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Case Report

Surgery Section

A Rare Case of Perforation Peritonitis with Jejunal Stricture in a Patient Recently Treated for Pulmonary Tuberculosis

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ABSTRACT

Abdominal tuberculosis (ATB) constitutes 12% of the extra pulmonary disease and is a rare but well-documented cause of perforation peritonitis, occasionally occurring in cases where the diagnosis has been delayed but may occur even after antituberculous therapy has been initiated. Most patients with tuberculosis strictures respond well to medical treatment and should be resorted to surgery only if drug therapy fails. Despite surgical intervention, tuberculosis perforation has a high complication and mortality rate.

We present a case of 54-year-old male patient with a perforated jejunal stricture who had completed his treatment for pulmonary tuberculosis one month earlier. This case was unusual because of the age of patient at presentation (usually seen in young – 25 to 45 y), involvement of jejunum (commonly ileocaecal region), initial presentation with subacute obstruction followed by peritonitis (refused treatment at first instance) and patient having completed treatment for pulmonary tuberculosis recently.

Keywords: Abdominal tuberculosis, Intestinal obstruction, Intestinal stricture, Perforation peritonitis

CASE REPORT

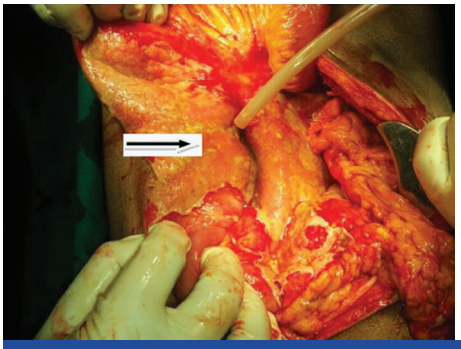
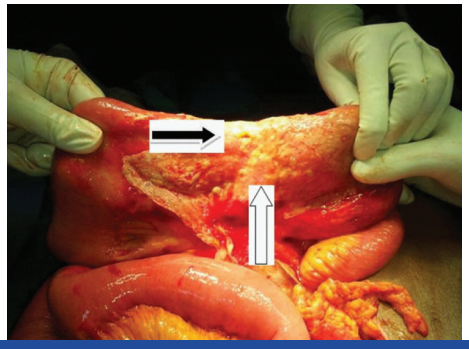
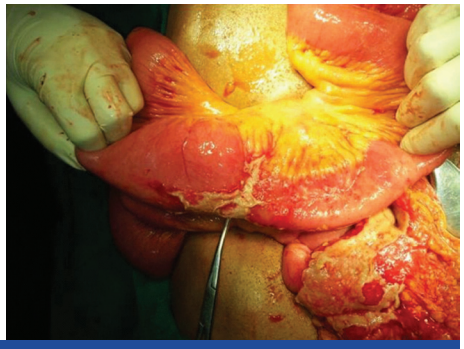
A 54-year-old patient presented in surgery Out Patient Department (OPD) with complaints of pain abdomen since three days associated with nausea, vomiting, constipation, malaise and generalized weakness. He also gave history of low grade fever since one day. Patient was being treated by a primary doctor symptomatically. Patient also revealed that he had been having occasional episodes of pain abdomen and constipation since one month. Patient was diagnosed with pulmonary tuberculosis seven months back and was treated with regular anti-tubercular treatment (ATT) [2HRZE/4HR] for six months and was declared cured one month back. On examination, patient was febrile with mild distension, tenderness and guarding of the abdomen. Bowel sounds were hyperperistaltic and on chest examination crepitations were heard in all the lung fields. Patient was advised admission for further evaluation and treatment. But patient and his family bluntly refused and went against medical advice.

The patient returned to casualty two days later with aggravated previous symptoms, obstipation, tachycardia, tachypnoea and hypotension. On abdominal examination, guarding and rigidity with generalized tenderness and ascites was present and bowel sounds were absent. Blood examination revealed leucocytosis (lymphocytosis), raised ESR with metabolic alkalosis. Chest X-ray showed no active TB lesions and X ray erect abdomen revealed multiple air fluid levels. USG abdomen showed intra-abdominal free fluid and interloop ascites. CT abdomen had features of intestinal obstruction and perforation. Patient was taken for surgery after correction of hypotension and dyselectrolytemia under broad spectrum antibiotic cover.

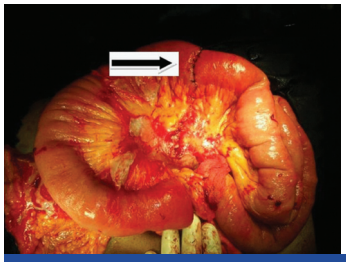
A midline laparotomy incision was taken. Around 1500 ml of free fluid in the abdomen was suctioned. A mass was noted in Rt hypochondriac region extending to umbilical region with omentum covering it. As soon as the omentum was released around 500ml of bile stained thick pus which was contained in the mass by coils of small intestine, ascending and transverse colon, and omentum, seeped out [Table/Fig-1]. The same was drained and the stomach, small and large intestine were examined. A jejunal perforation was present around 15 cm distal to duodenojejunal flexure and an annular constricting stricture was noted 2 cm distal to the perforation [Table/Fig-2]. The jejunum distal to the stricture was dilated upto 10 cm [Table/Fig-3]. Segmental resection of unhealthy jejunum of about 20 cms long with two layered end to end anastomosis was done (enteroenterostomy) [Table/Fig-4]. Mesenteric lymph node sampling was done. Histopathological examination of the jejunal specimen and mesenteric lymph nodes showed no evidence of tuberculosis and an impression of non specific ulcer with perforation and fibrous stricture was given [Table/Fig-5]. Patient, now after six months, is doing well and is under regular follow-up.

