

## Case Report

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# Intestinal tuberculosis in immunocompetent/HIV negative patients: case report of two patients

Eduardo Brambilla<sup>1</sup>, Marcos Dal Ponte<sup>2</sup>, Leonardo Gilmore Ruschel<sup>3</sup>, Pedro Guarise Da Silva<sup>3</sup>

<sup>1</sup>Assistant Professor, Department of Surgical Practice, Center of Biological and Health Sciences, Universidade de Caxias do Sul (UCS) – Caxias do Sul (RS), Brazil; <sup>2</sup>Resident, Service of General Surgery, Hospital Geral, UCS – Caxias do Sul (RS), Brazil; <sup>3</sup>Academician in Medicine, UCS – Caxias do Sul (RS), Brazil.

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**ABSTRACT:** In the past, extrapulmonary tuberculosis affected approximately 70% of patients with advanced pulmonary tuberculosis. However, with the advent of highly effective therapy, intestinal tuberculosis has become rare — even more unusual in patients without immunodeficiency, HIV and pulmonary disease. The purpose of this study was to report the case of two patients diagnosed with intestinal tuberculosis and no immunodeficiency, HIV or lung disease. The first patient was diagnosed by colonoscopy performed in a mass located in the ileocecal region. After the tuberculosis treatment, the patient presented improvement regarding the mass and symptoms. The diagnosis of the second patient was achieved only with surgical resection of the lesion in proximal transverse colon. It is important for health professionals to know that intestinal tuberculosis should be considered as differential diagnosis of intestinal diseases, also for immunocompetent patients, even regarded as a rare disease.

**Keywords:** tuberculosis; tuberculosis, gastrointestinal; case studies.

**RESUMO:** No passado, a tuberculose extrapulmonar acometia cerca de 70% dos pacientes com tuberculose pulmonar avançada. Porém, com o surgimento da terapia de alta eficácia, a tuberculose intestinal tornou-se de ocorrência mais rara — sendo ainda mais incomum de ocorrer em pacientes sem imunodeficiência, HIV e doença pulmonar. O objetivo deste estudo foi apresentar o caso de dois pacientes diagnosticados com tuberculose intestinal, sem sinais de imunodeficiência, HIV ou doença pulmonar. A primeira paciente foi diagnosticada por meio de biópsias realizadas por colonoscopia em uma massa localizada em região ileocecal; após o tratamento da tuberculose a paciente apresentou melhora da lesão e dos sintomas. O diagnóstico do segundo paciente só foi obtido com a ressecção cirúrgica da lesão em cólon transverso proximal. É importante que os profissionais da saúde saibam que a tuberculose intestinal deve ser considerada como diagnóstico diferencial de patologias intestinais, até mesmo em pacientes imunocompetentes, mesmo sendo rara.

**Palavras-chave:** tuberculose; tuberculose gastrointestinal; estudos de caso.

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## INTRODUCTION

*Mycobacterium tuberculosis* infects one third of the world population and causes more deaths than any other infectious agent, except for the HIV<sup>1</sup>. Although this is a disease with practically 100% of the cases healed with the correct treatment, Brazil is among the countries with the lowest rates of morbimortality related to tuberculosis (TB)<sup>2</sup>. Histori-

cally, intestinal TB was observed in around 70% of people with advanced pulmonary disease<sup>3</sup>. But with the advent of effective therapy, it has become a rare disease, corresponding to less than 1% of all cases reported in the United States and Canada<sup>4,5</sup> — no statistical data is available regarding the incidence of extrapulmonary TB in Brazil.

However, it is known that intestinal TB is usually associated with the presence of active or healed pul-

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monary lesions. Intestinal TB is much more frequent in immunocompromised patients<sup>6</sup>, and a complication of pulmonary disease, due to swallow of infected sputum; it may appear in isolated form, due to ingestion of contaminated milk (although rare today), hematogenic dissemination or implantation of continuous-focus bacilli<sup>7</sup>. But further studies are required to explain the occurrence of extrapulmonary infection in seronegative patients, yet, the relation of the disease with abnormal innate immune response has been demonstrated<sup>8</sup>.

We report two cases of intestinal TB in seronegative patients, with the purpose of showing the importance of differential diagnosis of this disease in immunocompetent patients.

