Archives of Clinical Trials and Case Reports

Bonilla RP, et al., 2023-Arch Clin Trial & Case Rep
Case Report

Intestinal Tuberculosis: Case Report

Rebecca Paredes Bonilla*, Jose Israel Sanchez Martinez

Hospital Enrique Aguilar Cerrato, Hospital Evangelico, Honduras.

***Corresponding Author:** Rebecca Paredes Bonilla, Centro Integral de Salud Alonso Suazo, Doctor in Medical social service, Honduras.

Receiving Date:09-21-2023

Accepted Date: 10-03-2023

Published Date:10-18-2023

Abstract

Tuberculosis, known as one of the greatest challenges in public health, continues to be one of the leading causes of morbidity and mortality in developing countries. Its diagnosis and management have become a challenge for the treating clinician when it presents extrapulmonary dissemination. Intestinal tuberculosis, one of the rarest subtypes, is found in only 2% of tuberculosis cases worldwide.

Below is exposed the case of a man in his early forties who began experiencing long-standing constitutional symptoms. He sought a second medical opinion from the Internal Medicine service and further investigation was carried out. A brief literature review is also included.

Keywords: Gastrointestinal tuberculosis; Extrapulmonary tuberculosis; Case report; Colonoscopy; Ulcerative colitis; Crohn's disease.

Introduction

According to statistics provided by the World Health Organization (WHO), in 2021, approximately 10.6 million cases of tuberculosis were detected worldwide, of which 1.6 million resulted in death, with nearly 12% of cases being immunodeficient [1].

The Global Tuberculosis Report for 2022 indicates that the estimated incidence of tuberculosis in Honduras in 2021 was 33 cases per 100,000 population [2]. Extrapulmonary tuberculosis refers to the hematogenous or lymphatic spread of Mycobacterium tuberculosis to other organs. The most affected sites are the pleura, lymphatic system, digestive tract, and musculoskeletal system.

The clinical manifestations of extrapulmonary tuberculosis vary due to its paucibacillary nature. Abdominal tuberculosis occurs through the reactivation of latent tuberculosis or, less frequently, through the ingestion of mycobacteria via unpasteurized milk or raw meat [3,4]. Intestinal tuberculosis is a rare manifestation in its extrapulmonary spectrum, found in 2% of all tuberculosis cases worldwide.

Narrative

A 41-year-old male patient with a history of pulmonary tuberculosis at the age of 18 and hepatitis B at the age of 20 presented with a nearly year-long history of episodic fever, predominantly during the day and night, with temperatures reaching 38 degrees Celsius, accompanied by chills and sweating that improved with acetaminophen usage. Patient was evaluated at a public hospital where Patient was investigated for fever of unknown origin, and multiple tests yielded normal results. During hospital stay, Patient did not experience fever episodes again and was discharged home with educational guidance, warning signs, and some recommendations. Two months later, Patient developed abdominal pain located in the mesogastrium, described as colicky, with an intensity of 5/10, occurring without a specific pattern or worsening after meals.

Patient also experienced yellow-green diarrhea without foul odor, mucus, or blood. Patient was treated on multiple occasions for bacterial diarrhea syndrome without improvement. Two months later, Patient developed fatigue, weakness, and significant weight loss. Patient decided to consult a specialist, who ordered a colonoscopy that revealed three small ulcers in the ileocecal region (Figure 1).