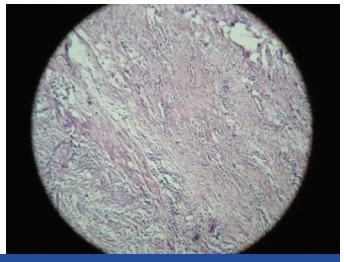
DISCUSSION

Tuberculosis (TB) is still common in many countries and there has been a resurgence of TB in the developed nations secondary

[Table/Fig-1]: The perforated jejunal loop along with the bile stained pus was contained by omentum and bowel loops in this mass. Note thick flakes coating the bowels, **[Table/Fig-2]:** Black arrow indicating the perforation in Jejunum and white arrow indicating strictured part distal to perforation site, **[Table/Fig-3]:** The stricture pointed out by the artery forceps on the other side of the jejunum as shown in [Table/Fig-2]. Note the black arrow showing post structural dilatation





[Table/Fig-4]: Arrow showing the anastomosed (end to end) Jejunum, post resection of 20 cms of affected part **[Table/Fig-5]:** Microscopy of section from stricture site showing fibrous tissue with no evidence of lesions suggestive on active tunerculosis

to migrant population and increasing prevalence of immuno-suppressed (HIV) individuals [1]. According to a World Health Organization report, global annual incidence of TB is estimated to be 9.4 million cases, of which 1.98 million cases are from India [2], and close to 500,000 per year will die of the disease in India [3]. India is among the five nations that account for more than 50% of tuberculosis cases worldwide. Tuberculosis has re-emerged as a devastating disease during the last decade with a high morbidity and mortality both in developing and developed countries due to change in demographics and the pandemic disease, HIV. TB of the gastrointestinal tract (sixth most frequent site of extrapulmonary involvement) [4] is not as common as pulmonary TB and ileocaecal region is the most frequently affected part. Abdominal tuberculosis is more common in adolescence. It can mimic other conditions and tends to be diagnosed late since unequivocal diagnosis of intestinal tuberculosis is usually not possible to make. Less than 25% of patients with gastrointestinal TB have concomitant pulmonary TB [5]. Hence, diagnosing gastrointestinal TB requires a high index of suspicion and proper evaluation in order to minimize complications.

The tubercle bacillus gains access to gastrointestinal tract either by means of ingestion (infected sputum), haematogenous spread, or uncommonly by direct spread from adjacent tissues like infected proximate lymph nodes and fallopian tubes. Reactionary fibrosis leads to single or multiple stricture formation in the bowel. Cicatricial healing of circumferential ulcers and occlusive arterial changes producing ischemia also contribute to the development of strictures [6]. Recent advances in molecular techniques have provided a new approach to rapid diagnosis by nucleic acid probes and polymerase chain reaction (PCR) [7]. Management is with conventional antitubercular therapy for at least six months. Treatment for patients with intestinal strictures and presenting with subacute intestinal obstruction is controversial and vary from a trial of antituberculous drugs to early surgery. Surgical option is to be considered only if patient fails to respond to drug therapy. Though the current antituberculous drug regime is tremendously effective, their function in case of a stenotic lesion of the intestine is contentious. Return to normalcy of these bowel lesions after treatment has been reported by some researches [8]. Latest theory that has been put forth is that curing may foster constriction of the intestine. Some practitioners advocate surgery as soon as clinical features intestinal obstruction is evident as use of chemotherapeutic agents alone in these is futile. This is because the current efficacious antituberculous drugs such as Rifampicin have markedly been shown to be the reason for an increase in the occurrence of cicatrisation and obstruction, as seen in our case. While peritoneal and nodal lesions respond well, the healing process in intestinal lesions may lead to increased fibrosis going on to intestinal obstruction [9].

An increased occurrence of perforation has been reported in patients with intestinal tuberculosis who were on anti-tuberculosis treatment [10]. This should be recognized early and surgical intervention is to be considered in order to prevent mortality secondary to perforation. Laparotomy is required for most and is life saving in cases presenting with obstruction or perforation. Numerous factors such as disease magnitude and location, status of rest of the gut, patient's general state, proficiency of the surgeon and surgeon's preference, all influence surgical procedure to be adopted.

Health promotion and increased awareness is needed, both in countries where TB is endemic and developed countries with immigrant populations about early recognition and reporting of the disease be ensured in order to reduce the associated morbidity and mortality. Despite all advances the clinicians, treating TB must use an integrated approach using every available facility to identify disease early.

CONCLUSION

Tuberculosis is a disease which has myriad presentation affecting every part of the human body masquerading other diseases and poses a great challenge to the treating physician in terms of management of the diseased person. Even its treatment may prelude with complications as in our patient. Treating doctor should be wary of intestinal obstruction in cases with long-standing abdominal symptoms, even after drug therapy.

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