

Case Report

Disseminated abdominal tuberculosis, an unusual presentation in a healthy adolescent: a case report

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ABSTRACT

Disseminated abdominal tuberculosis is a rare and highly complex disease. With a very low incidence of 2.5% of patient with extrapulmonary tuberculosis and no detected in a timely manner reaches up to a mortality of 8%. We present a rare case of disseminated abdominal tuberculosis in an adolescent that began as a splenic abscess managed with open surgery and clinical-surgical finding of disseminated tuberculosis in the abdominal cavity.

Keywords: Tuberculosis, Abdominal tuberculosis, Spleen, Abscess, *Mycobacterium tuberculosis*

INTRODUCTION

Abdominal tuberculosis, despite being a well-known disease today, remains a medical challenge for its diagnosis.^{1,2} The most affected population is women, in a 2:1 ratio with respect to men and the average age is 21 to 40 years, nowadays it is relatively rare to affect children. Factors associated with the disease are malnutrition, immunosuppression, steroid use, history of solid organ transplantation and diabetes. It is thought to develop by hematogenous dissemination from a primary focus, or via lymphatic spread from solid organ or lymph nodes.^{3,4}

CASE REPORT

A 16-year-old male with a history of left orquidopexy at 7 years without complications, congenital, allergic and traumatic diseases were denied. He began his condition in January 2019 when he presented abdominal pain, intermittent, moderate intensity in left hypocondrium and flank and irradiation to the left shoulder. It is managed with multiple non-steroidal anti-inflammatory drugs and antibiotic therapy without symptom improvement for 1 year. In May 2020 he also presented asthenia, adynamia

and fever quantified at 41°C, accompanied by chills and distal acrocyanosis, predominantly at night, improving with antipyretics.

A study protocol for fever of unknown origin is performed, ruling out immunocompromise due to HIB, SARS COV2 or another infectious entity. Abdominal ultrasound and CT revealed a splenic lesion highly suggestive of an abscess or complicated collection, splenomegaly measuring 13.5×13.8×4.2 cm. He was treated with metronidazole and ceftriaxone for 10 days as well as ultrasound-guided percutaneous drainage, obtaining purulent drainage and culture results without bacterial growth. At end of treatment, it restarted with fever and macular exanthema predominantly in anterior chest and upper extremities, non-pruritic and evanescent.

He was sent to our hospital for evaluation, we performed a CT scan (Figure 1) finding a 13×5.5 cm splenomegaly with two heterogeneous collections of 6×4.2 cm and 3.3×1.6 cm and 17 HU. We started antibiotic therapy with carbapenem and an exploratory laparotomy was performed, finding multiple adhesions of the liver parenchyma to the abdominal wall (Figure 2), multiple

calcified granulomatous implants in the liver parenchyma and small intestine (Figure 3).

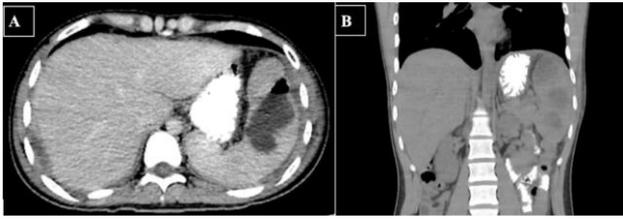


Figure 1 (A and B): CT scan of the abdomen with the presence of a splenic lesion with well-defined borders and the presence of gas inside. CT scan of the abdomen with coronal reconstruction showing the presence of a spleen with increased dimensions of 13.0×5.5 cm with two collections of 6×4.2 cm and 3.3×1.6 cm, with 17 HU.

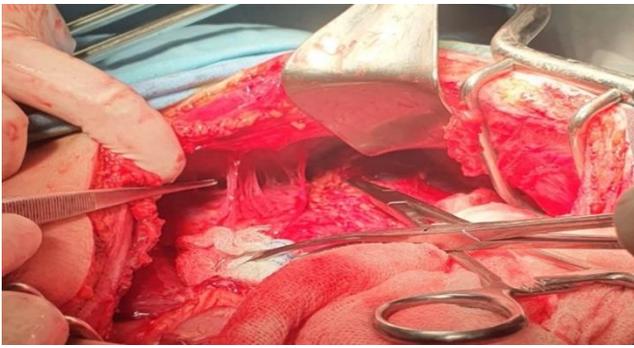


Figure 2: Exploratory laparotomy with the presence of fibroadhesive disease characterized by multiple adhesions of the liver parenchyma to the abdominal wall.