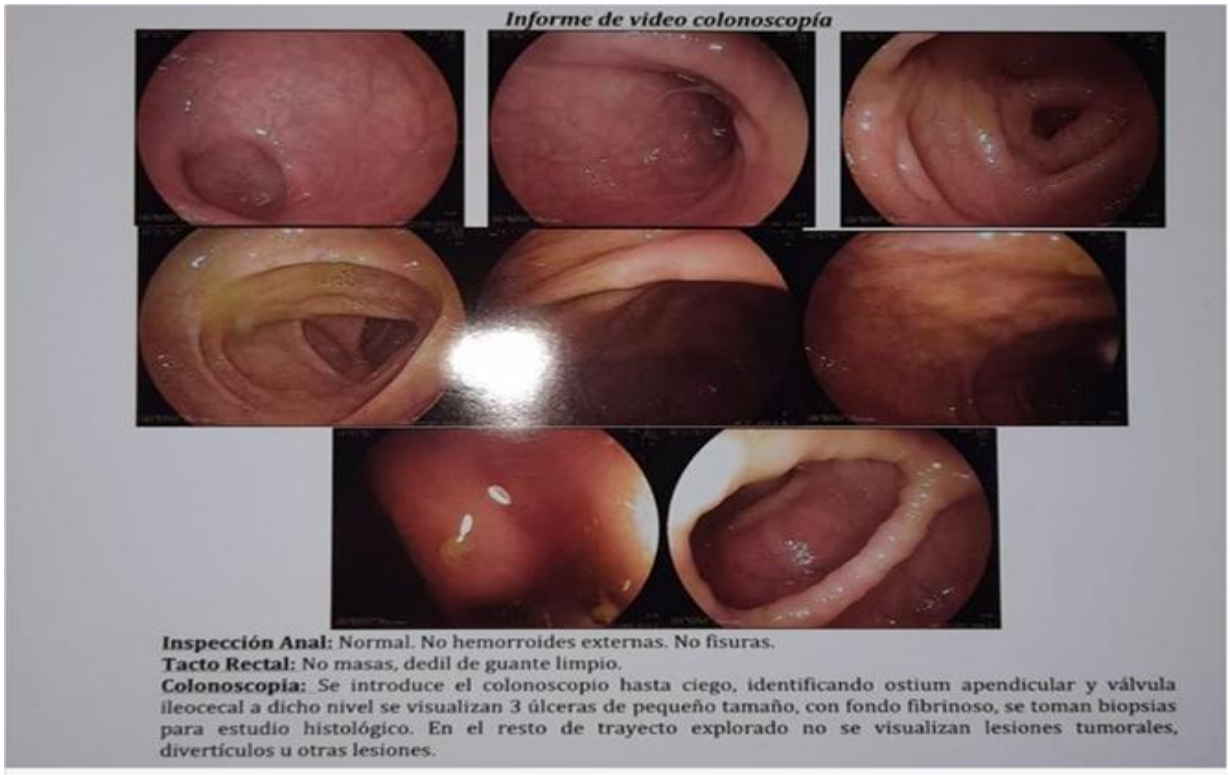
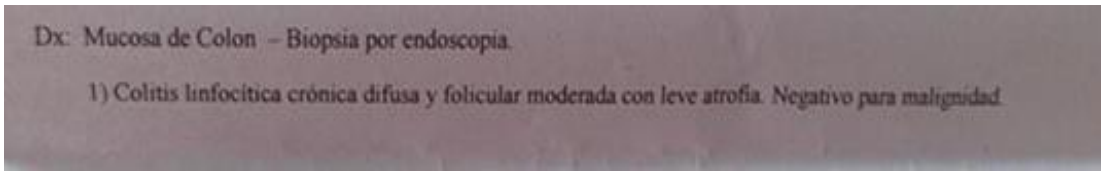


Figure 1: Colonoscopy with evidence of 3 ileocecal ulcers. Rectal Inspection: Normal. No external hemorrhoids. No fissures. Rectal Touch: No masses, clean glove finger. Colonoscopy: The colonoscope is advanced to the cecum, identifying the appendiceal orifice and the ileocecal valve. At that level, three small-sized ulcers with fibrinous bases are visualized. Biopsies are taken for histological examination. No tumorous lesions, diverticula, or other lesions are observed in the rest of the explored tract.

Biopsies of these lesions were taken, and the anatomopathological report indicated evidence of chronic lymphocytic colitis with moderate follicular atrophy, negative

Citation: Bonilla RP, Martinez JIS. Intestinal Tuberculosis: Case Report. Arch Clin Trial & Case Rep. 2023;2(1):188-191.
DOI: https://doi.org/10.37191/Mapsci-ACTCR-2(1)-23

for malignancy (figure 2). The patient was initially treated for ulcerative colitis with mesalamine, but there was no improvement in his symptoms.


Dx: Mucosa de Colon – Biopsia por endoscopia.

1) Colitis linfocítica crónica difusa y folicular moderada con leve atrofia. Negativo para malignidad.

Figure 2: Initial Biopsy Result.

Given the non-specific clinical presentation and the patient's history, the possibility of gastrointestinal Mycobacterium tuberculosis infection was considered.

A second colonoscopy with biopsies was performed, and the samples were sent for culture in the Lowenstein-Jensen medium and nucleic acid amplification using GeneXpert. Three days later, a positive result was obtained. The patient was referred to the infectious disease department for anti-tuberculous therapy (Table 1).

