World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(CASE REPORT)

The great imitator, perforated intestinal tuberculosis during the Puerperium: An atypical presentation: Case Report

Jexon Noriel Guido Treminio [1,*], Rainier Sanders Manzanares [1], Antonia Margarita Gutiérrez Mendoza [1], Luis Enrique García Reyes [2], Dionicio Ocampo Willis [2], Joselyn María Ríos Müller [4], Ana Patricia Somarriba [3], María Mercedes Cubillo Gonzalez [3], Marlon Jasmir Carter Montenegro [2] and Lenner Sevilla Alvarado [1]

[1] *Department of Critical Care Medicine, Sandino Nuevo Amanecer Hospital, Bilwi, Puerto Cabezas, Nicaragua.*
[2] *Department of General Surgery, Sandino Nuevo Amanecer Hospital, Bilwi, Puerto Cabezas, Nicaragua.*
[3] *Department of Gynecology, Obstetrics and Maternal-Fetal Medicine, Sandino Nuevo Amanecer Hospital, Bilwi, Puerto Cabezas, Nicaragua.*
[4] *Department of Radiology, Sandino Nuevo Amanecer Hospital, Bilwi, Puerto Cabezas, Nicaragua.*

World Journal of Advanced Research and Reviews, 2026, 30(03), 2083-2090

Publication history: Received on 17 May 2026; revised on 25 June 2026; accepted on 27 June 2026

Article DOI: https://doi.org/10.30574/wjarr.2026.30.3.1785

Abstract

Abdominal tuberculosis is a rare form of extrapulmonary tuberculosis that presents a diagnostic challenge due to its nonspecific clinical manifestations. Intestinal involvement, especially of the terminal ileum, can progress to serious complications such as obstruction, hemorrhage, or intestinal perforation. During the puerperium, the immunological changes of pregnancy and postpartum can alter the clinical presentation of the disease, leading to initial misdiagnoses. We present the case of a 39-year-old woman in the postpartum period, 30 days postpartum, who presented with unquantified fever, pelvic pain, abnormal vaginal discharge, and diarrhea of three days' duration. Initially diagnosed with complicated puerperal endometritis, she underwent uterine curettage and empirical antibiotic therapy. However, she developed progressive abdominal pain and distension. Computed tomography revealed abundant free fluid and intrauterine gas, prompting a total abdominal hysterectomy. During the procedure, granular lesions were observed in the uterus, peritoneum, and intestine.

Given the persistent clinical deterioration and suspected perforation, an exploratory laparotomy was performed, revealing a perforation of the terminal ileum with fecal contamination. The Xpert MTB/RIF assay in peritoneal fluid and intestinal tissue was positive for Mycobacterium tuberculosis. Intestinal resection, ileostomy, and peritoneal lavage were performed. The patient required ICU management for severe intra-abdominal sepsis and subsequently began antituberculosis treatment with the HRZE regimen, with a favorable outcome. This case highlights the importance of considering intestinal tuberculosis in the differential diagnosis of acute abdomen in the postpartum period and underscores the value of rapid molecular tests for timely diagnosis.

Keywords: Intestinal Tuberculosis; Abdominal Tuberculosis; Puerperium; Intestinal Perforation; Intra-Abdominal Sepsis; Xpert MTB/RIF

1. Introduction

Tuberculosis remains one of the most important infectious diseases worldwide and is a significant cause of morbidity and mortality, especially in low- and middle-income countries. According to the World Health Organization's Global Tuberculosis Report, the disease continues to represent a major public health problem, with millions of new cases diagnosed annually. [1]

* Corresponding author: Jexon Noriel Guido Treminio

Although pulmonary involvement is the predominant clinical form, extrapulmonary tuberculosis comprises approximately 15% to 25% of all reported cases [2]. Within this group, abdominal tuberculosis is a relatively infrequent entity, characterized by a broad clinical spectrum that makes its timely recognition difficult [3].