## CASE REPORT

### Patient 1

A 25-year-old white female patient complaining of constant abdominal pain for around 2 months in the right iliac fossa, aggravated on the day before the first medical appointment, accompanied by nausea, vomit and 2-kg weight loss. At the physical examination, slightly distended abdomen was observed, with noise, painful at deep palpation, mainly in the right iliac fossa, associated with the presence of palpable mass in the region. No alterations were observed in laboratorial exams. Abdominal radiography showed the small bowel with air until the rectum. Abdominal computed tomography (CT) showed 6-cm mass in the terminal ileum and ganglia in the retroperitoneum.

Through colonoscopy, ulcerated lesions were observed, covered by fibrin in the transverse colon and ascending colon, and inflammatory bulging lesion in the cecum and ileocecal valve, causing deformity and lumen reduction, obstructing the intestinal flow to the terminal ileum (Figure 1). The histopathological analysis of biopsies made in the cecum and ileocecal valve showed positive Ziel-Neelsen tuberculoid granulomas. With the histopathological diagnosis of intestinal TB, the TB treatment was prescribed for 6 months, following the regimen proposed by the National Program of Tuberculosis Control (PNCT), of the Ministry of Health, in force since 2009.

After-treatment colonoscopy showed improvements regarding the ulcerated lesions and inflamma-

tory process that obstructed the intestinal lumen in the ileocecal region, as well as reduced deformity caused by a healing lesion of the lumen of the ascending colon and cecal region.

### Patient 2

A 63-year-old white male patient, with inappetence, nausea and vomit for around 6 months, progressing with intestinal subocclusion in the previous month. He presented the following comorbidities: smoking (43 years/pack), alcoholism (40 years), alcoholic hepatopathy, diabetes mellitus type 2 and partial gastrectomy (B2) performed in 2006 due to stomach cancer/perforated ulcer. Esophageal varices were observed at upper digestive endoscopy.

As initial evaluation, abdominal ultrasonography was performed, which showed mass in the mesogastric region. Then, colonoscopy was performed, which showed stenosing lesion in proximal transverse colon, obstructing the intestinal flow. The lesion biopsy showed an unspecific inflammatory process. Abdominal CT showed a 2.7 cm nodule in the topography of the cecum, reduced lumen and blurring of the adjacent fat. The patient was submitted to right colectomy with ileum-transverse anastomosis.

The histopathological analysis of the surgical specimen confirmed the presence of chronic colitis with multiple tuberculoid granulomas and necrotic colon wall, not involving the ileocecal valve, and necrotic tuberculoid granulomas in eight mesenteric lymph nodes, from total 12 lymph nodes examined by positive acid-alcohol resistant bacillus (BAAR) analysis, with rare bacilli.

After the intervention, the patients evolved with ileocolic fistula, which required the surgical intervention for the abscess draining. Two months after the last surgical intervention, the patient started the TB treatment. One month after he started taking the medication, he developed severe hepatic insufficiency and evolved to death. HIV serology was negative in both patients.

## DISCUSSION

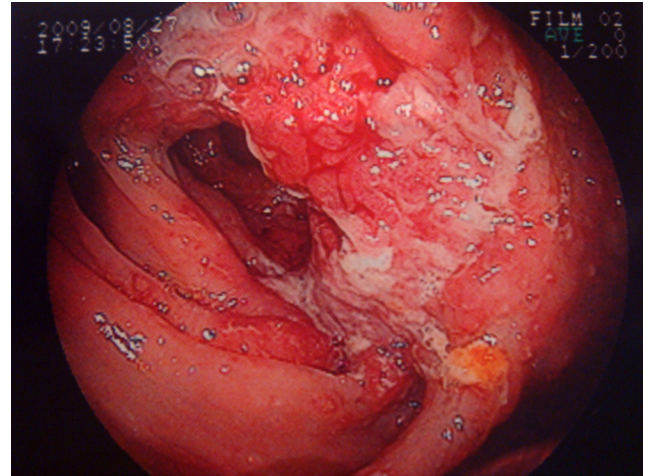
The gastrointestinal tract is the sixth site of extrapulmonary TB location, which may be fully involved. Today, the acquired immune deficiency syndrome (AIDS) and immunosuppression, combined with limited access to treatment and inadequate sanitation system,

favor increased incidence of gastrointestinal TB. In the cases reported here, it is interesting to see that both patients did not have AIDS, which makes the occurrence of intestinal TB an unusual fact. The fact that neither patient had signs of pulmonary infection makes the occurrence of extrapulmonary TB even more infrequent.

