



A Case of Esophageal Tuberculosis

BABU VINISH D DORAISWAMI

Department of Medical Gastroenterology,
KILPAUK MEDICAL COLLEGE AND HOSPITAL

Abstract :

Introduction Esophageal involvement by Mycobacterium tuberculosis is rare and the diagnosis is frequently made by means of an esophageal biopsy during the evaluation for esophageal symptoms. There are few cases reported in literature. Case presentation We present a case of esophageal tuberculosis in a 19 year old girl who presented with initial complaint of odynophagia . Upper gastrointestinal endoscopy resulted in the diagnosis of esophageal tuberculosis following the biopsy of lesion which was ulcerated. Antituberculous therapy was curative Conclusion Although rare, esophageal tuberculosis has to be kept in mind in the differential diagnosis of odynophagia

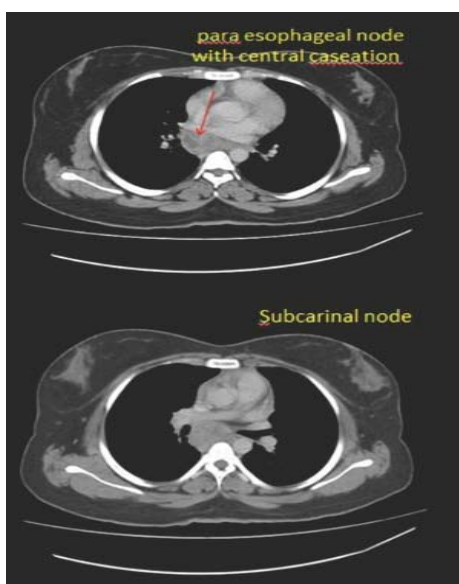
Keyword : esophagus, tuberculosis ,subcarinal node biopsy A 19 year old girl presented with the complaints of odynophagia and heart burn for one month. Prior to the presentation to us she was treated as gastroesophageal reflux disease with omeprazole and domperidone without any improvement.

The patient had no fever or cough with expectoration, patient gave a history of anorexia but had no loss of weight nor had any contact to a pulmonary tuberculosis patient. She negated intake of regular medications or of recent NSAID intake. Her vitals and physical examination were normal Laboratory tests showed a mild hypochromic anemia (Hb 11.4 g/dL, MCV 73.9 fl) other parameters of the blood count were normal except for an erythrocyte sedimentation rate of 16 mm (normal range: 1-7 mm). An upper gastrointestinal endoscopy was performed which showed an ulcerating lesion which was clean based with overhanging edges measuring 4 cm in length and around 1.5 cm in breadth in the upper esophagus. The provisional diagnosis was of esophageal tuberculosis and esophageal malignancy. Biopsy taken initially revealed nonspecific esophagitis. So a repeat biopsy was taken for histopathology and for TB PCR.

Upper G.I. Endoscopy - Esophageal Ulceration



A Computerized Tomography of the chest was ordered which revealed anterior esophageal wall thickening at carinal level with adjacent para esophageal and subcarinal lymphadenopathy. Areas of non-enhancing component in the lymphadenopathy suggested the possibility of the caseation / tumoral necrosis. Lung parenchyma appeared normal So a biopsy of the subcarinal node was also taken in view of previous non specific reports



CT Chest - Paraesophageal node

CT Chest - Subcarinal node

The histological examination of the biopsy from the esophagus revealed chronic inflammatory pathology with a possibility of a Tuberculous etiology. (Figure1). TB PCR from the esophageal mucosa was positive for Tuberculosis. Biopsy from the subcarinal node showed Tuberculous Lymphadenitis (Figure 2).

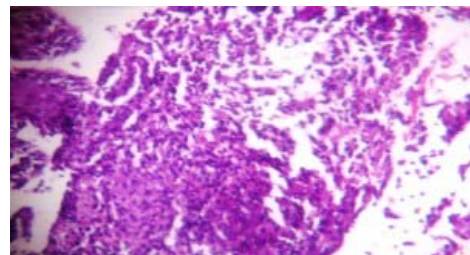


Figure1 : Esophageal Biopsy - Hyperplastic and ulcerated fragments of squamous epithelium with an underlying collections of lymphocytes , plasma cells and histiocytes

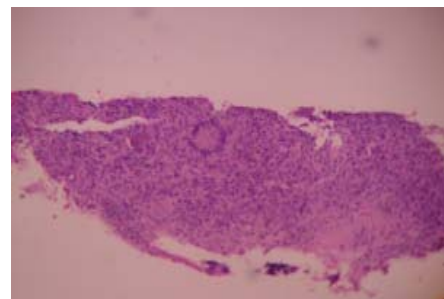


Figure2 :Subcarinal Node biopsy: fragments of node with thickened capsule ,the architecture of the nodes is altered by the presence of large caseating and a few non caesaeting granulomas composed of epithelioid cells, Langerhans giant cell and a cuff of lymphocytes