Abdominal tuberculosis can involve the peritoneum, mesenteric lymph nodes, gastrointestinal tract, and various intra-abdominal solid organs. Gastrointestinal involvement is most frequently observed in the ileocecal region and terminal ileum, due to the abundance of lymphoid tissue associated with Peyer's patches, the relatively slow intestinal transit, and the prolonged exposure of the mucosa to ingested microorganisms. [10]

Clinical manifestations are usually nonspecific and may include fever, chronic abdominal pain, diarrhea, weight loss, anorexia, ascites, abdominal mass, or obstructive symptoms. Consequently, diagnosis is often delayed for weeks or even months. In some cases, the disease remains asymptomatic until the onset of life-threatening complications such as intestinal obstruction, gastrointestinal bleeding, or intestinal perforation. [2,3]

Intestinal perforation secondary to tuberculosis is a rare complication, but it is associated with high morbidity and mortality rates due to the development of generalized peritonitis and abdominal sepsis. In the postpartum period, the coexistence of gynecological and abdominal symptoms can further complicate diagnosis, leading to the initial attribution of the condition to more common obstetric complications [11]. During this period, immunological changes can favor the reactivation of latent or subclinical tuberculosis, which can alter its usual clinical presentation [4,12].

2. Case presentation

We share the case of a female patient with the initials IMMA, 39 years old, from an urban area, 30 days postpartum, classified as late puerperium according to WHO, has no personal history, HIV negative, no history of alcohol or other drug use, denies recent travel outside her place of origin, came to the emergency service due to a clinical picture of three days' evolution characterized by unquantified fever, without hourly predominance, without chills, without night sweats, associated with progressive pelvic pain of moderate colicky intensity, abnormal vaginal discharge, persistent transvaginal bleeding and liquid diarrhea of two days' evolution, without the presence of blood or mucus, denies previous symptoms during pregnancy or the following 30 days postpartum.

Upon admission, an infectious syndrome was documented, associated with gynecological symptoms suggestive of puerperal infection. Urinary tract infection was ruled out with a normal urinalysis, as was respiratory infection via chest X-ray and CT scan. Fecal cytology showed no evidence of gastrointestinal infection. Initial evaluation, including gynecological physical examination and pelvic ultrasound, revealed a subinvoluted uterus, enlarged for the postpartum period, leading to a diagnosis of puerperal endometritis. As part of the initial management, uterine evacuation was performed via curettage, and broad-spectrum empirical antibiotic treatment was initiated, covering common pathogens associated with late-onset endometritis.

Despite the measures implemented, the patient experienced progressive clinical deterioration in the following days, characterized by persistent and increasing leukocytosis, acute renal failure, and increased abdominopelvic pain, significant abdominal distension, and clinical signs consistent with peritoneal irritation. Imaging studies performed during her follow-up demonstrated the presence of free intraperitoneal fluid and findings suggestive of a complex abdominal inflammatory process. Computed tomography of the abdomen and pelvis revealed abundant free intra-abdominal fluid and the presence of gas in the uterine cavity, a finding initially interpreted as persistent severe uterine infection.

Given the suspicion of a persistent gynecological septic focus and the absence of a favorable response to the established treatment, it was decided to perform a total abdominal hysterectomy.

During the surgical procedure, abundant inflammatory fluid was observed in the abdominal cavity, associated with multiple ulcerative and granular lesions distributed over peritoneal surfaces, intestinal loops, and uterine tissue. Although these findings were suggestive of a granulomatous process, they did not allow for a definitive etiological diagnosis at that time; however, samples of granular lesions and the uterus were collected for histopathological study.

Two days after the intervention, the patient continued to experience persistent abdominal pain, progressive distension, and signs of systemic inflammatory response despite medical and surgical management. An abdominal CT scan was performed due to suspected intestinal obstruction or perforation of a hollow viscus. The scan revealed persistent complex fluid in the pelvic cavity associated with distended bowel loops and signs of pneumoperitoneum. Therefore, in

consultation with the general surgery service, a second surgical intervention via exploratory laparotomy was decided upon.

