Case report

Esophageal tuberculosis presenting with an appearance similar to that of carcinoma of the esophagus

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A case of esophageal tuberculosis presenting with an appearance similar to that of esophageal cancer is reported. The patient was an 82-year-old man with progressive dysphagia. Barium swallow and esophagoscopy revealed an elevated lesion with deep ulceration in the middle thoracic esophagus. Esophageal carcinoma, in particular, an undermining type of undifferentiated carcinoma, was suspected fluoroscopically and endoscopically. Histological examination of biopsy specimens revealed no malignancy, but there were epithelioid granulomas and a few Langhans’ type multinucleated giant cells. Endoscopic ultrasonography clearly demonstrated an extramural lesion with calcification and direct infiltration of enlarged subcarinal lymph nodes into the esophageal wall. Ultrasonographic and histological findings indicated the possibility of esophageal tuberculosis. Although no bacteriological evidence was obtained, a therapeutic trial for tuberculosis, using antituberculous drugs, was started. After 2 weeks, the enlarged subcarinal lymph nodes were markedly reduced in size. The patient’s symptoms improved gradually and had disappeared 8 weeks after he started treatment, when tubercle bacilli were isolated from sputum. A connection between the esophageal wall and its adjacent structures was clearly demonstrated by endoscopic ultrasonography. For patients with findings indicative of esophageal tuberculosis on endoscopic ultrasonography, a therapeutic trial for tuberculosis should be considered, even if polymerase chain reaction assay or culture is negative.

Key words: esophageal tuberculosis, endoscopic ultrasonography (EUS), antituberculous chemotherapy

Introduction

Among the various types of extrapulmonary tuberculosis, esophageal tuberculosis is extremely rare.1,2 A confirmed diagnosis of esophageal tuberculosis requires the isolation of tubercle bacilli, which is seldom achieved.3 Caseous necrosis, which is indirect evidence of tuberculosis, is not usually detected.3 Therefore, in some patients, a diagnosis was only obtained after an unnecessary esophagectomy, because malignancy could not be ruled out.3,5 A case of esophageal tuberculosis, presenting with an appearance similar to that of esophageal cancer, fluoroscopically and endoscopically, is reported. The patient was treated with antituberculous drugs. The utility of endoscopic ultrasonography (EUS) in diagnosing the disease is discussed.

Case report

An 82-year-old man was admitted to our hospital with progressive dysphagia. He had not complained of fever, night sweat, or any respiratory symptoms. Although he denied contact with tuberculous patients, a tuberculin skin test was positive (18mm after 48h). The initial bacteriological examination and polymerase chain reaction (PCR) assay of sputum were negative for tubercle bacilli. Laboratory examination showed that the leukocyte count and hematocrit were within the reference ranges, while the concentration of C-reactive protein was slightly elevated (2.5mg/dl). The erythrocyte sedimentation rate was 74mm in the first hour. Serum concentrations of carcinoembryonic antigen and squamous cell carcinoma-related antigen were within the reference ranges.

A chest X-ray revealed abnormal lesions in the pulmonary field, and no effusion. Barium swallow showed an elevated lesion with a central ulcer in the right wall of the middle thoracic esophagus (Fig. 1).
Esophagoscopy revealed an elevated lesion, covered with intact mucosa, except for a deep central ulceration, on the right wall 30 cm from the incisors. This lesion was stained with iodine, except for the center of the ulcer (Fig. 2). These findings suggested that the lesion could be esophageal carcinoma, in particular, an undermining type of undifferentiated carcinoma. However, although histological examination of biopsy specimens obtained from the ulcer margin failed to demonstrate any malignancy, despite the taking of three biopsy specimens, epithelioid granulomas and a few Langhans’ type multinucleated giant cells were revealed (Fig. 3). A Ziehl-Neelsen stain of the biopsy specimen did not reveal any acid-fast bacilli. PCR assays, repeated twice, and the initial culture of the biopsy specimens were negative for tubercle bacilli. Chest computed tomography (CT) showed thickening of the middle thoracic esophagus and enlarged subcarinal lymph nodes (30 × 20 mm) with thin peripheral enhancement and central low-density areas (Fig. 4). EUS revealed an extramural low-echoic lesion, 15.0 × 7.5 mm in diameter adjacent to the right side of the esophagus 33 cm from the incisors. The lesion had fine central calcification with no border echo between the lesion and the esophageal wall. No lesion suspected as originating from the esophageal mucosa was demonstrated (Fig. 5A,B). Ultrasonographically, no other mediastinal nodes were seen to be enlarged. Summing up these findings, we suspected the esophageal lesion to be secondary to infiltration of the tuberculous change of the mediastinal lymph nodes into the esophageal wall, although esophageal cancer still remained as the differential diagnosis.

Although no bacteriologic evidence was obtained, a therapeutic trial for tuberculosis, using isoniazid (300 mg per day), rifampicin (450 mg per day), and ethambutol (750 mg per day) was started. After 2 weeks,