CLINICAL INFORMATION

This 49-year-old Negro car painter was admitted to the Cincinnati General Hospital with intermittent but progressive cough, hemoptysis, and right-sided chest pain for six months. Past history included right nephrectomy five years earlier for renal cell carcinoma.

Physical examination revealed signs of right upper lobe consolidation. Laboratory tests were negative. Bronchoscopy demonstrated a mass lesion in the right upper lobe bronchus. A biopsy was obtained.

*Resident, Department of Radiology Cincinnati General Hospital.

FIGURE 1

FIGURE 2
Diagnosis:

**Endobronchial Metastasis from Renal Cell Carcinoma**

The biopsy revealed a neoplasm with an identical histologic pattern to that of the renal cell carcinoma removed five years earlier. Thoracotomy demonstrated inoperability of the tumor because of mediastinal infiltration. He has since undergone cobalt irradiation with little improvement.

Roentgen findings in this case include collapse of the entire right upper lobe with associated elevation of the minor fissure, complete radiopacity of the affected lobe, and a mass in the right hilum. Elevation of the right hemidiaphragm, shift of the mediastinal structures toward the right, decrease in size of the right hemithorax or compensatory emphysema of the middle and right lower lobes, while sometimes seen in lobar collapse, cannot be identified in this case. It should be noted that Golden's reverse S sign, usually associated with bronchogenic carcinoma, is demonstrated in this case. The upper lateral concave segment of the S is formed by the elevated minor fissure; the lower medial convex segment is caused by the metastatic mass. While the postero-anterior view is the most satisfactory for visualizing Golden's sign in the right upper lobe, oblique and lateral views more clearly demonstrate the reverse S sign in other lobes.

Metastatic endobronchial malignancy is not uncommon. Hypernephroma is the most common tumor to metastasize in this manner. Other tumors which show a propensity for endobronchial secondaries include sarcoma, malignant melanoma, and adenocarcinoma of the breast and bowel. Single instances of thyroid, oral cavity, ovarian, and pancreatic malignancy with endobronchial metastasis have been reported.

The most frequent symptom of these metastatic tumors is hemoptysis. Cough is also present in most cases. The histologic diagnosis of hypernephroma has in rare instances been made from a piece of expectorated tissue. Often signs and symptoms of the metastatic lesion precede those of the primary renal tumor. Because of this fact, this entity should be considered when dealing with endobronchial tumors of anaplastic or unusual histologic types, and a pyelogram should be obtained. The presence of a solitary metastatic endobronchial hypernephroma does not invariably carry with it a bad prognosis. Well documented cases in which the metastasis has been resected followed by a long asymptomatic period are known.

Another form of endobronchial hypernephroma is characterized by multiple lesions in the terminal bronchi in one or more lobes. This type is generally associated with other evidence of metastatic spread and occurs in the terminal stages of the disease.

**References**

5. Gerle, et al.: (To be published).

---

**Adenovirus in Infantile Pneumonia**

Studies on the etiologic agent of infantile viral pneumonia were made during the past three years. Type 3 and Type 7 adenoviruses were proved to be the main causative agents of the disease. The same types of adenovirus were also found to play an important role in the causation of pneumonia complicating measles either at the eruptive stage or during the convalescent period.