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Primary tuberculous appendicitis presented with caecal perforation: A case report

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ABSTRACT

Gastrointestinal tuberculosis accounts for 3% of the extrapulmonary tuberculosis with ileocaecal region being the common site of involvement up to 75%. Primary involvement of appendix is very rare and accounts for only 0.6% to 2.9% of gastrointestinal tuberculosis in the absence tubercular focus elsewhere. The pre-operative investigations usually give non-specific results. The diagnosis in most instances made only after histopathology. Here we report a case of primary appendicular tuberculosis in a patient presented with caecal perforation.

1. Introduction

Tuberculosis continues to be a significant and relatively more common disease in developing countries like India and thus even a rare manifestation of this disease needs to be addressed. Though ileocaecal region accounts for 75% of the GI tuberculosis, primary involvement of appendix is very rare and accounts for only 0.6% to 2.9%[1]. Here we report a case of primary appendicular tuberculosis in a patient presented with caecal perforation.

2. Case report

A 14 year old boy presented to the emergency medical services department with pain in the right iliac fossa for 3 d associated with high grade fever. Patient had no other gastrointestinal symptoms. There was no past history of TB or any contact with TB. Patient was haemodynamically stable on examination and had localized guarding and tenderness in the right iliac fossa. There was pneumoperitoneum on the chest X-ray. Bilateral lung fields were normal and there were no features of pulmonary TB. Ultrasonogram showed features of acute appendicitis with localized collection in the right iliac fossa. With the diagnosis of acute appendicitis with a possible perforation, exploratory laparotomy was done under anaesthesia. Intraoperatively appendix was inflammed and there was (1 cm × 1 cm) perforation in the anterior wall of the cecum close to the base of the appendix (Figure 1 & 2) with 30 mL of purulent fluid in the right iliac fossa. Terminal ileum, rest of the bowel, peritoneum and other abdominal organs were normal. There were no significant mesenteric lymph nodes. Appendectomy followed by tube caecostomy through the perforation after minimal debridement of the edge was done. Appendectomy specimen and the biopsy from the edge of the perforation were sent for histopathological examination. Histological picture of the appendix showed

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typical tubercle with epitheloid cells, Langhan's giant cells and caseous necrosis (Figure 3). Edge from the perforation revealed no features of tuberculosis or any other specific pathology. All investigations for pulmonary and extrapulmonary tuberculosis were negative. Patient was started on category I anti tubercular treatment (ATT). Caecostomy tube was removed on 10th postoperative day and patient was discharged on 12th POD with ATT and on 3 months follow up patient was asymptomatic.

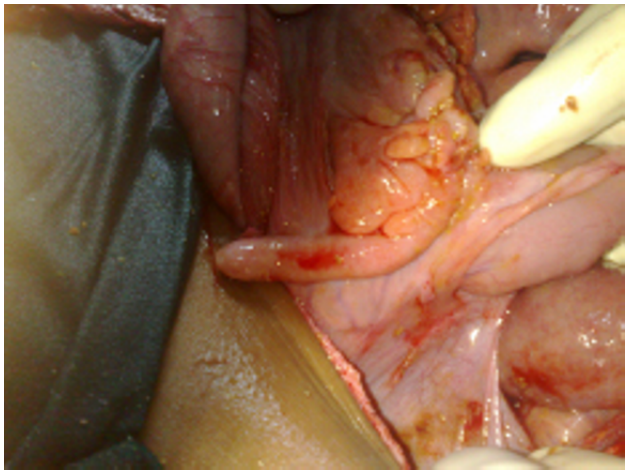

Figure 1. Intra-op picture showing inflammed appendix.

