

Tuberculous Ileal Perforation in Post-Appendectomy Peri-Operative Period: A Diagnostic Challenge

Vergis Paul¹, Mintu Mary John², Ramanan³, George Abraham⁴,
Varun Govind⁵, Thomas K Joy⁶

¹(General Surgeon and Unit Chief), ²(House Surgeon), ³(Assistant Professor), ⁴(Assistant Professor),
⁵(Post Graduate Resident), ⁶(Final Year Student), MOSC Medical College, Kolenchery.

Abstract: Surgical literature is laden with idioms. This case report is aimed at drawing attention to the aphorism “No two pathologies can co-exist”. We report an unusual presentation of acute appendicitis coexisting with ileal tuberculosis. Although gastrointestinal tuberculosis is a common clinical entity, tuberculous ileal perforation in post appendectomy peri-operative period has not been reported. The patient was a 20yr old male who was referred to our centre following open appendectomy with features of peritonitis. On exploration, we found perforation of terminal ileum for which ileal resection was done. Biopsy revealed tuberculosis of resected specimen. He was started on anti tubercular treatment based on DOTS regimen thereafter. This report brings forth a rare scenario where acute appendicitis and ileal tuberculosis co existed with perforation of ileum in post appendectomy peri-operative period.

Keywords: Tuberculous ileal perforation, acute appendicitis, DOTS, ileostomy

I. Introduction

Tuberculosis remains a worldwide public health problem despite the fact that the causative organism was identified more than 200 years ago and years since implementation of DOTS, the approved therapeutic regimen for tuberculosis. TB is well known for being a mimicker and often poses difficulty in diagnosis. Differential diagnosis for abdominal TB includes Crohn’s disease, vasculitis, neoplasms and other infectious ileitis. Acute appendicitis is considered as one of the elementals of general surgical diseases and is among the commonest surgical emergencies presenting to ER department.

II. Case Report

A 20 year old male, on 6th post open appendectomy day was referred to our centre with features of acute abdomen. His symptoms comprised of high grade post operative fever for 3 days with abdominal distension and loose stools. On examination, he was found to have pallor, icterus and tachycardia. His abdomen was distended with generalised guarding. Haemoglobin was 10gm% and total counts were 12,500/cu.mm The prothrombin time was prolonged with altered LFT. Radiological investigations revealed free air under diaphragm, dilated bowel loops and CECT abdomen showed fluid collection of about 2-3 liters with pneumoperitoneum. Pre appendectomy ultrasound in a local diagnostic centre showed mild mesenteric irregularity with no collections and retrocaecal appendicitis.

Patient underwent emergency laparotomy keeping in mind the possibility of tertiary peritonitis and sepsis or iatrogenic injury. On exploration, feculent peritonitis, gangrenous omentum, perforation in mesenteric border of ileum 6 inches from ileocaecal junction and enlarged mesenteric lymph nodes were seen. Resection of involved segment of ileum with ileo-ileal side to side stapler anastomosis and protective defunctioning loop ileostomy was done. Post operatively, he was started on total parenteral nutrition, was transfused with blood products and recovered well. Histopathological examination of resected specimen showed granulomatous lesions which was suggestive of tuberculosis. Biopsy report of appendectomy specimen from local hospital showed features of recurrent appendicitis.

On detailed history taking we learnt that the patient had been having fever, on and off episodes with evening rise of temperature since 2 years. He also gave a history of abdominal pain, vomiting and loose stools with decreased appetite and significant weight loss. History of malena was present. He had history of contact with neighbour who had pulmonary tuberculosis. Once the diagnosis of ileal tuberculosis was made, he was started on ATT DOTS Category I . Ileostomy reversal was done 3 months later. We also initiated family screening for the patient.

III. Histopathology

Histopathological examination of resected specimen showed granulomatous lesions with peritonitis which was suggestive of tuberculosis, granulomatous lymphadenitis, neutrophilic infiltration and necrosis of the omentum. Histopathological examination from outside local hospital, of the resected appendix specimen showed ulcerated lining, lymphoid follicles with secondary germinal centres, congested serosal blood vessels and chronic inflammatory infiltration suggestive of recurrent appendicitis.