Blood Chemistry	Value	Unit
5/4/2023		
Albumin	2.8	g/dL
ALT (alanine aminotransferase)	39	IU/L
AST (aspartate aminotransferase)	42	IU/L
BUN (blood urea nitrogen)	11	mg/dL
Calcium	9.2	mg/dL
Creatinine	0.9	mg/dL
Glucose	91	mg/dL

Hemogram	Value	Unit
MCV (mean corpuscular volume)	90	fL
Neutrophils	60	%
Platelet count	320	cells/µL
Hb (hemoglobin)	10	g/dL
Hct (hematocrit)	29	%
Lymphocytes	22	%
MCH (mean corpuscular hemoglobin)	33	g/dL

Inflammatory Biomarkers		
CRP (C-reactive protein)	79	mg/dL
ESR (erythrocyte sedimentation rate)	55	mm/1st hour
FC (fecal calprotectin)	55	µg/g

Table 1: Initial laboratory exams were performed before treatment was initiated. Normocytic-normochromic anemia associated with chronic diseases and a rise in inflammatory biomarkers were observed.

Discussion

Abdominal tuberculosis is diagnosed when the gastrointestinal tract, stomach, peritoneum, hepatobiliary tree, pancreas, and abdominal lymph nodes are involved. The most common presentations are peritoneal, intestinal, and nodal [5].

Citation: Bonilla RP, Martinez JIS. Intestinal Tuberculosis: Case Report. Arch Clin Trial & Case Rep. 2023;2(1):188-191.
DOI: https://doi.org/10.37191/Mapsci-ACTCR-2(1)-23

Gastrointestinal tuberculosis predominates in young patients between the ages of 21 and 40. It can present asymptomatically or with non- specific gastrointestinal symptoms, complicating the diagnosis. It is often misdiagnosed as inflammatory bowel disease or abdominal neoplasia due to its non-specificity and unusual disease course [3]. In general, it can manifest with fever, weight loss, abdominal distension and pain, hepatomegaly, ascites, alternating diarrhea and constipation, and intestinal obstruction.

There may also be a palpable abdominal mass in the lower quadrants [3]. The most common intestinal location is the ileocecal region in up to 75% of reported cases, followed by the small intestine, ascending colon, jejunum, appendix, duodenum, sigmoid colon, descending colon, and rectum. The colonic subtype predominates in immunocompromised patients. The involvement of the ileocecal area is attributed to a large amount of lymphatic tissue in the region and the longer contact time of luminal contents with the small intestine, leading to increased digestive absorption. Colonoscopy studies reveal ulcerative or ulcer hypertrophic lesions. Polypoid lesions and luminal strictures are less common. The type of lesion observed is often related to the patient's nutritional status. The ulcerative form has been described in malnourished patients, while the ulcer hypertrophic form is found in patients in better nutritional condition. Colonoscopy findings often include irregular, nodular, erythematous, edematous mucosa with areas of ulceration. This differs from findings in Crohn's disease, where the mucosa surrounding the ulcerations appears normal. Biopsy samples taken during endoscopic studies show caseating granulomas, multiple, larger than 200 µm, affecting the mucosa and submucosa, which are key diagnostic features. Whereas in Crohn's Disease, the affection tends to be segmental, mostly found in the terminal ileum. It is also important to differentiate it from ulcerative colitis, considering its diffused inflammatory pattern with a predilection for the rectum and terminal ileum [6]. Conventional abdominal X-rays may show signs of intestinal obstruction, subdiaphragmatic air in case of associated visceral perforation, calcified lymph nodes, calcified granulomas, and visceromegaly. On the other hand, computed tomography (Ct) scans can reveal thickening of the ileocecal and omental wall up to 3 cm, necrotic ganglion clusters, and mesenteric adenopathy. Modern techniques such as capsule endoscopy, small intestine enterostomy, and quantitative immunological tests for Mycobacterium tuberculosis play a fundamental role in differentiating intestinal tuberculosis from inflammatory bowel disease in any of its presentations [7]. The therapeutic approach to abdominal tuberculosis is practically the same regimen as for pulmonary tuberculosis. Recommended anti-tuberculous therapy includes an induction phase with isoniazid at 5mg/kg, pyrazinamide at a dose of 20 to 25mg/kg, rifampicin at 10mg/kg, and ethambutol at 15 to 20mg/kg for two months, followed by a maintenance phase with isoniazid and rifampicin for 4 to 7 months. The duration of anti-tuberculous therapy ranges from 6 to 9 months, depending on the patient's response. The updated WHO guidelines on tuberculosis modified in 2022 do not recommend the 4-month short-course regimen for patients with extrapulmonary tuberculosis. Regression of active ulcers is expected approximately two to three

