

Case Report

Plasted abdominal tuberculosis presenting as an obstruction

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Introduction

Peritoneal tuberculosis is uncommon in developed countries, although an increase in this disease has been noted in immigrants from countries with a high prevalence of tuberculosis and in AIDS patients. Abdominal tuberculosis (TB) is the sixth commonest extra-pulmonary TB. TB can spread to the peritoneum through the gastrointestinal tract via mesenteric lymph nodes or directly from the blood, lymph, and fallopian tubes [1,2]. Malignancy and TB may mimic each other leading to misdiagnosis. Ascites of tuberculous peritonitis (TBP) is in exudative form and may commonly be misdiagnosed as carcinomatous peritonitis, especially in the elderly.

Case report

A 15-year-old female complained of abdominal pain and vomiting for 10 days. She had similar episodes off and on since one month, which were relieved with medicine. The patient came to the hospital because she had a sudden onset of severe abdomen pain and abdominal distention. Abdomen examination revealed generalized tenderness and distention; furthermore, a lump was felt on the right side. X-ray of the abdomen in erect or supine position showed multiple air fluid levels and dilated loops. Contrast-enhanced computed tomography (CT) revealed dilated loops and a mass in the ileocaecal region.

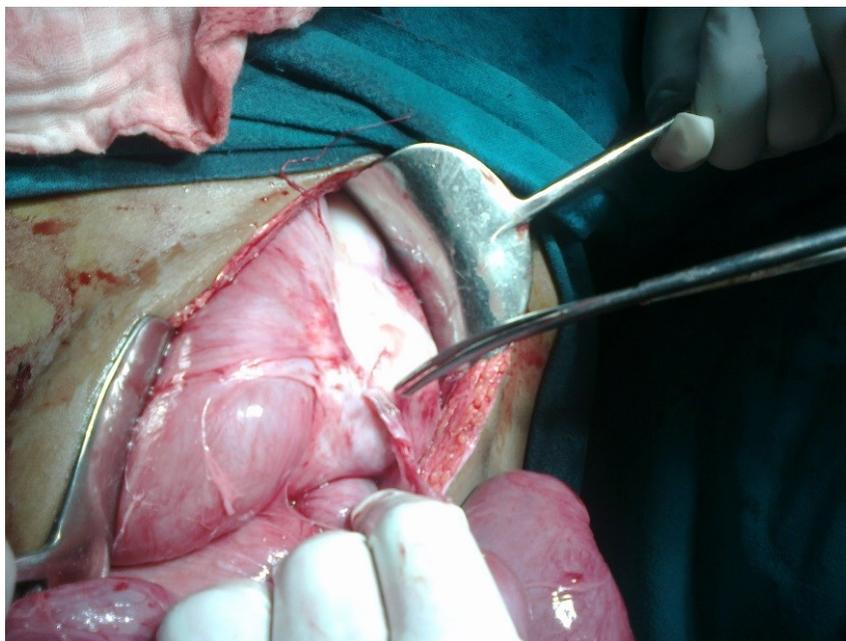
Operative findings revealed an abdominal cocoon and dilated loops (Figure). We found a stricture in the ileum one foot proximal to the ileocaecal junction, which may have been causing an obstruction. Adhesiolysis along an excision of the fibrous bands and strictroplasty was performed, and mesenteric

lymph node and intestinal tissue were taken for biopsy. Acid-fast bacilli in the peritoneal fluid and a positive culture confirmed abdominal tuberculosis. On histopathology, granulomatous inflammatory cells were found, which were compatible with tuberculosis. On the sixth post-operative day, she was put on oral antitubercular therapy (rifampicin, isoniazid, ethambutol and pyrazinamide) along with intramuscular streptomycin-0.75 mg and intravenous amikacin 500 mg once a day. She was discharged on the 12th day following surgery. In follow-up after two months, the patient was doing well without encountering any complications.

Discussion

Intestinal obstruction is a commonly encountered surgical emergency, and usually occurs secondary to intestinal adhesions, bands and obstructed herniae. However, at times, intestinal obstruction may be a result of other causes such as the abdominal cocoon, also known as sclerosing encapsulating peritonitis (SEP), which is a rare condition that is characterized by the encasement of the small bowel by a fibrocollagenic cocoon-like sac. TB is an infrequently implicated cause of abdominal cocoon, and has only occasionally been reported previously in the literature [3].

Abdominal TB is defined as infection of the peritoneum, hollow or solid abdominal organs with mycobacterium tuberculin [4]. The natural course of intestinal TB follows three patterns: ulcerative, hypertrophic, and ulcerohypertrophic. In the ulcerative form, transverse ulcer occurs perpendicular to the bowel axis and may bleed, perforate, or form fistulas.

