

Case Report

Synchronic Pulmonary and Intestinal Tuberculosis in an Elderly Patient

Tirado-Peraza AI*, González-Gutiérrez E, Zamudio-Martínez A, Mayagoitia-Ponce A, and Ruiz-Guerrero LI

General Surgery Department, Hospital General de Occidente, Guadalajara, Jalisco, México

*Correspondence to: Tirado-Peraza AI; General Surgery Department, Hospital General de Occidente, Guadalajara, Jalisco, México; Tel: + 52 3312808297; E-mail: ivantirado09@hotmail.com

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ABSTRACT

We present the case of an elderly woman who presented to the ER with acute abdomen. During surgery, a free perforation in terminal ileum was found so ileostomy and resection were made. Pathology examination reported intestinal tuberculosis, and plain thorax radiography showed a classic Ghon complex. We present a brief report of this uncommon entity.

Keywords: *Gastrointestinal Tuberculosis; Mycobacterium tuberculosis Infections; Ileostomy.*

INTRODUCTION

Tuberculosis (TB) is one of the ten causes of death worldwide. Actually, there are nearly 10 million people infected with tuberculosis and 1.3 million died in 2017, its importance lies that the prevalence is increasing in developed countries due to growing number of immune compromised people due to AIDS, immigrant's population and deteriorating in social conditions and cutbacks in public health services.^{1,2}

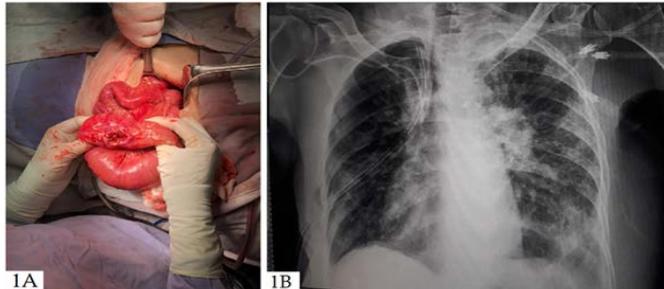
CASE REPORT

A 70-year-old woman, gardener, without chronic diseases presented to the emergency room with history of two days of mild lower abdominal pain that in the past 5 hours had evolved to unbearable, colicky, intense pain, without irradiation. Upon physical examination a distended, tympanic abdomen was found. No sounds were found on auscultation. The patient arrived with clear signs of acute abdomen so she was transferred to the operating room where a laparotomy was performed where there was found a dilated bowel with fibrin patches in the right side of the abdomen, the intestine was attached to the bladder, both with wall thickening data. 30 cm from the ileocecal valve, a free perforation of approximately 1 cm [Figure 1A] was found on the anti mesenteric wall of the

terminal ileum, this area was found thickened, indurated and with lax adhesions. It was decided to perform an intestinal resection of approximately 30 cm, due to data on the hostile abdomen and cavity contamination, a primary anastomosis was not performed and a Brooke-type loop ileostomy was made. Cavity cleaning with saline was performed, finding abundant fibrin without fecal matter. Cavity was aspirated and closed by planes, terminating the procedure. The patient stayed in the intensive care unit for 3 days and then was discharged to the surgery alley where plain chest radiography was performed [Figure 1B] where classic Ghon sign was appreciated. Pathology report was delivered on day seven after procedure and it reported chronic inflammatory process of a caseous granulomatous type with histiocytic proliferation and formation of multinucleated giant Langhans cells with lymph nodes at the mesentery level with granulomatous lymphadenitis secondary to intestinal process. Histochemical staining, positive for Schiff's periodic acid and Ziehl Nielsen staining were performed which showed acid alcohol resistant bacilli. All these findings are compatible with intestinal tuberculosis. Directly Observed Treatment, Short Course (DOTS) was initiated and after 3 days patient was discharged with follow up care from infectious disease clinic.

Figure 1A: Free perforation of the antimesenteric wall of the terminal ileum. Fibrinous patches and thickening of the intestinal wall is also noted.

Figure 1B: Chest radiography where classic Ghon sign is observed: calcified parenchymatous scar. It is also noted a Renke Complex (associated perihilar nodes calcification).



DISCUSSION

The primary site of TB is usually the lung from which it can be disseminated to other organs in the body, being this dissemination spread from adjacent tuberculous lymphadenopathy, hematogenous or primary involvement of extrapulmonary organ.¹ Abdominal tuberculosis includes involvement of the gastrointestinal tract, peritoneum, and lymph nodes, abdominal TB comprises around 5% of all cases of TB worldwide.³ Abdominal TB can affect any of the following sites in the gastrointestinal tract: esophagus, stomach, intestinal tract, peritoneum, pancreas, lymph nodes and hepatobiliary tree.

