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**Case Report**

# Gastric outlet obstruction secondary to peptic ulcer disease in a case of abdominal Koch's

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## ABSTRACT

Gastroduodenal tuberculosis (TB) presenting as gastric outlet obstruction is rare and often misdiagnosed, it is usually secondary to pulmonary tuberculosis and is often associated with HIV infection. Gastro-duodenal involvement is rarer disease (1%) in abdominal TB. We report a case of a 43-year-old male with no evidence of pulmonary tuberculosis and retroviral infection with complaints of abdominal pain since 4 months and features of gastric outlet obstruction, contrast enhanced computed tomography (CECT) and magnetic resonance cholangiopancreatography (MRCP) were suggestive of pneumobilia, and on endoscopy bilioenteric fistula was confirmed also features of pan gastritis and duodenitis with concentric wall thickening noted at D1 and D2, although histological examination of biopsies showed no evidence of malignancy or tuberculosis. The diagnosis was established after surgery, when a specimen of an enlarged lymph node was sent for histopathological examination (HPE) and GeneXpert showed the presence of giant cells and caseating granuloma. The surgery performed was Roux-en-Y gastrojejunostomy. In this patient the rare gastroduodenal location of tuberculosis occurred as primary disease in the absence of other organ involvement. To the best of our knowledge this has been the first case reported as gastric outlet obstruction with bilioenteric fistula due to gastroduodenal tuberculosis.

**Keywords:** Tuberculosis, Peptic ulcer, Gastric outlet obstruction, Bilio enteric fistula

## INTRODUCTION

Tuberculosis is a major health problem worldwide. It involves the ileocecal region, but involvement of stomach and duodenum are rare sites.[1] Duodenal tuberculosis being the rarest form of intestinal tuberculosis poses great difficulty in diagnosis. High index of suspicion supported by radiological investigation, exploratory laparotomy and histopathological examination of the tissue can only lead to a definitive diagnosis of this rare condition. Treatment is both surgical which involves resection or by-pass for an obstructive lesion and medical which includes antitubercular therapy. Here we present an unusual case of gastric outlet obstruction with biliary fistula due to gastroduodenal tuberculosis.

## CASE REPORT

43-year-old male patient came to JJH with complaints of-pain in abdomen since 4 months, nausea since 2 months, and weight loss since 2 months.

Pain in abdomen started in epigastric region and later was generalised all over the abdomen, colicky in nature and intermittent, pain was associated with abdominal distension Patient also complained of nausea, loss of appetite and weight loss around 10-12 kgs over a period of 2 months. On admission to the hospital patient was hemodynamically stable. Abdominal examination was within normal limits, succussion splash was heard on auscultation.

Patient was investigated further erythrocyte sedimentation rate (ESR) was found to be raised, X ray chest and abdomen were normal. Ultrasound of abdomen was done which was suggestive of prominent common bile duct measuring 8 mm with multiple air foci along the biliary tree, stomach appeared overdistended with fluid contents, and mild thickening is noted in 2nd part of duodenum.

Endoscopy was done which revealed pangastritis, duodenitis with concentric wall thickening of D1 and D2 segments of duodenum, and D1 biliary fistula was noted.

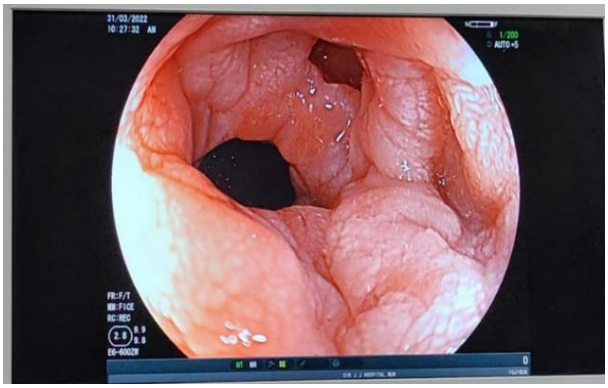

**Figure 1: Endoscopic image showing choledochoduodenal fistula.**

Endoscopic biopsy was sent which was negative for tuberculosis and malignancy. Symptoms resolved post endoscopy.

Sputum GeneXpert was negative for MTB. Contrast enhanced computed tomography (CT) scan was done which was suggestive of features of portal hypertension, multiple air foci noted in biliary system suggestive of pneumobilia. Common bile duct (CBD) appeared dilated with mild central and peripheral IHBRD.