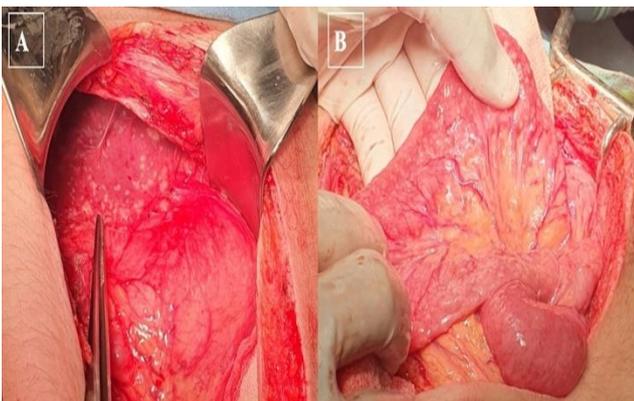


Figure 3 (A and B): Presence of multiple calcified granulomatous implants in the liver parenchyma. Presence of multiple calcified granulomatous implants in the small intestine.

The spleen was firmly adhered to the wall and diaphragm with peritoneal thickening and abundant inflammatory tissue, so splenectomy was performed (Figure 4). The histopathological report of the spleen with dimensions of 13×11×6 cm, rough appearance, diffusely hemorrhagic,

with thick purulent material and caseous appearance with histological changes corresponding to tuberculous granulomas that alternate with extensive necrosis in 30 to 40% of the fields. Positive Ziehl-Neelsen stain. The patient has an adequate postoperative evolution and is treated with antituberculous medication for 9 months and vaccination for pneumococcus and influenza. With a follow-up of the patient for 1 year, with satisfactory evolution and remission of the disease.

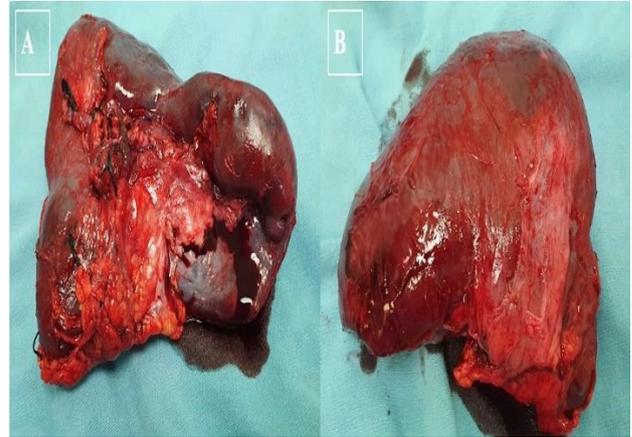


Figure 4 (A and B): Spleen measuring 14×10×5 cm firmly adhered to the wall and diaphragm. Spleen with peritoneal thickening.

DISCUSSION

Abdominal tuberculosis is a disease described as the “Great Imitator”, due to its similarity to Crohn’s disease, lymphoma or gastric malignancy and carcinomatosis. Tuberculosis affects up to 10.4 million new cases worldwide, of which 20% are affected extrapulmonarily and 2.5% gastrointestinally. Up to 15% of patients with abdominal tuberculosis will require a surgical procedure, which is why it is important to know its clinical characteristics to diagnose in a timely manner and avoid associated complications.⁵

Abdominal tuberculosis affects the peritoneum, intestine, liver and spleen. Peritoneal tuberculosis is the most frequent in up to 58% followed by intestinal tuberculosis in 40%. Peritoneal tuberculosis is classified into 3 types; 1) Wet: it is the most frequent and presents with abdominal pain, ascites and fever, 2) Dry: presence of caseating nodules and peritoneal inflammation and 3) Fibroadhesive or “pasty abdomen”: it presents dense adhesions, and omental masses. Its usual clinical presentation is abdominal pain (50-100%), fever (52-76%), weight loss (61%), constipation (7-31%), diarrhea (4.7%) and hepatosplenomegaly (2-8%). Intestinal tuberculosis is classified as ulcerative, hypertrophic, ulcerohypertrophic and fibrotic. The ileocecal area is the most affected in up to 93%, followed by the colon, jejunum and stomach. Its clinical presentation is abdominal pain, changes in bowel movements, hematochezia and intestinal occlusion. Hepatic tuberculosis is presented in up to 80% in its disseminated

form, presenting as pain in the right hypocondrium, nausea, weight loss, fever and up to 30% have jaundice, ascites and splenomegaly. Splenic tuberculosis is related in its disseminated form and is rarest entity, presenting as a splenic abscess. Its clinical presentation is: fever of unknown origin and generalized abdominal pain.