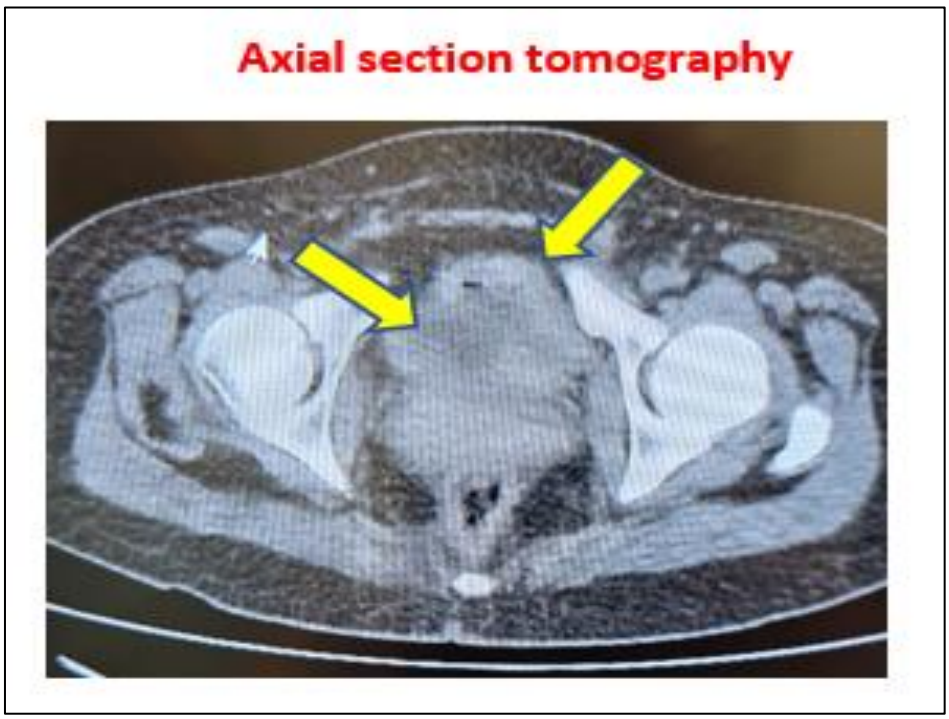
fecal material was found in the abdominal cavity, associated with a perforation located in the terminal ileum. Extensive granulomatous lesions were also observed, involving the visceral and parietal peritoneum, the mesentery, and multiple intestinal segments.

The macroscopic findings observed during surgery led to a strong suspicion of abdominal tuberculosis. Peritoneal fluid and intestinal tissue samples were obtained for microbiological and histopathological examination. Subsequently, resection of the affected intestinal segment, creation of a diverting ileostomy, and thorough peritoneal lavage were performed.

Xpert MTB/RIF molecular test performed on the samples obtained was positive for Mycobacterium tuberculosis with undetected resistance to rifampicin, confirming the diagnosis of perforated intestinal tuberculosis.

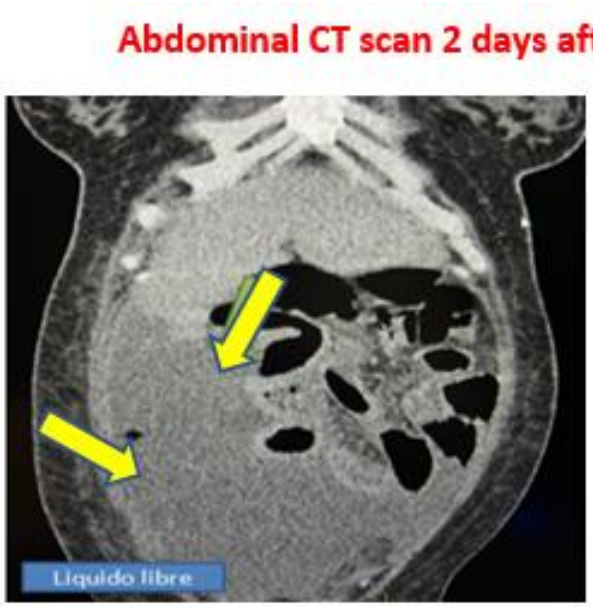
As a result of extensive abdominal contamination and the development of severe intra-abdominal sepsis, the patient remained in the Intensive Care Unit for 6 days under multidisciplinary support, close hemodynamic monitoring, broad-spectrum intravenous antibiotic therapy, and comprehensive management of septic complications.