IV. Discussion

Primary intestinal tuberculosis (without pulmonary involvement) is one of the commonest form of extrapulmonary tuberculosis of the third world and developing nations especially threatening with MDR TB in the wake of various immunodeficient states. Intestinal TB develops most commonly after ingesting infected sputum in cases of active tuberculosis. Other routes include haematogenous spread and contiguous spread from adjacent organs. Rarely, infection is caused by ingestion of unpasteurised dairy products (*Mycobacterium bovis*) that leads to a primary infection of the intestine in the absence of pulmonary disease.

The ileocecal area and jejunoleum are the most common sites because of high densities of lymphoid aggregates and physiological status. In studies, the ileocecal region is involved in about 90% of Intestinal TB cases¹.

Tuberculosis in the world wide distribution is not confined to endemic areas. We can attribute the recent spread to atleast four factors: immigration from high risk areas, homosexuals and drug users, the acquired immunodeficiency syndrome and inadequate funding for infection control and for other public health efforts^{2,3}. In majority of cases of tuberculosis, the immune response of the host, balances the destructive efforts of the causative mycobacterium and a state of equilibrium is achieved. However when the resistance of the host is lowered due to poor general condition or lower immunity, the disease will become acute and fulminant⁴. Various precipitating factors for perforation have been mentioned^{5,6}; e.g. malnutrition, chronic illness, parturition, external trauma, intestinal infections and surgery such as in our case.

Co existence of acute appendicitis with ileal tuberculosis has not been reported. It remains unclear whether this is the result of under reporting or patients with tuberculosis being protected from appendicitis by the therapeutic regimen prescribed for tuberculosis.

Tubercular perforations are rarely diagnosed preoperatively. Even in patients known to be sufferers of the disease, the diagnosis of perforated tubercular ulcers cannot be made with certainty. It is of prime importance to routinely send the margins of any perforations for histopathological examination, especially in areas where tuberculosis is endemic⁷. Another important point to keep in mind in association with tuberculosis is HIV co infection and they should be screened for HIV.

Haematological investigations disclose varying degrees of anaemia, leucopenia with relative lymphocytosis and a raised ESR. Mantoux test is usually strongly positive. Intestinal tuberculosis might result in passage of occult blood⁸. Plain radiograph of the abdomen may show calcified nodes, multiple air fluid levels in case of obstruction and free air under diaphragm when perforation occurs. Localised areas of thickening, filling defects, dilated loops and areas of stenosis may be seen. Ultrasonography or CT scan may disclose ascites, mesenteric or intestinal mass, thickening of intestines or dilated loops. Colonoscopy would reveal ulcerations and constricting lesions from which biopsy can be taken for histopathological confirmation. Biopsy of these lesions may reveal caseating granulomas and tubercle bacilli. Anti tubercular chemotherapy should be instituted in all cases of abdominal tuberculosis. Treatment undertaken is as per DOTS regimen. General management includes rest, a high protein diet, parenteral nutrition in selected malnourished patients and other symptomatic therapy. When obstruction or perforation is present release of adhesions, resection and anastomosis of damaged bowel is warranted.

Our patient did not have intraperitoneal collections as per pre operative radiological investigations. From the biopsy of appendicectomy specimen, it is clear that the patient had no perforation of tuberculous ulcer at the time of appendicectomy. It probably perforated in the peri-operative period as the patient was low on reserves as revealed from the history of prolonged illness which led to worsening of an existing tubercular ulcer causing perforation. It posed a diagnostic dilemma when the patient presented with features of acute abdomen especially in the immediate post appendicectomy period.

V. Conclusion

A stitch in time saves nine. An aptly timed laparotomy and resection of bowel saved the life of this patient. Through this case report we would like to emphasize that abdominal tuberculosis is often missed and should be considered as an etiology when patients present with chronic and vague abdominal symptoms often associated with weight loss and altered bowel habits. Possibility of worsening of tuberculous ulcer causing perforation peritonitis in peri-operative period in a debilitated patient of chronic abdominal pain should be considered as a differential diagnosis of peri-operative acute abdomen.

VI. Foot Notes

TB-Tuberculosis, LFT-Liver function tests, ATT-Anti tubercular Treatment, DOTS-Directly Observed Treatment Shortcourse, MDR-Multi Drug Resistant.

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