The diagnosis of abdominal tuberculosis is difficult to establish. Clinical manifestations are nonspecific for the disease and last up to months. Abdominal imaging, usually reveals abnormalities, but also nonspecific for the diagnosis. Only clinical suspicion and postoperative surgical findings are the determinants to carry out studies directed for this disease and its prompt diagnosis.^{6,7}

The treatment in most cases is postoperative. Laparoscopic surgery has a great advantage in diagnostic suspicion, significantly reducing morbidity. The most frequently performed surgical treatment is intestinal resection with or without stoma. There is no significant evidence that recommends resection with intestinal anastomosis and the creation of a stoma, however, decreases morbidity in critically ill patients with more than 48 hours of peritonitis and abdominal sepsis.^{8,9} Post-surgical complications include anastomotic leaks, persistent intestinal obstruction, enterocolitis, intussusception, fistula, and hemorrhage.^{10,11}

The definitive treatment is with anti-tuberculous therapy, reducing previous mortality from 50% to 8% with treatment. Comparative treatment of 6 or 12 months has shown a cure rate of 99% and 94% respectively, not statistically significant. In the follow up of patients with peritoneal involvement, abdominal ultrasound is very useful when evaluating the presence of ascites, which in its absence serve as a parameter for resolution of the disease. Other strategies such as increased appetite, improvement in general condition, remission of fever and weight gain, are adequate parameters as an adequate response to treatment. Intestinal obstruction or perforation can occur during or after completion of anti-tuberculous treatment, patient follow up is important to decrease morbidity and mortality.¹²

CONCLUSION

Given the characteristics of our case, which is unusual and great diagnostic complexity. It meets the usual described characteristics of disseminated abdominal tuberculosis due to its presentation, symptoms and topographical findings. Abdominal tuberculosis throughout history has had misconceptions which are important to clarify: abdominal tuberculosis is not always related to pulmonary tuberculosis and it is not a disease of people with few resources; this misconception distracts experienced physicians from proper diagnosis. It is important to note that this pathology requires multidisciplinary monitoring and management to avoid resistance to treatment and recurrence of the disease.

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REFERENCES

1. Abdu-Zidan F, Sheek-Hussein M. Diagnosis of abdominal tuberculosis: lessons learned over 30 years: pectoral assay. *World JE Surg.* 2019;14:1-7.
2. Mandavdhare H, Singh H, Sharma V. Recent advances in the diagnosis and management of abdominal tuberculosis. *EMJ Gastroenterol.* 2017;6(1):52-60.
3. Romero T, Espinosa P, Garcia G, Tuberculosis peritoneal. En: Morales J. *Tratado de Cirugía General, México. Manual Moderno.* 2008;319-21.
4. Roberts S, Newsholme W, Gibson T. Diagnosis and mangement of intra-abdominal tuberculosis. *Brit Jour Hosp Med.* 2018;79(6):86-9.
5. Shreshta S, Ghuliani D. Abdominal Tuberculosis: A retrospective analysis of 45 cases. *Indian J Tuberculosis.* 2016;63:219-24.
6. Gupta A, Splenic Tuberculosis; a comprehensive review of literature. *Pol Przegł Chi.* 2018;90(5):49-51.
7. Beloborodov V, Kelchevskaya E, Frolov A. Abdominal tuberculosis in urgent surgery. *BJMS.* 2019;18(4):796-800.
8. Weledji E, Thumamo B. Abdominal tuberculosis: Is there a role for surgery? *WJ Gastrointest Surg.* 2017;9(8):174-81.
9. Ashfaq Q, Zeeshan M, Fatimah N. Acute Presentation and Management of Abdominal Tuberculosis. *J Coll Physicians Surg Pak.* 2020;30(2):129-33.
10. Hernández J, García L, Morinelli M, Pérez-M, Salazar M, Cardona J. Tuberculosis abdominal en receptor de trasplante renal. Presentación de un caso y revisión de literatura. *Rev Med Inst Mex Seguro Soc.* 2018;56(4):414-7.
11. Arab H, Khan N, Amanullah F, Samad L. Abdominal tuberculosis requiring surgical intervention: A 10-year single- center experience. *J Pediatr Adolesc Surg.* 2020;1.
12. Singh H, Krishnamurthy G, Rajendran J. Surgery for Abdominal Tuberculosis in the Present Era: Experience from a Tertiary-Care Center. *Surg Inf.* 2018;19(6).

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