The pathophysiology of the tuberculous enteritis can be explained by four mechanisms, 1) An hematogenous spread from an active pulmonary site and approximately 15% of patients have concomitant pulmonary TB.¹ 2) Contiguous spread from other affected organs. 3) Being in contact with infected sputum in patients with active pulmonary TB. 4) Contiguous spread from adjacent organs. 5) the ingestion of contaminated milk of food which is common in third world countries.⁴ The bacillus enters in the gastrointestinal tract and traverses the mucosa to the submucosa, in this part of the gut the bacillus induces inflammatory changes like serosal edema, cellular infiltration and lymphatic hyperplasia. Other changes that the bacillus may induce are lymphangitis, endarteritis which can lead to mucosal ulceration, caseating necrosis and finally the narrowing of the intestinal lumen.⁵

The peritoneal TB may occur mostly following reactivation of a latent tuberculous foci peritoneum spread via hematogenous from a primary lung focus.⁶ Peritoneal TB may present with ascites, abdominal pain and fever, usually these symptoms have persisted for months before the diagnosis is established.^{3,7} The most common form of presentation of peritoneal tuberculosis is a patient with abdominal distention, ascites with a serum albumin gradient (SAAG <1.1G/DL),⁷ in the presentation of a patient with abdominal distention and ascites one should always rule out chronic liver disease.

Abdominal lymphadenopathy is the most common form of presentation of abdominal TB. This is explained because the drainage of affected organs runs through the lymph nodes, and the most affected nodes are the mesenteric nodes and omental nodes.¹ On imaging the appearance of affected lymph nodes may vary from the increase on number of the lymph nodes or the augmented appearance of the nodes leading these to the formation of a conglomerate of lymph nodal masses.⁸

However, the most common presentation is enlarged nodes with central areas of caseous necrosis with peripheral enhancement.

The terminal ileum is most commonly involved area, as much as 75% of intestinal TB cases present here,³ this is due to the physiological stasis that occurs and that there is abundant presence of lymphoid tissue, there is an increased rate of absorption in this site and finally there is closer contact of the bacilli with the mucosa.¹ Morphologically in this area the presentation of the lesions can be classified into ulcerative and ulcerous-hypertrophic, the distinction is not clear because these two type of lesion can co-exist, and because the involvement of the area and the lesions the differential diagnosis is Crohn's disease and Lymphoma. The most common complication and presentation of the disease in this area is the bowel obstruction secondary to hyperplastic mural thickening, stricture formation or due to the adhesions.¹

Intestinal TB is still an under diagnosed disease, despite a high index of suspicion it can be difficult to diagnose mostly because the majority of the symptoms are vague and non-specific of the disease, the most common differential diagnoses are Chron's disease and lymphoma.⁹

Radiographic studies may be helpful, a chest x-ray can support our diagnosis if we see pulmonary changes with cavitation like the patient of our case, but this is only observed in 6% of radiographys.⁹ Barium studies can also be helpful were we can see common findings of intestinal TB like the Fleischner sign which is a wide gap between a thickened ileocecal valve and narrowed ileum, so the most helpful imaging modality is the CT that could show us a concentric mural thickening in the ileocecal region, and could show proximal intestinal dilatation, also the CT could show ascites that demonstrate in the setting of peritoneal TB and also could demonstrate enlarged lymph nodes and thickening of the mesentery.^{1,3}

CONCLUSION

The management of intestinal TB in absence of complications is primarily medical and only surgical reserved for the complications, the abdominal TB can mimic any acute surgical condition but pain and other symptoms may respond in the course of 2 weeks with antituberculous chemotherapy. Surgery may be only indicated in patients who present complications such as perforation, fistula, abscess, bleeding or obstruction. Intestinal obstruction is the most common complication; the problem of using antituberculous chemotherapy to treat this episode is that this could exacerbate the obstruction due to healing by cicatrization.³ In case of acute tuberculous peritonitis a peritoneal biopsy is performed and the abdomen is closed in case of intestinal obstruction a small bowel resection is performed and should be conservative as possible, another complication of the obstruction is perforation that is associated with a 30% to 40% of mortality, in this case a primary anastomosis should be avoided because of the contamination in the cavity that has high rates of reperforation and fistulization.¹⁰

CONFLICTS OF INTEREST

None.

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