Huge Pulmonary Artery
Presenting as Primary Bronchogenic Carcinoma
Report of a Case*

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Roentgenographic examination of the thorax is highly accurate in detecting most primary pulmonary tumors. However, to distinguish between vascular lesions and mediastinal tumors by this technic when the lesion closely approximates the great vessels is difficult. Herein is reported the case of a patient with pulmonary hypertension secondary to obstructive pulmonary disease who presented with a diagnosis of bronchogenic carcinoma.

CASE REPORT

A 56-year-old white rancher registered at the Mayo Clinic on June 8, 1964, with a diagnosis of bronchogenic carcinoma. History revealed fatigue of six months' duration and a weight loss of 45 pounds. He had been hospitalized elsewhere in January, 1964, because of pneumonia and had been on digitalis since that time. He had smoked moderately heavily for 38 years.

On physical examination, inspiratory and expiratory wheezes were noted. The diaphragm was fixed and expiratory slowing, grade 4, was indicative of moderately severe obstructive pulmonary disease. The pulmonary second sound was accentuated. A short mid-systolic murmur was audible at the apex, and a diastolic murmur, grade 2, at the base was thought to be due to pulmonary hypertension.

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Figure 1: X-ray evidence of left hilar mass.
FIGURE 2: Angiocardioam demonstrated left hilar mass made up of left pulmonary artery.

FIGURE 3: Pulmonary function studies demonstrating moderately severe obstructive pulmonary disease.
The values for hemoglobin, white blood cell count, and erythrocyte sedimentation rate were normal as were the results of urinalysis. The electrocardiogram showed left ventricular hypertrophy and digitalis effect. Roentgenogram of the thorax showed evidence of a left hilar mass which appeared to be bronchogenic carcinoma (Fig. 1). Examinations of three specimens of induced sputum, however, gave negative results for malignant cells. Bronchoscopy did not reveal evidence of a tumor. On thoracic fluoroscopy, the left pulmonary artery appeared prominent. An angiocardiogram disclosed that the left hilar mass was made up of the left pulmonary artery (Fig. 2). Pulmonary function studies (Fig. 3) confirmed that the patient had moderately severe obstructive pulmonary emphysema. Catheterization of the right side of the heart demonstrated an elevated pulmonary artery pressure (55/25 mm.Hg) and an elevated right ventricular pressure (50-60/0-6 mm. Hg) with decreased arterial oxygen saturation and dilatation of the pulmonary artery.

**Comment**

Fluoroscopy had been thought to be an accurate means of differentiating vascular from nonvascular lesions. Kincaid and associates studied the cases of 200 patients at the Mayo Clinic and concluded that angiocardiography and thoracic aortography were the only accurate means for differentiating vascular from nonvascular lesions of the mediastinum. The left hilar mass could not be delineated by means of fluoroscopy. Catheterization of the right side of the heart was performed because of a discrepancy between the clinical evidence of obstructive pulmonary disease and cor pulmonale and the electrocardiographic evidence of left ventricular hypertrophy. No right-to-left shunt was detected. Left ventricular failure best explains the electrocardiographic evidence of right axis deviation with left ventricular hypertrophy in this case.

The information obtained from the complete work-up, including angiography, prevented unnecessary surgical treatment, and enabled us to initiate treatment for obstructive pulmonary disease and cor pulmonale.

**Reference**


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