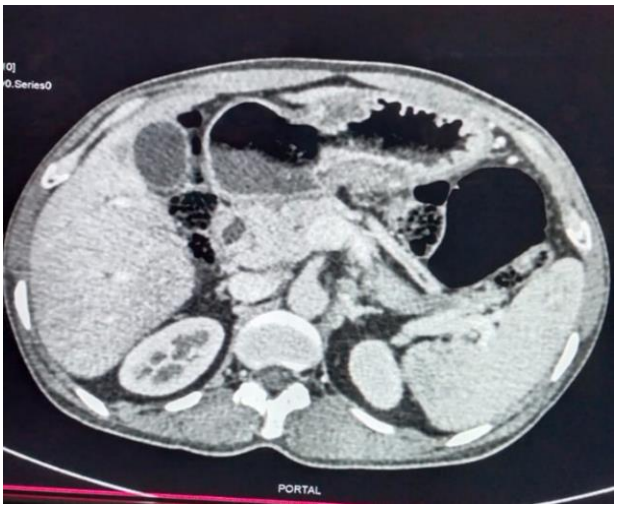


**Figure 2: CT image showing narrowed duodenal lumen with thickened wall and dilated proximal bowel.**

Multiple enlarged reactive lymph nodes were noted scattered throughout the mesentery with few of them showing necrosis suggestive of active infective etiology.

MRCP was done which was suggestive of dilated CBD about 6 mm. with irregularity in its mid portion across the D2 segment of duodenum and is mildly narrow in calibre

Short segment circumferential wall thickening seen involving distal part of D1 segment and entire D2 segment of duodenum

No obvious intraperitoneal bile leak or choledochoduodenal fistula could be demonstrated on imaging

Few lymphnodes were seen in mesenteric and paraaortic region with central necrotic component and surrounding fat stranding. Considering the clinical, endoscopic and radiological findings the decision for operative intervention was taken.

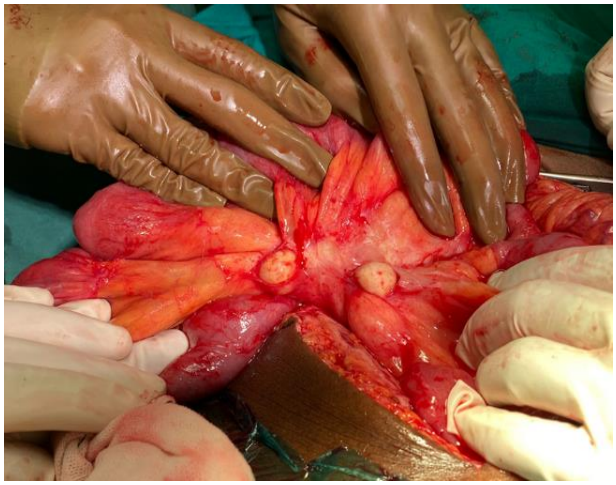

**Figure 3: Intraoperative image showing enlarged mesenteric lymph nodes with caseation.**

Roux en Y gastrojejunostomy with mesenteric lymph node biopsy was done, intraoperatively multiple bowel adhesions were noted from jejunum and terminal ileum to the omentum and the anterior abdominal wall, omentum was seen tethered to pelvis, attached firmly to the bladder and sigmoid colon, after opening the adhesions in small bowel and mesentry multiple caseating lymph nodes were noted and were sent for histopathological examination and gene Xpert.

Postoperatively patient was extubated was shifted to wardLymph nodes sent for gene Xpert and histopathological examination was positive for MTB.

Patient was started on antitubercular therapy and the patient recovered well. Follow up after 6 months the patient was asymptomatic with substantial weight gain.