Once the diagnosis was confirmed, first-line antituberculosis treatment with isoniazid, rifampicin, pyrazinamide, and ethambutol (HRZE) was initiated, in accordance with current international recommendations. The patient's subsequent progress was favorable; she experienced resolution of fever, progressive improvement in abdominal pain, a decrease in inflammatory markers, adequate ileostomy function, and gradual recovery of her overall condition. She was ultimately discharged for outpatient follow-up by the general surgery, internal medicine, and national tuberculosis program services.



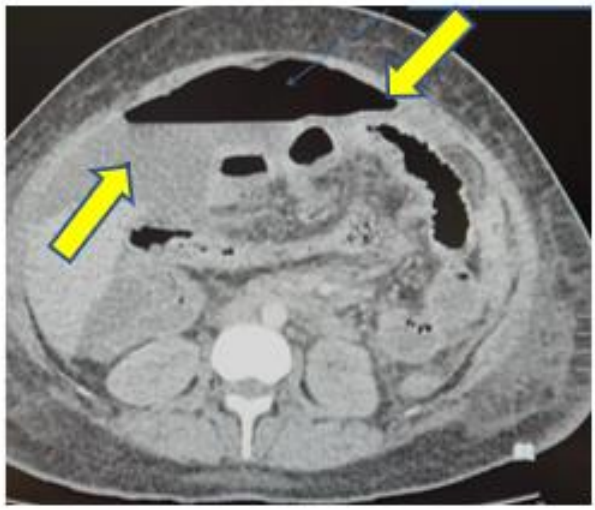
Yellow dates: Enlarged uterus for gestational age, gas bubble inside suggestive of endometrial infection

Figure 1 Initial findings on abdominopelvic computed tomography during the puerperium



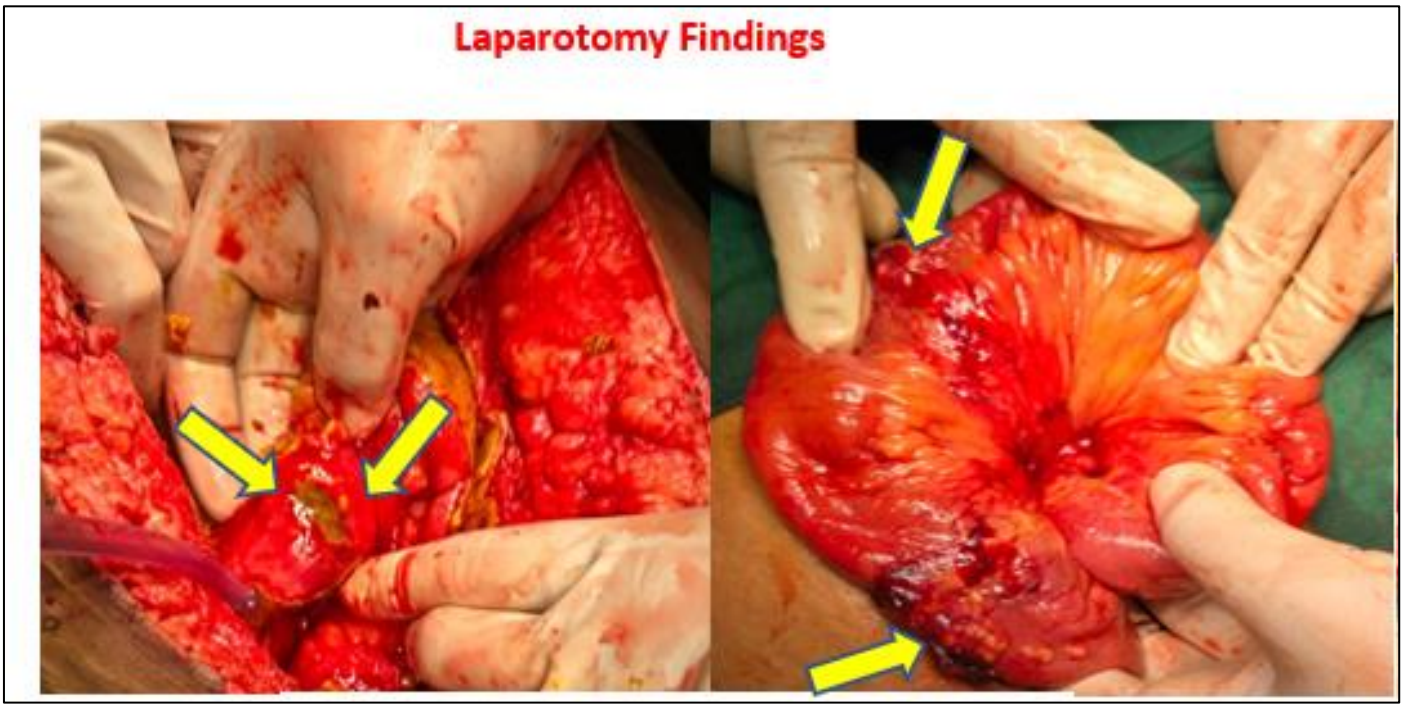
Sagittal CT scan, yellow arrows show abundant free abdominal fluid

