

Gastric Tuberculosis

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ABSTRACT

Gastric tuberculosis is a very rare disease posing a diagnostic challenge to physicians, pathologists and radiologists. It usually occurs in females aged 25 to 45 years. Symptoms include epigastric pain, vomiting, fever, weight loss, upper gastrointestinal (GI) bleed and gastric outlet obstruction. High index of suspicion and endoscopic or endoscopic ultrasound guided biopsies may help in making an early diagnosis, particularly in patients with non-healing gastric ulcers. We report a case of gastric tuberculosis in a 55-year male, who presented with persistent vomiting, epigastric pain and significant weight loss. His upper GI endoscopy finding with histopathology results favoured the diagnosis of gastric tuberculosis. He was successfully treated with antituberculous regimen.

Key Words: *Granuloma, Persistent vomiting, Stomach, Tuberculosis.*

INTRODUCTION

According to the World Health Organization Global Tuberculosis Report (2018), about 10.0 million people were infected with tuberculosis (TB) in 2017 and about 55% of these cases were from India, Indonesia, China, Philippines and Pakistan. Pakistan ranks 5th among the highest burdened countries of tuberculosis worldwide with an annual incidence of 525,000 new TB cases. Tuberculous involvement of the gastrointestinal system accounts for around 12% of extra-pulmonary tuberculosis and is usually seen in immunocompromised patients.^{1,2} It usually presents in one of the four ways as visceral tuberculosis which involves solid organs; gastrointestinal tuberculosis; peritoneal tuberculosis; and tuberculous lymphadenopathy.^{2,3} The commonest sites include the ileocaecal region (65%) followed by jejunum and colon (10.8%), but involvement of esophagus (0.2-1%), stomach (0.4-2%) and duodenum (2-2.5%) is rare.³ The diagnosis of these rare cases of tuberculosis may be difficult without specific radiological, endoscopic and clinical features. Here, we report a case of gastric tuberculosis.

CASE REPORT

A 55-year male resident of Karachi presented with persistent episodes of non-bile stained vomiting and epigastric pain for three months, associated with

significant weight loss. He had no history of fever or respiratory symptoms. He was on antiemetics and antacids. There was no family history of tuberculosis or malignancy. On examination, patient was dehydrated but there were no anemia, jaundice, cervical lymphadenopathy or hepatosplenomegaly. His hemato-logical findings were unremarkable; erythrocyte sedimentation rate was raised, *i.e.* 30 mm after first hour. Serology for hepatitis B, hepatitis C and HIV were negative. His serum albumin level was within the normal limits and no abnormal finding was seen on the chest X-ray.

Patient was prepared for upper gastrointestinal endoscopy, which showed a large ulcerated area with raised margins occupying most of lesser and greater curvature extending towards the pylorus and occluding it partially (Figure 1). Multiple biopsies were taken for histopathology. The results revealed multiple fragments of gastric mucosa with crushing artifacts, moderate to severe active gastritis with crypt abscesses. Multiple foci of ulcer slough and ill-defined epithelioid cell granulomas with multinucleated giant cells were also seen in the mucosa. The lamina propria exhibited moderate infiltration of mononuclear cells having moderate activity (Figure 2). No convincing evidence of metaplasia, dysplasia or malignancy was noted. A computed tomography scan of whole abdomen with contrast was done which showed thick walled stomach with heterogeneous enhancement and multiple solid enhancing lymph nodes at celiac axis, perigastric region, along lesser curvature, pre-pyloric and peripancreatic regions, largest measuring 1 cm in prepyloric region. Minimal non-tappable ascites was also identified. The small and large bowel, rectum and anus appeared normal. Patient was put on anti-tuberculosis regimen containing four drugs (rifampicin, isoniazid, ethambutol and pyrazinamide) with vitamin B6 therapy and was closely followed for compliance and response to treatment. He improved with the treatment; and vomiting decreased with passage of time.

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Received: June 11, 2018; Accepted: February 08, 2019



Figure 1: Endoscopic picture showing large ulcers with raised margins occupying most of the lesser and greater curvatures.