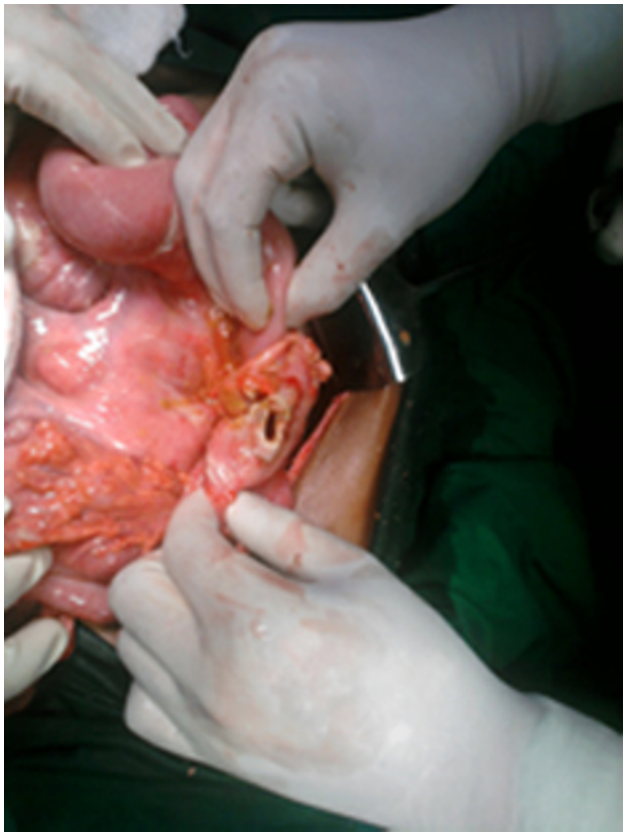

Figure 2. Caecal perforation in the anterior wall with unhealthy margins.

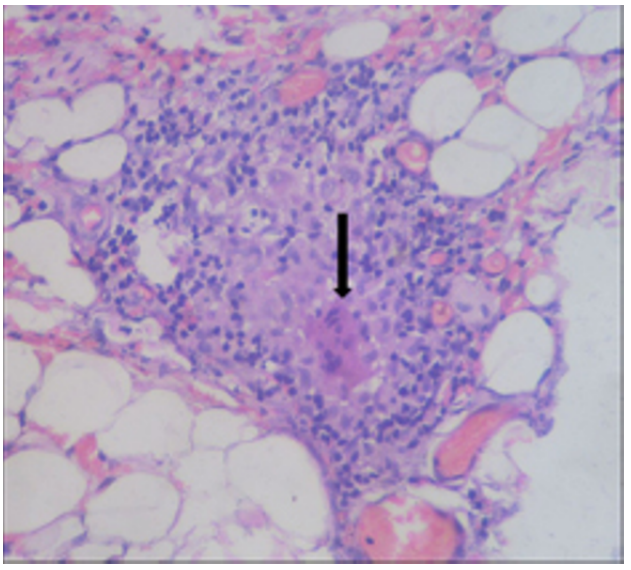

Figure 3. Photomicrograph of appendix showing tubercular granuloma with Langhan's gaint cell.

3. Discussion

Tuberculosis continues to be a significant and relatively more common disease in the developing countries like India and thus even a rare manifestation of this disease needs to be addressed. Secondary intestinal TB constitutes majority of the cases and occur due to swallowing of the bacilli by patients with active pulmonary tuberculosis. Primary intestinal tuberculosis accounts for only 10% of the cases, resulting from ingesting infected milk[2]. Though ileocaecal region accounts for 75% of the GI tuberculosis, primary involvement of appendix is very rare and accounts for only 0.6% to 2.9%[1,3]. This is because the appendix lumen has only minimal contact with intestinal contents. The commonest presentation of appendicular tuberculosis is the chronic form with recurrent episodes of right iliac fossa pain, vomiting and diarrhoea. Other presentations include an acute form with features of acute appendicitis or perforation as in our case, and the latent form which is detected incidentally[2,4,5].

Only 14% of the GI tuberculosis shows features of pulmonary TB in chest x rays. Other investigation like tuberculin test (TST) and the peritoneal fluid culture lacks sensitivity. Though ADA levels have shown high sensitivity and specificity, it is not used as a routine diagnostic tool[6]. Post operative investigations for TB including ADA were negative in our patient. For clinical purpose the diagnosis of primary appendicular tuberculosis can be made if there is absence of tubercular infection by investigations or at laparotomy. The diagnosis in most instances made only after histopathology as like our patient. The prevalence

of tuberculosis in the appendectomy specimens removed surgically for appendicitis is up to 2.9% in the reported studies[3].

Caecal perforation in paediatric and adolescent patients are usually due to acute appendicitis, meckel's diverticulum or hirschprung's disease. Symptoms mimic acute appendicitis and the diagnosis usually made at surgical exploration as in the present case. The aetiology of caecal perforation in this case could not be made as the biopsy from the perforated margin failed to reveal any specific pathology[7,8]. Complications of the untreated appendicular tuberculosis reported in the literature includes lower gastrointestinal haemorrhage, tubercular enterocutaneous fistula which can occur even several years after appendectomy[9,10]. The effective way of diagnosis is subjecting all the surgically removed appendix specimens to histopathological examination, irrespective of the gross appearance during surgery. Given anti-tubercular treatment after appendectomy, patients recover without any systemic or local complications like sinus or fistula formation[2].

Primary tuberculous appendicitis is rarely a cause of inflammation of appendix. The presentation is like conventional appendicitis and diagnosis is usually postoperative. ATT following appendectomy is curative.

Conflict of interest statement

We declare that we have no conflict of interest.

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