Figure 2 Multiplanar computed tomography findings in perforated intestinal tuberculosis.



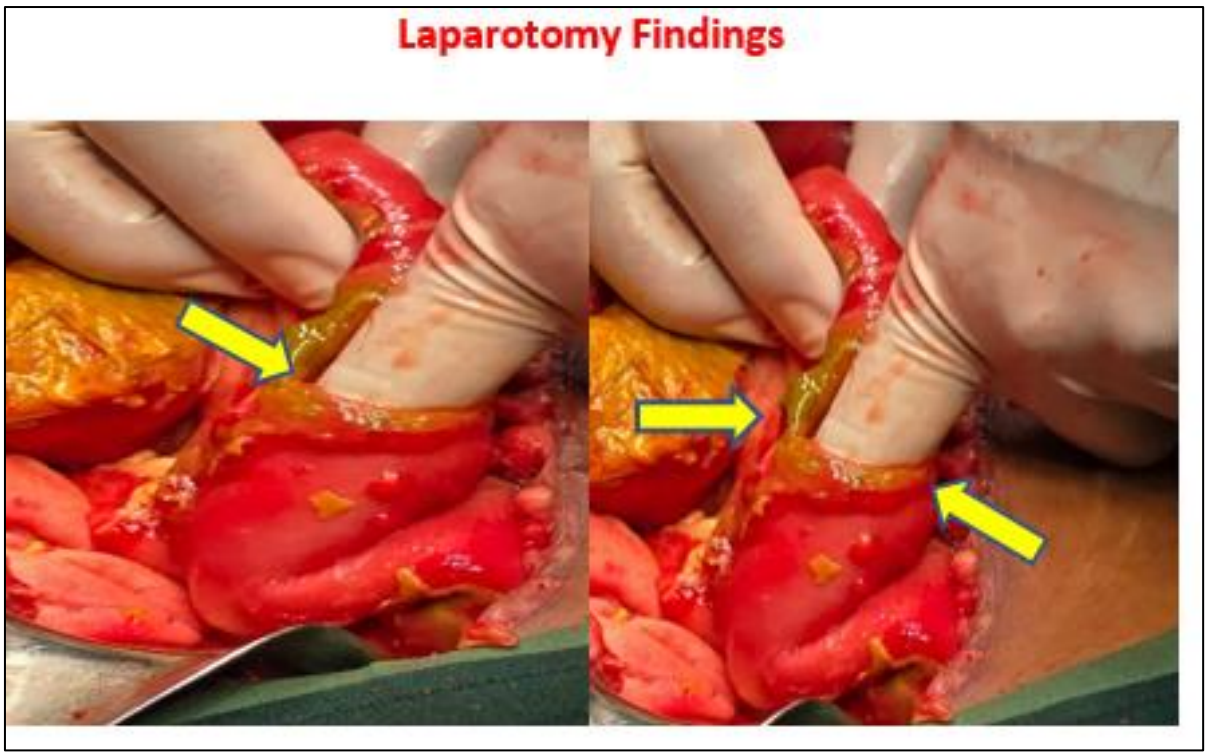
Axial CT scan, yellow arrows show pneumoperitoneum and free abdominal fluid