Figure. Operative picture showing dense fibrosis and dilated bowel

In the less common hypertrophy form, a mass or multiple nodules, with or without caseous or necrosis forms that may mimic malignant neoplasms such as lymphoma or carcinoma, may cause obstruction.

Peritoneal TB and primary peritoneal carcinoma can both present as an abdominal mass and ascites with elevated serum CA125 and should therefore be considered as a differential diagnosis, especially for young women [5]. Before the discovery of effective medical therapy for TB (TBMT) there was no hope for recovery of patients with abdominal TB. Reactive fibrosis of the peritoneum and formation of adhesions with adjacent tissues account for the low incidence of perforation (0% to 11% in adults, 3% to 4% in children, 2.5% to 6% at autopsy, and 20% of all non-appendiceal perforations) reported in literature [6]. Abdominal distention, pain and vomiting, and presence of a soft non-tender mass at abdominal palpation are the clinical features that may help in the preoperative diagnosis of abdominal cocoon [7].

Malignancy and TB may mimic each other, leading to misdiagnosis. Ascites of tuberculous peritonitis (TBP) is in exudative form and may commonly be misdiagnosed as carcinomatous peritonitis, especially in the elderly. Since the clinical manifestations of peritoneal tuberculosis may resemble those of ovarian carcinoma with ascites, abdominopelvic masses, and elevated CA 125, a number of women with this disease are first seen by a

gynecologist [8]. Some authors have postulated that malignancy is the primary lesion, followed by secondary tubercular infection of the malignant ulcer, which might have been facilitated by luminal obstruction, impaired cellular immunity, and loss of the mucosal barrier [9]. However, others have suggested that the longstanding tuberculous ulcer may be carcinogenic [10]. Tuberculous lymphadenitis can mimic malignancy, especially when adherent to adjacent organs. PCR test of the biopsy specimen provides a faster, alternative route for diagnosis with high specificity [11].

Radiologists should be knowledgeable about this rare entity to aid in making a definite diagnosis, which is best made on computed tomography, and thus help in the management of these patients. The final diagnosis of abdominal cocoon is usually made based on surgery and histopathologically. Currently laparoscopy is also used as diagnostic method in acute abdomen conditions to rule out malignancy or tuberculosis by taking tissue biopsy.

References

1. Rasheed S, Zinicola R, Watson D, Bajwa A, McDonald PJ (2007) Intra-abdominal and gastrointestinal tuberculosis. *Colorectal Dis* 9: 773-783.
2. Singal R, Gupta S, Gupta S (2012) Primary abdominal tuberculosis presenting as peritonitis in a young child-managed surgically. *Asian Pac J Trop Med* 5: 413-415.

3. Kaushik R, Punia RP, Mohan H, Attri AK (2006) Tuberculous abdominal cocoon--a report of 6 cases and review of the Literature. *World J Emerg Surg* 27: 1:18.
4. Tariq Al Fawaz, Fahad Al Zamil, Abdulrahman Al Mazrou (2010) Abdominal tuberculosis in children-Case Report. *Curr Pediatr Res* 14: 106-107.
5. Wang D, Zhang JJ, Huang HF, Shen K, Cui QC, Xiang Y (2012) Comparison between peritoneal tuberculosis and primary peritoneal carcinoma: a 16-year, single-center experience. *Chin Med J (Engl)* 18: 3256-3260.
6. Dasgupta A, Singh N, Bhatia A (2009) Abdominal tuberculosis: A histopathological study with special reference to intestinal perforation and mesenteric vasculopathy. *J Lab Physicians* 1: 56-61.
7. Kaur R, Chauhan D, Dalal U, Khurana U (2012) Abdominal cocoon with small bowel obstruction: two case reports. *Abdom Imaging* 37: 275-278.
8. Kaya M, Kaplan MA, Isikdogan A, Celik Y (2011) Differentiation of tuberculous peritonitis from peritonitis carcinomatosa without surgical intervention. *Saudi J Gastroenterol* 17: 312.
9. Randall KJ, Spaldin JE (1946) Simultaneous carcinoma and tuberculosis of the colon: report of a case and review of the literature. *B J Surg* 33: 372-375.
10. Jordan GL Jr and Ekickson EE (1953) Tuberculosis and cancer of the colon. *Am Surg* 19: 121-127.
11. Sayilir A, Kekilli M, Arhan M, Beyazit Y, Celep B, Saşmaz N (2011) Abdominal tuberculosis mimicking gastric submucosal tumor. *Turk J Gastroenterol* 6: 654-655.

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