Endoscopic Ultrasonography (EUS) has become a well-established modality in the evaluation of mediastinal and abdominal lesions. Several case reports have shown EUS to be effective in the evaluation of extrapulmonary tuberculosis. However, no report on EUS evaluation of pulmonary tuberculosis exists in current literature. In this case report, we present a patient with a parenchymal lung abnormality incidentally discovered on EUS and later diagnosed as pulmonary tuberculosis. We believe this case demonstrates a feasible role of EUS in the diagnosis of solid TB lesions within mediastinum and/or central and superior lung parenchyma. Furthermore, we would suggest that the addition of fine needle aspiration might produce a high diagnostic yield with minimal patient discomfort.

Endoscopy in Pulmonary Tuberculosis
by Bradley W. Mathers, Charles E. Dye, Matthew T. Moyer

A 47-year-old Caucasian male was referred to our hospital for EUS evaluation of a pancreatic cystic lesion. One month prior, the patient had been admitted to an outside hospital with acute pancreatitis secondary to alcohol use. An abdominal CT scan revealed a multicystic septated mass in the left upper quadrant extending from the pancreatic parenchyma, reportedly suggestive of a pseudocyst. The patient’s abdominal symptoms had since resolved.

EUS was performed with a conventional linear echoendoscope (GF-UCT140; Olympus Medical System America, Center Valley, PA) which revealed a fluid collection in the body of the pancreas, highly suggestive of resolving necrosum. FNA was not performed due to a high risk of infection and unclear clinical utility. On withdrawal, a four-centimeter hypoechoic superior mediastinal/parenchymal lung abnormality was also noted at approximately 25 centimeters past the incisors in the proximal/mid esophageal junction zone (Figure 1).

The patient was referred to pulmonology for further work-up of his pulmonary finding where further questioning revealed complaints of weight loss and (continued on page 46)
low-grade fevers over the last several weeks. A high-resolution chest CT showed a cavitary lesion in the left upper lobe (Figure 2) that was followed by bronchoscopy for bronchoalveolar lavage, bronchial washings, and transbronchial biopsy. An AFB smear was positive for acid-fast bacilli and histological examination of the biopsy specimen showed non-caseating granulomatous inflammation. Bronchial washings revealed severe reactive changes and together, these findings were diagnostic of active pulmonary tuberculosis.

**DISCUSSION**

To the best of our knowledge, this is the first case of pulmonary tuberculosis discovered by EUS in the literature; however, we feel that it demonstrates a wider feasibility for diagnosis of solid TB lesions within mediastinum and/or central and superior lung parenchyma by EUS. Furthermore, assuming the correct processing and media is used; we would suggest that the addition of FNA might produce a high diagnostic yield (assuming the correct handling technique and media is used) with minimal patient discomfort.

Tuberculosis remains among the leading causes of disease worldwide. While advances have been made for new noninvasive diagnostic tests, the gold standard for diagnosis of tuberculosis remains microbiological and/or histological detection of *M. tuberculosis*. Lung tissue can be obtained by closed biopsies, such as endobronchial ultrasound-guided transbronchial needle aspiration, or by more invasive methods such as thoracoscopy or open surgical biopsy. EUS-FNA has been used in the diagnosis of extrapulmonary tuberculosis after failure of standard noninvasive procedures. In our case, FNA was not performed due to low clinical suspicion of tuberculosis; however, after a review of similar cases demonstrating the diagnosis of extrapulmonary tuberculosis, we would consider utilizing it in the future. This case illustrates the ability to detect pulmonary tuberculosis via EUS and suggests a future role of EUS-FNA for suspected pulmonary tuberculosis located near the esophagus.

**References**