Figure 3 Multiplanar computed tomography findings in perforated intestinal tuberculosis



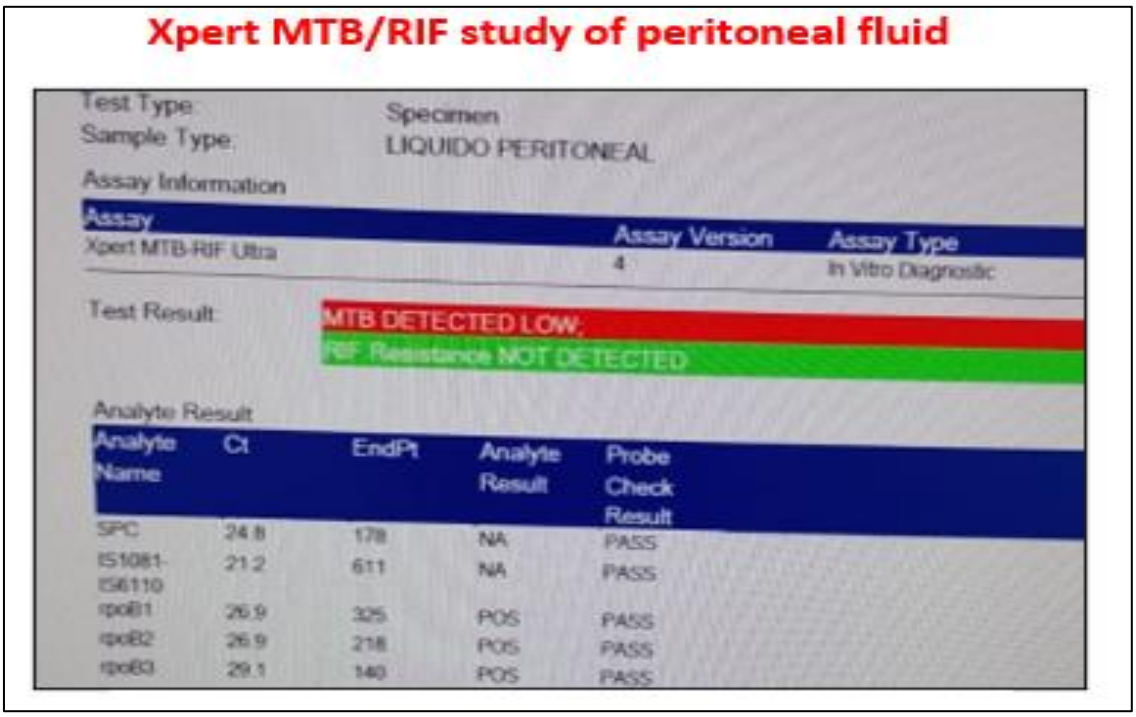
Yellow arrows: Granular and ulcerative lesions in the terminal ileum and near the ileocecal valve

Figure 4 Granulomatous intestinal lesions suggestive of abdominal tuberculosis



Yellow arrows: Intestinal perforation in terminal ileum 30 cm from ileocecal valve

Figure 5 Intestinal perforation secondary to tuberculosis



Mycobacterium tuberculosis detected. Rifampicin resistance not detected.

