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ATYPICAL PRESENTATION OF ABDOMINAL TUBERCULOSIS: A CASE REPORT

General surgery

KEYWORDS: Peritonitis; Perforation; Ileum; Tuberculosis

Dr Vinay H G — MBBS, MS (General surgery), FSGE, Asst. Professor, Department of General surgery, Vydehi Institute of Medical Sciences and Research Institute, Bangalore – 560066, Karnataka, India-Corresponding Author

Dr A K Pujahari — MS (General surgery), Professor, Department of General surgery,Vydehi Institute of Medical Sciences and Research Institute,Bangalore – 560066, Karnataka,India

ABSTRACT

Peritonitis secondary to hollow viscus perforation is a common surgical emergency. While enteric perforation is the common etiology, primary tubercular perforation is rarely seen.A young male patient presented acute abdomen and diagnostic laparoscopy was the confirmatory procedure for diagnosis.Diagnostic laparoscopy followed by laparotomy and exteriorization of the bowel with loop ileostomy was done. Histopathology of the margins of the perforated ileum and mesenteric lymph node revealed tuberculosis. The patient was started on anti-tubercular therapy and is being followed up with good results.This case emphasizes the atypical presentation of abdominal tuberculosis and the importance of diagnostic laparoscopy in doubtful diagnosis as well as the importance of biopsy specimens taken from the margins of ileal perforation for the confirmation of the diagnosis.

Introduction

Tubercular infection can involve the chest as well as many parts of the human body, namely the abdomen, peritoneum and bowel. Although the entire gut can be involved, the ileocecal area is most commonly affected.[1 - 3] Abdominal tuberculosis (TB) is the sixth most frequent extra-pulmonary location.[3-4]There are several complications involving intestinal TB, including bowel obstruction (31.7%), intestinal perforation (4.9%), enterocutaneous fistula (2.4%), and small bowel volvulus resulting from mesenteric lymphadenitis (2.4%).[5] Different studies typically denote different percentages for these complications.[6] Free intestinal perforation is an uncommon complication of intestinal TB due to a reactive thickening of the peritoneum and subsequent adhesion formations with surrounding tissues.[7] It accounts for 1-10% of abdominal TB cases and has a poor prognosis unless managed efficiently.[8-10]We report a case of a free tubercular perforation of the ileum with its atypical presentation.

Case Report

A 26 yearold man presented with pain abdomen since 1 day, associated with vomiting. On examination, he was emaciated and afebrile. Per abdomen there was localized guarding and rebound tenderness in the right iliac fossa. ESR and total counts were raised more of lymphocytic type. USG abdomen was not suggestive of any pathology and there was no free air under the diaphragm. A provisional diagnosis of acute appendicitis was made and patient was planned for emergency surgery. On diagnostic laparoscopy,the entire visceral and parietal surfaces of the peritoneum were full of whitish nodules (1 to 5 mm in size, Fig 1). There was 200 ml of purulent fluid in peritoneal cavity with pus flakes and exudates throughout. The small bowel was firmly attached to the omentum and adhesiolysis was consequently performed to identify the perforation. Laparotomy was performed by a midline incision and revealed purulent peritoneal fluid, mainly in the pelvis. The terminal ileum had a solitary 0.5 to 0.8 cm transverse perforation in the anti-mesenteric border of terminal ileum about 40cm proximal to the ileocaecal junction(Fig 2). After thorough peritoneal lavage, the ileal perforation was exteriorized and loop ileostomy was done with the same bowel. The edges of the perforation along with mesenteric lymph nodes were sent for histopathological examination. The post-operative period was uneventful. The histopathological report revealedcaseatingepithelioid cell granulomas with Langhans' giant cells and a dense mixed inflammatory cell infiltrate within the mucosa and submucosa (Fig 3 & 4). The patient was started on anti-tubercular treatment in the immediate post - operative period.

