This four-year-old white boy, in previous good general health, entered the hospital with a ten-day history of progressive shortness of breath and wheezing respiration. No fever or chills were noted. He had been treated for several days with bronchodilators with no relief of symptoms. On admission, he was noted to be moderately cyanotic. Temperature was 100°F, pulse 96 and respirations 34 per minute. No adenopathy was present. There was no enlargement of the liver or spleen. Hematocrit was 45, white blood cell count 17,000 with 77 per cent neutrophils. Blood chemistries were normal. Skin tests for tuberculosis and histoplasmosis were negative. Films reproduced in Figs. 1 and 2 were made shortly after admission.
Diagnosis: Histoplasmosis

The admission chest roentgenogram (Fig. 1) reveals enlarged lymph nodes severely compressing the trachea just above the bifurcation. The lung fields are clear. The barium esophagram (Fig. 2) reveals compression of the esophagus by widespread mediastinal node involvement.

On the day after admission, the respiratory distress became more severe and an emergency thoracotomy was performed. On entering the mediastinum the surgeon noted large, greyish lymph nodes compressing the trachea and esophagus. There were also many large lymph nodes around the right upper lobe bronchus. The tracheal pressure was relieved by removal of some of the nodes. Biopsy revealed caseating granuloma. *Histoplasma capsulatum* was identified in the surgical specimen. The histoplasmin skin test was repeated three weeks after admission and was positive. Complement-fixation, yeast phase, was positive in 1:128 dilution.

The common roentgen manifestations of histoplasmosis fall into four major categories: (1) an acute disseminated form with miliary or small patchy densities scattered diffusely throughout the lungs; (2) a localized infiltrative form; (3) a solitary nodule which is usually chronic and asymptomatic; (4) a chronic fibrocavitary form. Each of these may be associated with a variable degree of mediastinal lymphadenopathy. In some instances, the lymph node enlargement may be the only roentgen manifestation of the disease, as in the present case. Many patients with active histoplasmosis are entirely asymptomatic or present only with low grade fever and malaise. Often the only evidence that a patient has had the disease is the presence of a positive histoplasmin skin test or the finding on a chest roentgenogram of pulmonary or mediastinal calcifications.

In some patients, the involved mediastinal nodes may become adherent to the esophagus. Later, fibrous tissue in and around the nodes, especially in the region of the carina, retracts, resulting in a traction diverticulum. In the present case, a barium esophagram nine months later (Fig. 3) shows a traction diverticulum at the site of the earlier esophageal involvement.

Another complication of mediastinal histoplasmosis is the development of chronic fibrous mediastinitis. In this condition, there appears to be progressive development of dense fibrous tissue around the lymph nodes, tending to involve all structures in its vicinity. Some of these patients then develop superior vena cava obstruction.

References