

Duodenal tuberculosis: delays and difficulties in diagnosis

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ABSTRACT A young man with abdominal pain and vomiting was diagnosed as having tropical sprue when partial villous atrophy was found on duodenal biopsy. After continuing ill-health for a year, tuberculosis was recognised and treated, and he is now well. Tuberculosis and the upper gastrointestinal tract can occur without evidence of TB elsewhere, and the causes of unexplained partial intestinal villous atrophy should include TB, especially in countries where this disease is common.

KEYWORDS Gastrointestinal, partial villous atrophy, tuberculosis

LIST OF ABBREVIATIONS Abdominal tuberculosis (ATB), erythrocyte sedimentation rate (ESR), haemoglobin (Hb)

DECLARATION OF INTERESTS No conflict of interests declared.

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CASE REPORT

A 34-year-old male shopkeeper was first seen with complaints of epigastric pain of one-year duration associated with meals and vomiting. Physical examination was unremarkable. Initial investigations showed Hb of 11.1 Gm/dl with an ESR of 48 mm. Barium meal showed deformed gastric bulb. Upper gastrointestinal endoscopy showed biliary reflux with normal bulb and narrowing of the second part duodenum. Biopsies taken from second part were reported to be consistent with diagnosis of tropical sprue. Treatment with tetracycline and folic and then proton pump inhibitors, prokinetics, and pancreatic enzyme supplements was without benefit. One year later he came under our care. By this time he had lost weight and succussion splash could be elicited from his abdomen. His Hb was 9.3 Gm/dl and ESR 96 mm.

Mantoux test was positive. Endoscopy showed excessive amount of bile-stained secretions in the stomach. Bulb was normal, second part of duodenum was narrowed and showed cobble-stone like appearances suggestive of inflammatory bowel disease. Biopsies taken from second part of the duodenum showed partial villous atrophy, chronic inflammatory cells, ulceration of overlying mucosa consistent with ulcer slough (see figure 1).

Taking into consideration the prolonged history, loss of weight, increased ESR and positive Mantoux test, it was decided to start a therapeutic trial of anti-tuberculous therapy along with steroid. His condition improved. Steroids were discontinued after two months. Rifampicin, isoniazid and ethambutol were continued for six months.

Repeat endoscopy showed deformity of the second part of duodenum with nodular thickening. Biopsy showed decrease in the number of lymphocytes and plasma cells in lamina propria and the height of villi appeared normal (see figure 2). At his follow up visits he has been well, apart from occasional mild abdominal discomfort.

DISCUSSION

Tuberculosis is a major health problem worldwide. The most common manifestation of tuberculosis is pulmonary disease. Extra-pulmonary tuberculosis accounts for about 20% of disease in HIV sero-negative patients but is more common in HIV sero-positive individuals.¹ Abdominal tuberculosis accounts for 0.8% of all hospital admissions in India.² Gastrointestinal tuberculosis is reported in 10–20% of patients suffering from pulmonary tuberculosis.³

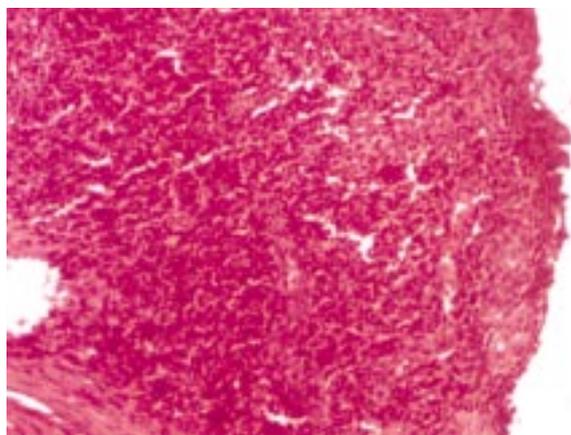


FIGURE 1 Endoscopic duodenal biopsy showing heavy chronic inflammation and surface ulceration.

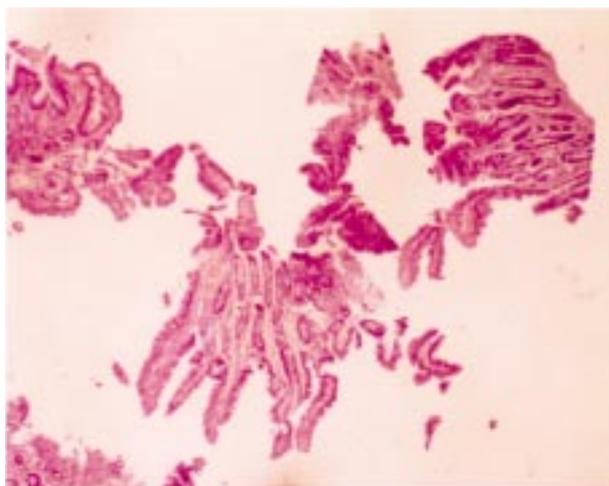


FIGURE 2 Endoscopic duodenal biopsy showing restoration of villous structure and diminished inflammation.

Abdominal tuberculosis may involve gastrointestinal tract, (enteric) peritoneum and lymph nodes. In adults gastrointestinal tuberculosis accounts for two-thirds of all ATB. Common sites are the small bowel and caecum. Lesions of the duodenum, oesophagus etc are rare.⁴

Duodenal tuberculosis can present in several ways i.e. peptic ulcer disease, gastro-intestinal bleeding or gastric outlet obstruction.⁵ Our patient highlights some of the difficulties in diagnosis. His initial history, clinical features and barium meal were in favour of peptic ulcer disease. He had no pulmonary symptoms or radiological findings to support diagnosis of ATB.³ He had no other manifestations of ATB or any cause for immunodeficiency. The microscopic features of duodenal biopsy were consistent with diagnosis of tropical sprue.

By the time, the patient came under our care, he had developed signs and symptoms of gastric outlet obstruction. The relatively short time period of three

years between onset of symptoms and development of gastric outlet obstruction raised the possibility of malignancy. However, at this point in time the gross appearances of duodenum were highly suggestive of inflammatory bowel disease. Biopsy showed sub-total villous atrophy along with ulcer slough.

Partial villous atrophy is caused by several disorders. Standard text books of medicine do not list tuberculosis as a cause. It is now appropriate that duodenal tuberculosis should be considered an important cause of villous atrophy specially in areas where tuberculosis is common such as South Asia and among vulnerable groups such as patients with AIDS.

The decision to treat him with anti-tuberculous therapy was based on gross macroscopic appearances and lack of response to vigorous anti-ulcer regimens. Crohn's disease was considered as an alternative diagnosis but it is uncommon in this part of the world. Moreover Crohn's disease would have not responded to anti-tuberculous therapy. The patient's favourable clinical response to anti-tuberculous therapy, recovery of the partial villous atrophy noticed earlier on two occasions before the commencement of treatment, confirmed tuberculosis as a cause of villous atrophy.

Abdominal tuberculosis is a pauci-bacillary disease and microbiologic proof may not be always possible. Characteristic histological findings in the presence of suggestive clinical setting may be sufficient to initiate treatment. Granuloma have been reported in 40% of abdominal tuberculosis patients and may be present in lymph nodes and absent in enteric lesions.⁶ Pathognomonic features such as the presence of caseation may not be always present.⁶ Acid fast bacilli are found in only 4.6% of the cases.⁷

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