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Acute Spontaneous Multiple Ileal Tuberculosis Perforation: A Case Report

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Abstract

A 18 years old boy presented with severe diffuse abdominal pain, constipation, abdominal distention, fever and diagnosed as a case of perforation as free gas noted under both dome of the diaphragm. After resuscitation, exploratory laparotomy was done and diagnosed as a case of multiple spontaneous leaky perforations of jejunum and ileum 25 to 30 cm from duodeno-Jejunal flexure (DJ) up to terminal ileum. Peritoneal toileting and excisional biopsy of the mesenteric lymph node were done. Operative and postoperative period were uneventful. Histopathological examination of the resected lymph node revealed granulomatous inflammation compatible with tuberculosis. Anti-tubercular therapy was started and continued for 6 months. Patient was discharged on the 12th postoperative day in a good condition. At 3 months of follow up the patient was asymptomatic and thriving well. Free perforation is one of the most feared complications of the intestinal tuberculosis. The terminal ileum is the most common site of perforation, while the majority of (90%) perforations are solitary. [Bangladesh Journal of Infectious Diseases 2016;3(2):52-54]

Keywords: Intestinal tuberculosis; spontaneous perforation; mesenteric vasculopathy; surgical treatment

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Introduction

The incidence of intestinal perforation in patient with abdominal tuberculosis in close to that of 2.0% recorded in one of the largest series from india[1-2].

Free intestinal perforation (4.9%) is an uncommon complication of intestinal tuberculosis because of reactive thickening of the peritoneum and formation of adhesion with surrounding tissue[1,3]. It has a poor

prognosis with mortality rate higher than 30%[1-3]. We report one case diagnosed at laparotomy. Patient presented with abdominal pain, constipation, abdominal distention of less than 24 hours duration. The patient has no history of previous tuberculosis.

Case Report

A 18 years old boy presented with 2 days history of acute abdominal pain, constipation, abdominal distention and low grade evening rise of temperature for 2 months with night sweating. His past medical and surgical history were irrelevant. On general examination reveals tenderness and muscle guarding all over the abdomen, bowel sound absent. Haemoglobin (5.9% gm/dl), erythrocyte sedimentation rate (45 mm/1st hour), Monteux test (15mm), Widal test normal, electrolytes within normal limit, blood grouping B (+ve), leucocyte count (20x10^{9} /L), liver function test normal, x-ray chest and abdominal radiography shows large free gas noted under both domes of the diaphragm. The patient was resuscitated accordingly, anaemia corrected, intravenous fluid, injectable antibiotic, nasogastric tube suction, Foley's catheter were inserted and planned for exploratory laparotomy under general anesthesia. Operative findings include multiple inflamed segments in jejunum and ileum at different sites but no visible perforation site is located and multiple enlarged mesenteric lymph node. The operative findings were consisted with small bowel tuberculosis. Ante-grade appendicectomy done and excision biopsy of mesenteric lymph node was done. Abdomen was closed in all layers. Histopathological examination of mesenteric lymph node revealed granulomatous inflammation compatible with tuberculosis and appendix showed lymphoid hyperplasia. The patient was started on anti-tuberculous regimen. The patient was followed up one month interval and he was symptoms free.

Discussion

Abdominal tuberculosis is common in Bangladesh and India, more in young[1,4]. Perforation with peritonitis develops in 5% of patients, usually in ileum[2,4-6]. However, in our case, there were multiple perforations 25 to 30 from DJ flexure up to the terminal ileum with each having a pinpoint perforations[7]. Such an extensive perforation of the small bowel has not been previously reported in the literature. Intestinal tuberculosis can occur both primary and secondary to a tuberculous focus at different sites[4]. Primary intestinal tuberculosis caused by the bovine strain has become rare[4]. The tubercle bacillus is protected against digestion in the stomach by its fatty capsule and infecting the ileum, jejunum and duodenum[4]. The abundance of lymphoid tissue, stasis and minimal digestion of the bacteria are possible reasons for the high incidence of tuberculosis in the ileum[4,7]. The hypertrophic form usually occurs in the ileum about 70% cases due to fibroblastic reaction to the tubercle bacilli[4]. Recently, vasculitis of the mesenteric vasculature due to tuberculosis has been implicated as a contributory factor[8]. The mesenteric vasculature (medium and small vessels, mostly) and endarteritis of sub-mucosal vessels was frequently involved by granulomatous inflammation, with intravascular organizing thrombus being present in 30.0% of the resected specimens with perforation[9-10]. Multiple perforations occur in 40.0% of patients and are associated with poor prognosis[9].

Caseating necrosis surrounded by chronic inflammatory tissue is the hallmark of tuberculosis. The characteristic histopathology is seen more often in affected lymph node than in the bowel[4,8]. The symptoms anaemia, lymphocytosis, and elevated ESR, tuberculin test positive in 42.0% cases, are common in patient with tuberculosis[1,4]. Radiographic evidence of free gas is found in only 25.0% cases[2].

Thirty to 50.0% of patients with abdominal tuberculosis have a normal chest film[1]. The definite diagnosis of tuberculosis can be made by demonstration of *Mycobacterium tuberculosis* in lesion and growth in culture or presence of typical histopathological findings[4]. A single perforation is present in 90.0% of cases[2]. In few reported cases, the diagnosis of tubercular perforation has been made prior to laparotomy[2]. As in most of the reported series, it is difficult to make a preoperative diagnosis of tuberculosis[5].

Surgical option is the resection of the segment with anastomosis. Perforating ulcer is treated by excision of the perforated segment with primary anastomosis[1-2, 4-5]. Removing the appendix is a safe procedure even if microscopic evidence of tuberculosis is present[2].

Rationale most of the guidelines on the treatment of tuberculosis suggest that 6 months treatment is sufficient for abdominal tuberculosis[10-11]. In a randomized controlled trial, Balasubra-maniam et al[11] reported no difference in success rate of 6 months (99.0%) versus 12 months (94.0%) anti-

tuberculous drugs (conventional strategy) in the treatment of abdominal tuberculosis.

Conclusion

The case presented here is the first one to be reported in the literature that described such an extensive perforation of almost the entire small bowel. Considering the fact that the incidence of intestinal TB is rising in both underdeveloped and western countries, the aim of this study is to make the surgical community aware of such an atypical manifestation of the intestinal TB. So, they are more prepared if such a case in encountered in the future.

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