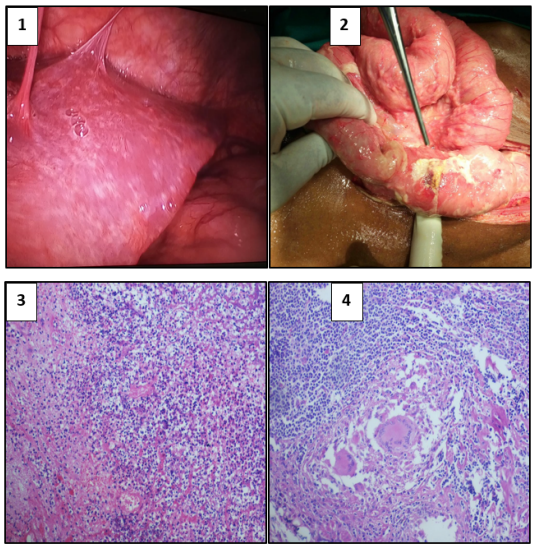

Fig 1. Laparoscopic view showing the peritoneal tubercles
Fig 2. Intra operative photograph showing the perforation in terminal ileum
Fig 3. 10X view showing caseative necrosis with karryorhectic debris to the left. Many dispersed epithelioid cells, necrotic debris admixed with giant cells and lymphocytes are evident to the right – ileum
Fig 4. 10X view: Showing a well formed granuloma comprising of many Langhan's type multinucleated giant cells, epithelioid cells, encircled by a collar of fibroblasts and lymphocytes – lymph node

Discussion

There are three main pathological forms of tubercular enteritis: 1) ulcerative, 2) hypertrophic, and 3) ulcerohypertrophic.[11] The ulcerative form of the disease is more common than the others, but these ulcers rarely perforate.

Clinical presentation can be acute, chronic, or both acute and chronic. In the majority of cases, constitutional symptoms are present, including fever (4070%), pain (80-95%), diarrhea (11-20%), constipation, alternating constipation and diarrhea, weight loss (40-90%), anorexia, malaise, ascites, abdominal distension, night sweating, and hematochezia.[12 - 14] In India, around 3–20% of all cases of bowel obstruction are due to tuberculosis.[15].

Uncommonly, the presentation may be like an acute abdomen, which may be due to rupture of a caseous lymph node, GI perforation,

tubercular peritonitis, ruptured mesenteric abscess, or acute obstruction, especially in the presence of stricture. Thirty to 50% of patients with abdominal TB have a normal chest film[14] and the tuberculin skin test is positive in only 42% of patients. Given these statistics, such assessments cannot be used as reliable predictors of disease. It should be mentioned that, in areas where TB is endemic like in India, this test has been known to have high false-positive rates, and typically has a lower specificity for abdominal disease than pulmonary TB.[16]

Fibrosis and the formation of adhesions to adjacent intra-abdominal organs account for the low incidence of perforation seen in tuberculosis.[11, 17] Although it is well documented that the incidence of perforation in patients with intestinal tuberculosis varies from 1% to 11%, the majority of these perforations (70%–80%) are not truly perforations of such tubercular ulcers, but are 'blow outs' of the small bowel secondary to distension due to distal obstruction (strictures or adhesions). As such, true or 'free' perforations are rare, and only a few cases have been reported to the present in the world literature, with an overall mortality rate of nearly 70%. Recently, vasculitis of the mesenteric vasculature due to tuberculosis has been implicated as a contributory factor, but the exact mechanism by which some patients develop perforation and others is not established.[17 - 19] In any case, intestinal perforation caused by primary abdominal TB is relatively rare.[20]

In such a situation the association of tuberculosis with HIV infection should be considered and patients must always be screened for HIV infection.

Laparoscopy is a very useful investigation in doubtful cases. Visual appearances have been found to be more helpful than histology, culture, or guinea pig inoculation.[21]The laparoscopic findings in peritoneal tuberculosis can be grouped into three categories: (1) thickened peritoneum with tubercles, (2) thickened peritoneum without tubercles, and (3) fibroadhesive peritonitis with markedly thickened peritoneum and multiple thick adhesions fixing the viscera.

Laparotomy is better performed under empirical cover of antitubercular drugs for about 2 weeks, wherever feasible.The general condition of the patient, the number of perforations, the condition of the intestine, and surgeon's experience define the operative procedure, prognosis and outcome. Many of the published papers do not include the description of the methods used to treat the perforation and many of the treatment outcomes are not studied. Primary closure of the perforation can be considered safe if the patient has presented early and the bowel is healthy, otherwise, exteriorization of the affected bowel as a loop ileostomy is a safer option. If there is a long segment of bowel that is diseased, or there are multiple perforations, resection with either primary anastomosis or exteriorization may be considered[22]. Once biopsy confirms the diagnosis of tuberculosis, anti-tubercular therapy is mandatory.

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