bronchial adenoma, pulmonary hamartoma, solitary granuloma and metastatic tumor.

At operation the tumor was found to arise from the superior segmental bronchus of the right lower lobe. Lobectomy with hilar node dissection was performed. Grossly the tumor almost completely encircled the involved bronchus. Histologically, it was seen to arise from the bronchial musculature and had submucosal extension.

Primary pulmonary leiomyoma and its malignant counterpart, leiomyosarcoma, are very rare. The sarcomatous form is found more frequently. Shaw et al., in their review of the literature, found 26 previously reported cases of leiomyosarcoma and added two more of their own. The tumor is found in all age groups, the youngest being four years and the oldest 83 years. Both sexes are equally affected.

Symptomatology is nonspecific. Cough is the most common presenting complaint, followed by dyspnea and then chest pain. Hemoptysis has been recorded in only four cases.

The site of origin of the tumor varies, with no particular predilection noted. Fifty per cent of the reported cases demonstrate their origin to be from the smooth muscle or major bronchi. It is thought that the more peripheral leiomyosarcomas have a similar origin. These tumors grow slowly and metastasize late. Endobronchial involvement is not a common finding.

Agnos, et al. found that in 16 cases in which roentgenograms were available for review, all were positive. The tumor itself was visualized in 13, and segmental or lobar atelectasis was found in the others. The tumor usually appears well demarcated and has a nonlobular outline. It usually lies close to the hilar structures but may arise as a peripheral mass. Both cavitation and calcification have been seen.

Excision of the tumor and adjacent pulmonary tissue is considered adequate surgical treatment. The tumor's slow growth rate and tendency to remain localized make the long term prognosis excellent; in the literature which was reviewed, only 16 per cent of the patients died with metastases or recurrence.

**References**


For reprints, please write Dr. Gerle, Emory University Hospital, Atlanta.

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Readers are invited to submit articles for the Roentgenogram of the Month. Please submit a brief abstract of your case to Benjamin Felson, M.D., Department of Radiology, Cincinnati General Hospital, Cincinnati Ohio.