Figure 6 Molecular confirmation by Xpert MTB/RIF assay

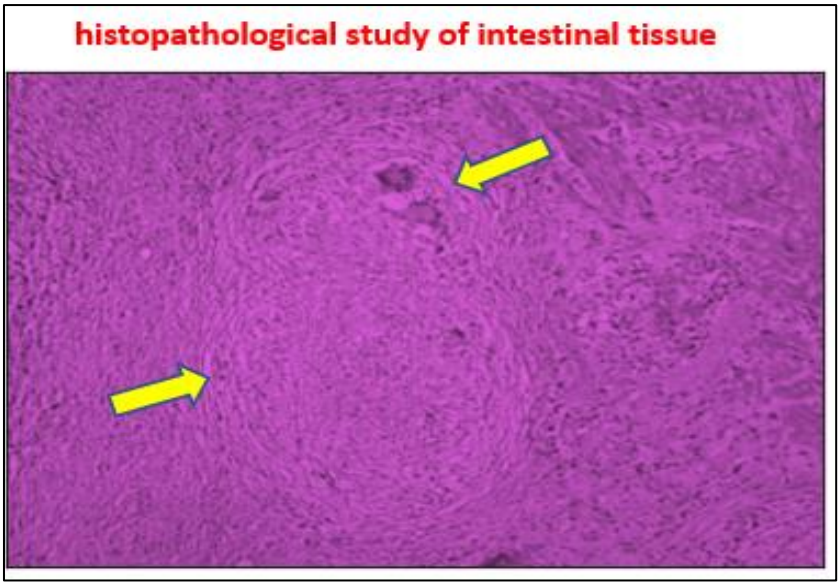


Figure 7 Histopathological findings consistent with tuberculosis

3. Discussion

Intestinal tuberculosis is a rare but clinically significant condition due to the diagnostic challenges it presents. In regions with moderate or high endemicity, this disease should be included in the differential diagnoses of patients with chronic abdominal symptoms or abdominal inflammatory conditions of unclear etiology. [3, 4]

This case illustrates several relevant characteristics of this condition. First, it is noteworthy that it presented during the puerperium, a period associated with significant immunological changes [5]. During gestation, a regulatory immune response predominates, favoring maternal-fetal tolerance. After delivery, there is a progressive restoration of cellular immunity, a phenomenon that can unmask previously latent or subclinical infections, including tuberculosis. [6, 7]

Several authors have described an increase in the incidence of active tuberculosis during the postpartum period, a phenomenon comparable to immune reconstitution inflammatory syndrome observed in other clinical contexts. This mechanism could explain the clinical course observed in our patient. [4].

Another relevant aspect is the initial clinical similarity to a puerperal infection. The presence of fever, pelvic pain, vaginal discharge, and transvaginal bleeding reasonably pointed toward a diagnosis of puerperal endometritis. However, the lack of clinical improvement despite appropriate management was a red flag that required a reconsideration of the initial diagnosis.

The intraoperative identification of multiple granular lesions distributed over the peritoneum and intestine is a classic finding in abdominal tuberculosis. Histopathologically, these lesions correspond to epithelioid granulomas with caseous necrosis and can be confused with peritoneal carcinomatosis, Crohn's disease, disseminated fungal infections, or chronic inflammatory processes. [3, 13]

The terminal ileum is the most common site of intestinal tuberculosis due to the high concentration of lymphoid tissue associated with Peyer's patches. Progressive granulomatous inflammation can lead to transmural ulceration, fibrosis, stenosis, and eventually intestinal perforation. [10]

Intestinal perforation secondary to tuberculosis is an uncommon complication, described in less than 5% of cases reported in the literature. However, when it occurs, it is associated with high mortality rates due to the development of fecal peritonitis , abdominal sepsis, and multiple organ failure. [11, 12]

The Xpert MTB/RIF molecular test played a crucial role in this case. This method allows for the rapid detection of Mycobacterium tuberculosis DNA and the simultaneous identification of rifampicin resistance. Its usefulness in

extrapulmonary samples has been widely demonstrated, achieving a sensitivity and specificity greater than 85%, and it currently constitutes a fundamental diagnostic tool for reducing diagnostic delays. [7,14].

