A 3,345 gram girl was born in an uncomplicated delivery to a 23-year-old mother (gravida 3, para 2). Within a few minutes of birth, the infant exhibited mild respiratory distress, chest wall retractions, and transient cyanosis. A chest roentgenogram (Fig 1) was obtained. Pneumonia was suspected and, after evaluation for sepsis, treatment with antibiotics was begun. After seven days of kanamycin and ampicillin therapy, the mild respiratory distress and the density seen on the chest x-ray films were unchanged. An esophagogram (Fig 2) and computer tomographic study (Fig 3) were then obtained.

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**Figure 1**

**Figure 2**

**Figure 3**
Diagnosis: Neuroblastoma

Figure 1 shows a homogeneous density in the right upper lung field. The esophagogram (Fig 2) shows a mass deviating the esophagus to the left at the level of the thoracic inlet. The computer tomographic study demonstrates the mass deviating the trachea. The mass contains two calcific foci, one posteriorly adjacent to the spine and the other far to the right. These were not visible on the chest roentgenograms. Subsequent arteriography demonstrated displacement of the right innominate and subclavian vessels by an avascular mass.

At thoracotomy, a large firm posterior mediastinal tumor was found filling the apical portion of the right hemithorax. The esophagus and trachea were displaced but not invaded. The tumor, except for the portion adherent to the chest wall and brachial plexus region, was removed. Histologic diagnosis was neuroblastoma.

Neuroblastoma is the third most common tumor of childhood (following leukemia and brain tumor).1 Although the origin of most primary neuroblastomas is abdominal, the thorax is the second most common site. Thoracic neuroblastomas arise from the paravertebral sympathetic nerve trunks and grow into the posterior mediastinum.2,3 Symptoms of thoracic neuroblastoma consist of dyspnea, cough, stridor, wheezing, pain, and cyanosis.

Histologically, neuroblastomas vary from highly malignant sympathicoblastoma to benign ganglioneuroma.4 Occasionally, the tumor may have elements of both (ganglioneuroblastoma).

Radiographically, the mass may be sharply circumscribed or poorly defined, the latter often mimicking pneumonia or lobar collapse.6 Calcification in neuroblastoma occurs with considerably less frequency in the thorax than in the abdomen. Nevertheless, calcification within the lesion or adjacent bony abnormalities (rib erosions or separation, vertebral erosion) make a primary neurogenic tumor (neuroblastoma or ganglioneuroma) the most likely diagnosis. The presence of calcification tends to exclude other causes of posterior mediastinal mass in children, such as foregut duplication (gastroenteric, neurenteric, or bronchogenic cyst). Metastatic neuroblastoma to the mediastinum, an important differential consideration, does not calcify.9 The radiographic appearance of the calcium in neurogenic tumors has no specific features.6 Calcification and bone abnormalities in primary neuroblastoma are considered to be age-related,8 and are seen much more often in older children than in newborns. Computer tomography, by demonstrating calcification that was not visible on the plain films, provided information that suggested the correct diagnosis.

REFERENCES