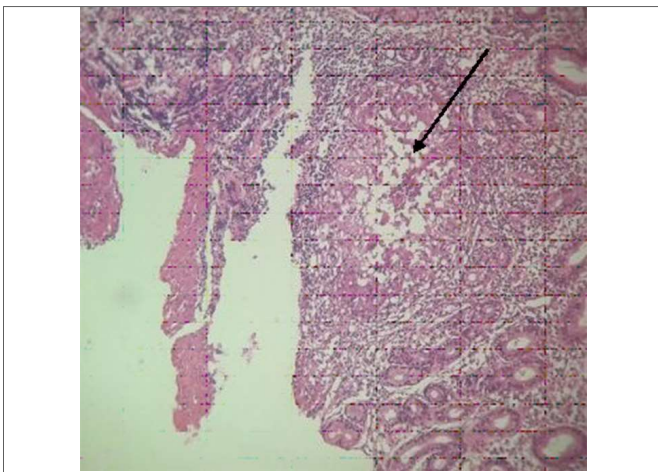


Figure 2: Histopathological slide showing epithelioid cell granulomas and multinucleated giant cells.

DISCUSSION

This case has several uncommon features including the rare site in an uncommon age and gender. According to literature, abdominal TB is predominantly seen in females 25-45 years of age,¹ but this patient was a male aged 55 years, which is not common.

In abdominal tuberculosis, involvement of stomach is very rare. Debi *et al.* explained the reasons of its rarity as bactericidal nature of gastric acid, scarcity of lymphoid tissue in gastric wall, and thick intact gastric mucosa of stomach.³

Malikowski *et al.* explained the pathogenesis of abdominal tuberculosis as invasion of pathogenic bacteria and then granulomatous inflammation, which lead to ulceration, bleeding and perforation.² In this case, large ulcers were formed by granulomatous inflammation. The most common sites of upper GI TB are lesser curvature of antrum and prepyloric region, while duodenal involvement is rare.^{3,4} In this patient, pylorus was involved with lesser and greater curvature.

Clinically, gastric ulcer caused by TB resembles cancer or peptic ulcer disease which may be misleading. A report by Sandhya *et al.* has shown a case of isolated gastric TB, which was being treated with a diagnosis of chronic peptic ulcer and presenting with its complication, *i.e.* gastric outlet obstruction.⁴

The symptoms of gastric tuberculosis differ, depending on the site involved.⁵ Patients may present with epigastric pain, vomiting, fever, weight loss, upper GI bleed and gastric outlet obstruction.³ This patient presented with same features except gastric outlet obstruction feature and bleeding. Arabi *et al.* presented a case from Sudan with projectile vomiting and epigastric pain with weight loss, which on histopathology, diagnosis of gastric TB was confirmed.¹

Lymphoma, carcinoma and other infections like syphilis etc. can be the differential diagnosis of gastric tuberculosis.³

Eray *et al.* reported from Turkey a case of gastric TB mimicking gastric cancer and they found the poor yield of endoscopic biopsy for the confirmation of diagnosis; and explained that it rarely reveals granulomas because of sub-mucosal site of the ulcerated lesion.⁵ Sharma *et al.* from India diagnosed a rare case of gastric tuberculosis which was mimicking a sub-mucosal tumor after surgery and they found that endoscopic ultrasonography as an excellent tool for classifying the sub-mucosal lesion and also for sampling for the cytological confirmation of diagnosis.⁶ Malikowski *et al.* from United States made a fluid and tissue analysis as the definitive criteria for diagnosis.² Upadhyaya *et al.* studied five patients of gastro duodenal TB with gastric outlet obstruction; they found that the most frequent presenting complaints were vomiting, failure to thrive and weight loss. Fine needle aspiration cytology (FNAC) were done on all patients, which showed granulomas in four cases.⁷ Another study found endoscopic balloon dilatation along with antituberculous treatment is effective in patients with gastric outlet obstruction having granulomatous inflammation with or without demonstration of AFB.⁸ In one of the study from Uttarkhand, 68 patients of abdominal TB were reviewed and found that the commonest cause was intestinal TB (45.59%), but not a single esophageal, gastric or duodenal TB case was seen.⁹ A case control study found that long-term use of H2 blockers and PPIs have association with TB infection.¹⁰

With antituberculous therapy, surgery needs to be done only in complicated cases *i.e.* gastric outlet obstruction, hematemesis, perforation or gastro-bronchial fistula. This patient was successfully managed without any surgical intervention.

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