A 39-year-old man was referred for evaluation of a left-sided mass which was discovered incidentally on a chest radiograph. The patient related a ten-year history of mild nonspecific left anterior chest pain and a cough productive of small amounts of white sputum. There was no history of fever, dyspnea, hemoptysis, wheezing, weight loss, pleurisy or pneumonia. The occupational history was unremarkable. The patient stopped smoking two years earlier (40 pack-years). On physical examination the patient was noted to be mildly hypertensive, afebrile and in no respiratory distress. There was no clubbing of digits. Examination of the chest revealed slight dullness to percussion and diminished breath sounds anterolaterally on the left. The remainder of the physical examination was unremarkable and screening blood work and pulmonary function test results were within normal limits.

A chest radiograph showed an increased density over the left lower lung which was located anteriorly on the lateral view (Fig 1a and b). A CT of the chest (Fig 2) showed a $9 \times 4$ cm soft tissue mass abutting the left mid-lateral thorax with no evidence of rib destruction. Because the mass could not be adequately visualized
on fluoroscopy, a needle biopsy was scheduled under CT guidance. However, with changes in body position and respiration, the mass lesion on CT was noted to move dramatically from a lateral to an anterior position (Fig 3), precluding needle biopsy. Elective exploratory thoracotomy was performed.

**Diagnosis: Pedunculated benign localized pleural mesothelioma**

At thoracotomy a 10 × 7 cm pedunculated tumor mass was noted originating from the visceral pleura of the lingula. The surface of the tumor was smooth and glistening and somewhat lobulated in contour. The pedicle measured 1.5 × 1 cm in diameter and 0.6 cm in length. The tumor, together with an adjacent wedge of normal lung tissue, was excised. Histologic sections showed uniform spindle-cell proliferation with deposition of abundant intercellular collagen. Throughout the lesion, mitotic activity was extraordinarily infrequent and pleomorphism and nuclear anaplasia were absent. These features are diagnostic of benign localized mesothelioma.

Localized mesothelioma is extremely rare. While most such tumors are benign, a large series from the Mayo Clinic found eight of 60 localized pleural mesotheliomas to be malignant. In that series, benign localized mesothelioma was noted incidentally in asymptomatic patients in 54 percent of cases. In the remainder, the presenting symptoms included chronic cough (33 percent), chest pain (23 percent), dyspnea (19 percent), fever (17 percent) and hypertrophic pulmonary osteoarthropathy (19 percent). There was no distinguishing symptom between the malignant and benign varieties of localized mesothelioma.

In the Mayo Clinic series, 56 percent of benign localized mesotheliomas arose from the visceral pleura and 17 percent from the parietal pleura. One third of each group were pedunculated. Of note is that no malignant variants were pedunculated. It has previously been noted that pedunculated pleural tumors may be relatively free to move about in the pleural space such that marked changes in the position of the mass may be noted roentgenographically with changes in body position or respirations. This phenomenon can easily be demonstrated with inspiration/expiration or decubitus roentgenograms (Fig 4 a and b) or fluoroscopically. Recognizing that an intrathoracic mass is pedunculated indicates with some degree of certainty that the mass is of pleural origin. Whereas pedunculated localized mesothelioma becomes the most likely diagnosis, other entities such as pleural fibrin bodies, benign pleural fibroma, subpleural lipoma, and pleural amyloid tumor should also be considered.

The treatment of choice for localized pleural mesothelioma is surgical resection. There is, however, a significant potential for recurrence, particularly in those with histologic characteristics of malignancy. Annual followup chest roentgenograms are indicated in order to permit early surgical intervention if the tumor recurs.

**References**

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