The treatment of complicated intestinal tuberculosis requires a multidisciplinary approach. Surgical control of the infectious focus through intestinal resection and digestive bypass is essential in the presence of perforation. [8] Simultaneously, specific antituberculosis treatment is the cornerstone of definitive management and should be initiated as soon as possible after a diagnosis is suspected. [9]

Our case highlights the importance of maintaining a high index of clinical suspicion in patients with atypical clinical presentations, particularly in areas where tuberculosis remains endemic. It also demonstrates the value of exploratory surgery and rapid molecular testing in identifying rare extrapulmonary forms of the disease.

4. Conclusions

- Intestinal tuberculosis can present during the puerperium mimicking common gynecological and obstetric infections , which favors potentially serious diagnostic delays.
- The persistence of symptoms and the lack of response to conventional treatment should prompt a thorough diagnostic re-evaluation.
- The presence of peritoneal and intestinal granulomatous lesions should raise suspicion of abdominal tuberculosis, especially in endemic regions.
- Perforation of the terminal ileum is an uncommon but potentially fatal complication that requires urgent surgical intervention.
- Rapid molecular tests such as Xpert MTB/RIF represent fundamental tools for the early diagnosis of extrapulmonary tuberculosis.
- Timely recognition and a multidisciplinary approach are essential to improve the prognosis and reduce the morbidity and mortality associated with this disease.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that they have no conflicts of interest related to this publication.

Statement of informed consent

Patient confidentiality was preserved through complete anonymization of clinical data. This report was prepared in accordance with the ethical principles of the Declaration of Helsinki and the CARE recommendations for the publication of case reports.

Financing

The authors declare that this work did not receive funding from public agencies, commercial organizations, or non-profit organizations.

Authors' contributions

All authors participated in the patient's clinical care, data collection, analysis of clinical information, literature review, and manuscript writing.

References

[1] World Health Organization. Global tuberculosis report 2025. Geneva: World Health Organization; 2025.

[2] Sharma MP, Bhatia V. Abdominal tuberculosis. Indian J Med Res. 2022;155(3):267-276.

[3] Debi U, Ravisankar V, Prasad KK, et al. Abdominal tuberculosis of the gastrointestinal tract: revisited. World J Gastroenterol. 2014;20(40):14831-14840.

[4] Mathad JS, Gupta A. Tuberculosis in pregnant and postpartum women: epidemiology, management, and research gaps. Clin Infect Dis. 2012;55(11):1532-1549.

[5] Cunningham FG, et al. Williams Obstetrics. 26th ed. New York: McGraw-Hill; 2022.

[6] Burrill J, Williams CJ, Bain G, et al. Tuberculosis: a radiologic review. Radiographics. 2007;27(5):1255-1273.

[7] Steingart KR, Schiller I, Horne DJ, et al. Xpert MTB/RIF assay for pulmonary tuberculosis and rifampicin resistance. Cochrane Database Syst Rev. 2014;(1):CD009593.

[8] Singer M, Deutschman CS, Seymour CW, et al. The Sepsis-3 definition. JAMA. 2016;315(8):801-810.

[9] Nahid P, Dorman SE, Alipanah N, et al. Official ATS/CDC/IDSA guidelines for tuberculosis treatment. Clin Infect Dis. 2016;63(7): e147-e195.

[10] Horvath KD, Whelan RL. Intestinal tuberculosis: return of an old disease. Am J Gastroenterol. 1998;93(5):692-696.

[11] Kapoor VK. Abdominal tuberculosis. Postgrad Med J. 1998;74(874):459-467.

[12] Mathad JS, Gupta A. Tuberculosis in pregnancy and postpartum period. Clin Chest Med. 2019;40(4):739-747.

[13] Rathi P, Gambhire P. Abdominal tuberculosis. J Assoc Physicians India. 2016; 64:38-47.

[14] World Health Organization. Xpert MTB/RIF implementation manual. Geneva: World Health Organization; 2021.