A purified protein derivative skin test was negative. Sputum for AFB was negative. Bronchoscopy was performed to rule out any lesions which turned out to be normal. Human immunodeficiencyvirus 1 and 2 serology was neg

Bronchoscopy: Normal Carina

We initiated a standard Anti Tuberculosis treatment with isoniazid, rifampicin, pyrazinamide, and ethambutol for two months, then isoniazid and rifampicin alone were continued for further four months (Category I under DOTS) along with Omeperazole and Sucralfate. The odynophagia had resolved 2 weeks after initiation of treatment. Follow-up endoscopy at six weeks after the initial presentation showed a regression of the esophageal lesion, indicating a good treatment response. Six months after the therapy initiation, the esophageal lesion had completely resolved.

Discussion Esophageal tuberculosis is a rare disease, estimated to account for 0.15%¹ of deaths from tuberculosis. Esophageal tuberculosis is of two types, i.e., primary and secondary. Primary esophageal tuberculosis without active extra-esophageal tuberculosis is even more uncommon, and most patients with this condition have underlying mucosal defects, such as Barrett's esophagitis or esophageal cancer. Esophageal tuberculosis generally affects the middle third of esophagus around the carina. This usually is caused by direct extension and spread from mediastinal structures, inoculation of swallowed sputum, as well

as by hematogenous or lymphatic spread. Our Patient is a typical case of primary esophageal tuberculosis with involvement of middle third of the esophagus and with involvement of mediastinal nodes.

Esophageal tuberculosis has various presentations. Symptoms such as dysphagia and retrosternal pain are most common complaints. Systemic manifestations like low grade fever, anorexia, malaise and weight loss are less common and are often confused with esophageal malignancy.²⁻⁵ Paroxysmal postprandial cough or frequent aspiration pneumonia is suggestive of tracheoesophageal fistula. Severe upper gastrointestinal bleed from ulcer and aorto-esophageal fistula has also been reported.^{6,7}

Diagnosing esophageal tuberculosis can be difficult, and it should be suspected in patients with pulmonary or systemic tuberculosis who develop dysphagia and odynophagia. Approximately 50% of cases demonstrate pulmonary involvement on radiography. Mediastinal status, including periesophageal lymph node, esophageal wall thickness, and pulmonary involvement can be further demonstrated by chest CT scans.

Upper gastrointestinal endoscopy provides a valuable method of diagnosing esophageal tuberculosis by providing material for both histological and bacteriological examination;⁸ however, endoscopic biopsy should focus on detecting malignancy rather than excluding it. This is necessary as the two may co-exist.⁹ Biopsied material should be stained to identify granulomas and acid fast bacilli. In our case we were not able to get a positive histopathological diagnosis on the first instance probably owing to

the fact that the density of tuberculous granulomas in the infected organ tissue may be low. Furthermore, tuberculous granulomas are located in the submucosal layer and is not adequately represented in endoscopic tissue biopsies, highlighting the need of multiple and deep tissue samples in patients with suspected esophageal tuberculosis. Accordingly, sensitivity as reported in the literature for histopathological detection of typical caseation granulomas in endoscopy samples ranged from 25% to 60.8%, and a higher sensitivity was achieved only when the tissue specimens were obtained surgically or through laparotomy¹¹⁻¹³.

Among other microbiological methods tissue should be sent for PCR-TB and mycobacterial culture. ELISA testing is 80% sensitive for gastrointestinal tuberculosis.¹⁰ The emphasis of repeat endoscopy and that of TB-PCR is well emphasized in our case in that only on the second biopsy we had a positive histopathology for tuberculosis and if there is a high index of suspicion of tuberculosis a TB-PCR should be performed as was in this patient which turned out to be positive. Treatment with antitubercular drugs is usually effective; however, if complications such as strictures or fistula arise, in addition to drug therapy, endoscopy or surgery is warranted^{3,14}.

Conclusion:

The prevalence of gastrointestinal tuberculosis is low and more so in the esophagus. However, it is possible and its presence deserves a consideration particularly in a high prevalence country such as India. The diagnostic confirmation of the disease may be hampered and delayed by the low sensitivity of the available diagnostic methods. As an early diagnosis and therapy is critical for the disease outcome, the initiation of a specific chemotherapy is essential when the disease is strongly suspected. As esophageal malignancy may mimic tuberculosis

it is always safe to have it as a differential diagnosis

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