The ileocecal region was the most frequently affected site of the gastrointestinal tract, in around 85% of the cases<sup>9</sup>. On the other hand, the gastric involvement is rare, possibly due to the acidity and scarcity of lymphoid tissue and the quick passage of its content to the small bowel<sup>10</sup>. The ileocecal region was the most affected in both cases reported in this study. However, the second patient did not present involvement of the ileocecal valve, as observed in the first patient.

The symptoms of gastrointestinal TB are unspecific, and, in the absence of pulmonary TB, diagnosis becomes extremely difficult<sup>11</sup>. In the cases reported here, serology for HIV was negative in both patients, and they denied previous tuberculosis, with normal thorax radiography. The most frequent symptom is abdominal pain, present in 85-90% of the cases; other symptoms may occur, such as: fever, loss of weight, abdominal distension, diarrhea, nausea, vomit, poor absorption, constipation and weakness<sup>12,13</sup>. The occurrence of low digestive hemorrhage is rare<sup>14</sup>, and the physical examination may show palpable abdominal mass, as observed in the first case presented here.

The diagnostic procedure of choice is colonoscopy combined with biopsy, as it allows the direct visualization of lesions and the access to the ileocecal region in case of no obstructions. CT and ultrasonography show bowel wall thickening at sites that correlate with pathological findings at colonoscopy<sup>15</sup>. PCR may provide a fast diagnosis of extrapulmonary TB, with sensitivity ranging from 64 to 86% and specificity of 100%<sup>16</sup>. These exams are extremely useful to confirm the diagnosis of the disease in most cases. But, in the second case, colonoscopy alone showed the presence of stenosing lesion in the cecum, obstructing the intestinal flow, and the biopsy was not conclusive, only showing the presence of an inflammatory process. Due to this fact, the surgical removal of lesion was indicated, as it involved the assumption of a malignant disease, which was confirmed with the diagnosis of caseous granuloma after the histological analysis of the surgical specimen.



**Figure 1.** Lesion with inflammatory aspect involving the ileocecal valve.

The main differential diagnosis that should be performed in relation to intestinal TB is Crohn's disease, as its clinical, histological and endoscopic characteristics are very similar. Other pathologies considered in the differential diagnosis of TB include lymphoma, carcinoma, diverticular disease, appendicitis and other infections of the gastrointestinal tract, such as *Yersinia*, histoplasmosis, MAC enteritis and infection caused by cytomegalovirus.

The prognoses of the two patients reported in our study were very different: the second patient evolved to death soon after the pharmacological treatment beginning, and the first patient had a successful treatment. The possible reason for the second patient's adverse prognosis may be due to the fact that he presented advanced alcoholic hepatopathy.

Surgery represents the definitive treatment to prevent complications of disease progression, such as fistulas and stenosis. However, the results of treatment of TB individualized to each clinical scenario are usually satisfactory, even in committed hosts, when the therapy started is sufficiently early in the course of the disease. However, the difficulty lies in performing the diagnosis, as many series show significant numbers of patients who die before the disease is diagnosed<sup>17</sup>.

Isolated ileocecal TB frequently reproduces the scenario of malignant neoplasms in the region. Radiological findings are unspecific and the pre-operative diagnosis, based on the biopsies obtained from colo-

noscopy, is only achieved in case of innumerable biopsies repeatedly collected at the same site, thus providing the pathologist with better specimens that can present pathognomonic data of the disease. Soon after the diagnosis is achieved, the specific medication should be readily administered.

Surgery is indicated in case of diagnostic impossibility as a result of acute obstructions and no response to clinical treatment, with lesion removal recommended<sup>18</sup>.

## FINAL COMMENTS

Intestinal TB should be considered as differential diagnosis of patients with vague abdominal symptoms and relevant physical findings, especially in patients with pain and palpable mass in the right lower quadrant of the abdomen, which comes from areas where TB is endemic. It is important for health professionals to know that intestinal tuberculosis may occur in immunocompetent patients, even if the disease occurrence is rare.

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### Correspondence to:

Eduardo Brambilla  
Rua: General Arcy da Rocha Nobrega, 401, sala 705 – Madureira  
95040-000 – Caxias do Sul (RS), Brasil  
E-mail: brambilla.procto@gmail.com