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Case Report
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Oesophageal Tuberculosis: A Rare Cause of Dysphagia

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Abstract

The global burden of tuberculosis remains high. Oesophageal tuberculosis is a rare condition and accounts for 0.3% of all cases of gastrointestinal tuberculosis. Though a rare condition, oesophageal tuberculosis should be considered in patients presenting with dysphagia, especially in high risk populations such as immunocompromised patients and immigrants from high risk countries. We report a case of a young Indian male who immigrated to New Zealand, presenting with dysphagia and odynophagia. Gastroscopy showed a large cratered oesophageal ulcer with the appearance of a fistula at the mid oesophagus. Extensive biopsy sampling showed only focal ulceration with actively inflamed chronic granulation tissue. No Acid Fast Bacilli (AFB) noted and a PCR did not detect Mycobacterium species. There was no dysplasia or malignancy. Computer Tomography (CT) scan of his neck, thorax and abdomen showed a 40 mm × 29 mm × 44 mm, peripherally enhancing soft tissue abnormality in the middle third of the oesophagus, with the mass broadly in contact with the carina. Bronchoscopy and bronchial aspirate culture isolated Mycobacterium tuberculosis. He was started on Anti Tuberculosis Therapy (ATT) and his dysphagia improved. He has ongoing follow up with Infectious Disease specialists.

Keywords: Dysphagia; Oesophageal ulcer; Tuberculosis

Introduction

Oesophageal tuberculosis is a rare condition and accounts for 0.3% of all cases of gastrointestinal tuberculosis [1]. It usually occurs as a direct extension of infection from the mediastinal lymph nodes and usually involves the middle third of the oesophagus at the level of carina [2]. We report a case of pulmonary tuberculosis with extension to the middle third of the oesophagus from the right middle lobe as evidenced on gastroscopy, bronchoscopy and Computer Tomography (CT) scan.

Case Presentation

A 36-year old male presented with one-week history of dysphagia and odynophagia. He also gave a three-week history of dry cough without any fever, shortness of breath or night sweats. He immigrated to New Zealand four years ago from India. He was a non-smoker with no other significant background medical history.

On examination, there was no peripheral lymphadenopathy. Auscultation revealed normal vesicular breath sounds.

Investigations

Blood tests on admission showed normal full blood count, but a raised C-reactive protein (CRP) of 20 mg/L and normal liver function tests. He was HIV negative.

Gastroscopy showed a large 5 cm cratered oesophageal ulcer with an appearance of a fistula (Figure 1), 25 cm from the incisors. Extensive biopsy sampling repeated twice showed focal ulceration with actively inflamed chronic granulation tissue. No Acid Fast Bacilli (AFB) noted and a PCR did not detect Mycobacterium species. There was no dysplasia or malignancy. Induced sputum did not show AFB and PCR did not detect *Mycobacterium tuberculosis* complex DNA.

A CT scan of his neck, thorax and abdomen showed a 40 mm × 29 mm × 44 mm, peripherally enhancing soft tissue abnormality in the middle third of the oesophagus, with the mass broadly in contact with the carina (Figure 2). There was also sub carinal and right hilar lymphadenopathy. Bronchoscopy showed a lesion in the bronchus intermedius and in the right middle lobe (Figure

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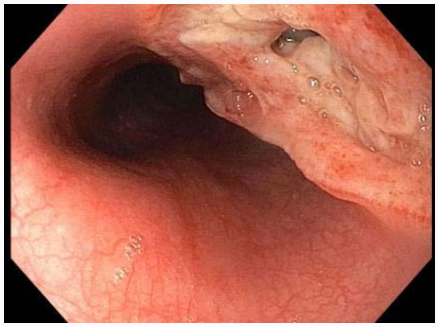

Figure 1: Oesophageal ulcer with appearance of fistula.

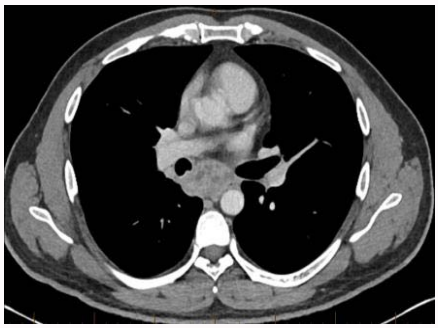

Figure 2: Computer Tomography (CT) showing mass in contact with carina.

3). Bronchial washings and endobronchial biopsy showed only non-necrotising granulomatous inflammatory cells without any AFB. However, bronchial aspirate culture isolated Mycobacterium tuberculosis. Gastrografin swallow showed no extravasation of contrast into the mediastinum and no evidence of fistula or communication with the bronchial tree.

This was a case of pulmonary tuberculosis with extension to the middle third of the oesophagus from the right middle lobe. He was started on Anti-Tuberculosis Therapy (ATT) and has ongoing follow up with Infectious Disease specialists.

Discussion

The global burden of tuberculosis remains high. Gastrointestinal tuberculosis is a rare condition, even in countries with a high incidence of tuberculosis [3]. Involvement of the gastrointestinal tract occurs through ingestion of infected sputum or haematogenous spread from primary pulmonary tuberculosis. Most cases of oesophageal tuberculosis are secondary to direct extension from adjacent structures. It can involve any segment of the oesophagus, but most often involves the middle third because of its proximity to the hilar and mediastinal lymph nodes surrounding the bifurcation of the trachea. Oesophageal tuberculosis is almost always associated with mediastinal lymphadenopathy with or without a trachea-oesophageal fistula [4]. The symptoms usually depend on the degree and type of oesophageal involvement. Dysphagia is the most common presenting symptom, which occurs in about 90% of the cases and was present in our patient [5]. Other symptoms include odynophagia, retrosternal chest pain, fever, weight loss and anorexia. Complications include bleeding, perforation, fistula formation, aspiration pneumonia, fatal haematemesis and oesophageal strictures [6,7]. The most common

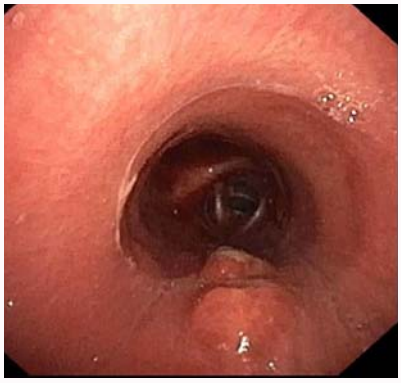

Figure 3: Bronchoscopy showing lesion in the bronchus intermedius and in the right middle lobe.

macroscopic finding on gastroscopy is oesophageal ulcer. Other findings include hypertrophic growth as an oesophageal polyp, tumour like lesions, strictures and external compression. The differential diagnosis includes oesophageal carcinoma, crohn's disease, syphilis and strictures due to ingestion of caustic material. Diagnosis is usually made by gastroscopy with cytological, histological, microbiological examination of tissue biopsy. The definitive test is to recover *Mycobacterium tuberculosis* by culture.

Most of the patients respond well with ATT (Isoniazid, Rifampicin, Pyrazinamide and Ethambutol). Severe stenosis will often require repeated endoscopic dilatation. Surgery is usually reserved for complications such as tracheoesophageal, aorto-oesophageal fistulas and perforation.

Conclusion

Oesophageal tuberculosis though a rare condition should be considered in patients presenting with dysphagia, especially in high risk populations such as immunocompromised patients (co-existing nature of *M. tuberculosis* and HIV) and immigrants from high risk countries.

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