Citation: Bonilla RP, Martinez JIS. Intestinal Tuberculosis: Case Report. Arch Clin Trial & Case Rep. 2023;2(1):188-191.
DOI: https://doi.org/10.37191/Mapsci-ACTCR-2(1)-23

months after the start of treatment. It should be noted that therapeutic options vary from patient to patient. In cases of intestinal obstruction with intolerance to oral medication, intravenous therapy, and surgical management should be considered for complications. Similarly, lower therapeutic success has been described in patients with significant intestinal stenosis, although there is controversy in such cases [5]. To date, there is no standardized follow-up colonoscopy, considering the high cure rate with anti-tuberculous therapy. Regression of lesions has been observed in most asymptomatic patients. However, in specific cases, colonoscopy follow-up is not discouraged to ensure mucosal regeneration [5].

Patient Perspective

Due to the patient's non-specific symptoms and prolonged duration of illness, it is important to inquire about the patient's medical history to broaden the diagnostic suspicion. Many cases of chronic gastrointestinal conditions are initially treated as inflammatory bowel disease, either ulcerative colitis or Crohn's disease, due to the inability to specify the histopathological specimens adequately. Therefore, it is essential to determine the topographic distribution and patterns of observed lesions, complemented by laboratory tests and associated clinical findings.

According to consulted reviews, up to half of patients with extrapulmonary tuberculosis also have pulmonary tuberculosis [8], which was not the case for our patient, but Patient had a history of it more than 20 years ago.

Conclusion

Thanks to the diagnostic advances available today, the fusion of clinical, imaging, histopathological, and interventional studies allow for the optimization of the diagnosis of intestinal tuberculosis.

The diagnostic approach chosen will depend on the affected organ. Unlike inflammatory bowel disease, which is followed up endoscopically, extrapulmonary tuberculosis is best diagnosed based on the patient's clinical evolution rather than costly culture and laboratory tests, as the results can be unreliable. Proper handling of biopsy samples to be cultured is recommended, as the use of formalin in the samples destroys the mycobacteria and prevents disease confirmation by culture. In endemic countries, it is mainly advised to consider tuberculosis in cases of clinical non-specificity, where the clinician's intuition will weigh more heavily in reaching a definitive diagnosis and providing timely treatment.

References

1. OPS. Contrato Para La Revisión Y Actualización Del Manual Para La Prevención Y Control De Tuberculosis En Honduras. Org Panamericana de la Salud. p. 1–8.
2. OPS. Tuberculosis. 2021.
3. Sheer TA, Coyle WJ. Gastrointestinal Tuberculosis. Curr Gastroenterol Rep. 2003;5(4):273-8. PubMed | CrossRef
4. Amado Garzón SB, Moreno-Mercado S, Martínez-Vernaza S, Lasso Apráez JI, Lasserna Estrada AF. Extrapulmonary Tuberculosis: A Current Clinical Challenge. Universitas Medica. 2020;61(4):66-79.

Citation: Bonilla RP, Martinez JIS. Intestinal Tuberculosis: Case Report. Arch Clin Trial & Case Rep. 2023;2(1):188-191.
DOI: https://doi.org/10.37191/Mapsci-ACTCR-2(1)-23

5. Suárez-Noya A, González-Bernardo O, Riera-Velasco JR, Suárez A. Intestinal Tuberculosis Mimicking Colon Cancer. Rev Gastroenterol Mex. 2023;88(2):183-186. PubMed | CrossRef
6. Ondřej F, Kamaradová K. Morphology of Inflammatory Bowel Disease (IBD). Ceskoslovenska Patologie. 2022;58(1):27–37.
7. Pulimood AB, Amarapurkar DN, Ghoshal U, Phillip M, Pai CG, Reddy DN, et al. Differentiation of Crohn's Disease from Intestinal Tuberculosis in India in 2010. World J Gastroenterol. 2011;17(4):433-43. PubMed | CrossRef
8. Lee JY. Diagnosis and Treatment of Extrapulmonary Tuberculosis. Tuberc Respir Dis. 2015;78(2):47-55. PubMed | CrossRef