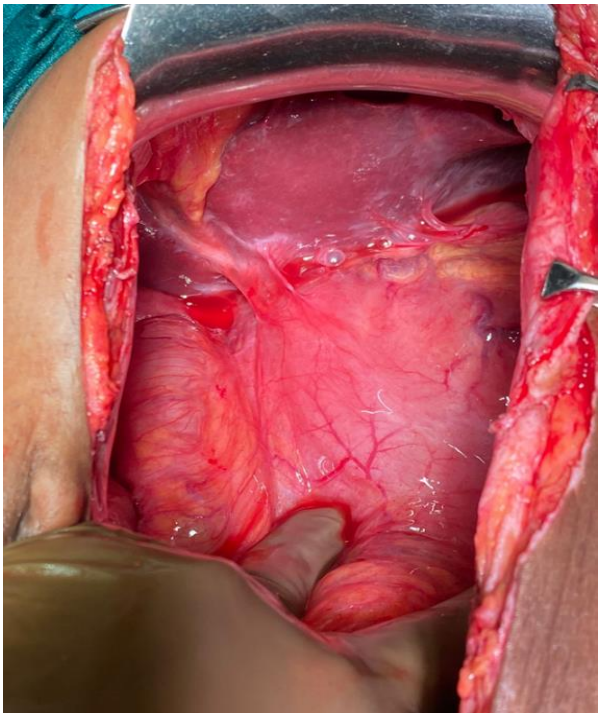

**Figure 4: Intraoperative image showing adhesions.**

## DISCUSSION

Tuberculosis can involve any part of the gastrointestinal tract and is the sixth most frequent site of extrapulmonary involvement. In the last decade a few case reports and review articles have been published on abdominal TB.[1-16] Both the incidence and severity of abdominal tuberculosis are expected to increase with increasing incidence of HIV infection.

There are three forms of abdominal TB: intestinal TB, peritoneal TB with ascites and massive lymphadenopathy without obvious bowel involvement.[17] Abdominal involvements can occur with or without extraintestinal involvement.[18] Tuberculosis bacteria reach the gastrointestinal tract via hematogenous spread, ingestion of infected sputum, or direct spread from infected contiguous lymph nodes and fallopian tubes. The gross pathology is characterized by transverse ulcers, fibrosis, thickening and stricturing of the bowel wall, enlarged and matted mesenteric lymph nodes, omental thickening, and peritoneal tubercles.

The diagnosis of gastroduodenal tuberculosis is difficult and may require well biopsies or endoscopic mucosal resection if standard endoscopic biopsies are negative.[19]

Routine hematological investigations usually give nonspecific results. About 20-70% patients have nonsignificant reactions on tuberculin skin testing.[17] Abnormalities on chest X-ray are frequent.[17]

The most common site of involvement of the gastrointestinal tuberculosis is the ileocaecal region. Ileocaecal and small bowel tuberculosis presents with a palpable mass in the right lower quadrant and/or complications of obstruction, perforation or malabsorption especially in the presence of stricture. Rare clinical presentations include dysphagia, odynophagia and a mid esophageal ulcer due to esophageal tuberculosis, dyspepsia and gastric outlet obstruction due to gastroduodenal tuberculosis.[20]

Gastroduodenal tuberculosis is an uncommon pattern of abdominal tuberculosis with involvement of the stomach or duodenum. When the gastroduodenal area is involved the infection is usually spread from adjacent coeliac nodes. In all types of gastroduodenal TB lymphadenopathy may be extensive, presenting as palpable abdominal mass or causing gastric outlet obstruction.[9,11,21]

The clinical and endoscopic picture of GDTB can mimic peptic ulcer disease.[1,3,4,22]

Abdominal pain, vomiting, gastric outlet obstruction, gastrointestinal bleeding and weight loss are common symptoms of GDTB.

There is no pathognomic picture of GDTB on either upper GI X-rays or endoscopy and biopsies obtained frequently show only nonspecific inflammatory changes.

The small sizes of biopsy samples usually fail to show submucosally located granulomas.[3,11,22-24]

Surgical intervention is necessary in most of the chronic gastric lesions complicated by complete gastric outlet obstruction.[25] When resection of the affected part is not possible, a bypass procedure followed by anti-tubercular drugs is the therapy of choice.[11]

This case report indicates that GDTB should be suspected in patients who have lived in areas where TB is endemic, with findings mimicking peptic ulcer disease and especially in cases of gastric outlet obstruction.

## CONCLUSION

Gastroduodenal tuberculosis is rare and can mimic other GI pathologies, making it challenging to diagnose pre operatively. High degree of suspicion is required in areas endemic for TB. Endoscopic biopsy has a poor yield. Surgery is usually required for diagnosis or therapy, after which patients respond well to antitubercular treatment.

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