

CASE REPORT: ACUTE ABDOMEN WITH PERFORATION DUE TO INTESTINAL TUBERCULOSIS

Cristiano Hipólito Ferreira

Hospital Geral Waldemar Alcântara

Fortaleza – Ceará

<http://lattes.cnpq.br/7846508751894044>

Yara Pessoa Soares

Hospital Geral Waldemar Alcântara

Fortaleza – Ceará

<http://lattes.cnpq.br/1799061570911961>

Denison de Oliveira Couto Ribeiro

Hospital Geral Waldemar Alcântara

Fortaleza – Ceará

<http://lattes.cnpq.br/9565063786609787>

Francisco Alessandro Braga do Nascimento

Hospital Geral Waldemar Alcântara

Fortaleza – Ceará

<http://lattes.cnpq.br/5733865064174267>

Raquel Feijó de Araújo Ferreira

Hospital Geral Waldemar Alcântara

Fortaleza – Ceará

<http://lattes.cnpq.br/2229718580673558>

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Abstract: Introduction: Tuberculosis is one of the infectious diseases that kills the most in the world, being surpassed in 2020 by Covid-19. It is estimated that in 2020 tuberculosis was responsible for 1.3 million deaths worldwide in people without HIV with 10 million new infections per year. This article will report a case of a rare case of intestinal perforation secondary to tuberculosis. **Objectives:** Report the case of an acute abdomen with perforation due to intestinal tuberculosis. **Methods:** This is a case report and is an observational, descriptive and retrospective study. The data were obtained from medical records and exams carried out on the patient diagnosed with Intestinal Tuberculosis, the main cause of Intestinal Perforation at Hospital Geral Dr. Waldemar Alcântara in the Adult ICU. **Discussion:** An Intestinal tuberculosis is one of the forms of extrapulmonary tuberculosis that is difficult to diagnose as it does not present characteristic symptoms. Generally, cases present with intestinal obstruction, with intestinal perforation being rarer. **Final Considerations:** The patient had an unfavorable outcome, despite the diagnosis and treatment having been initiated, due to other complications related to hospitalization he died. **Keywords:** Tuberculosis and Intestinal Perforation.

INTRODUCTION

Tuberculosis is one of the deadliest infectious diseases in the world, surpassed in 2020 by Covid-19. It is estimated that in 2020 tuberculosis was responsible for 1.3 million deaths worldwide in people without HIV with 10 million new infections per year. In Brazil in 2021, 68,271 new cases were reported with 4,543 deaths in 2020. While high-income countries have an incidence of 10 cases per 100,000 inhabitants, Brazil still has an incidence of 32 cases per 100,000 inhabitants,

being considered one of the 30 countries that are responsible for 87% of tuberculosis cases in the world (MINISTRY OF HEALTH, 2022).

According to Ketata W. 2015 and Atri S. et al, 2021, extrapulmonary forms of tuberculosis represent a group of more diverse pathologies represented mainly by lymph node and pleural tuberculosis followed by articular and urogenital forms. They are more frequent in HIV-infected individuals, in whom they can represent around 50% of tuberculosis cases and are associated with the concomitant pulmonary form.

Intestinal tuberculosis represents 10% of extrapulmonary tuberculosis and mainly affects the peritoneum and intestine (KIN HK, et al, 2017).

This article will contribute to the improvement of the Internal Medicine service for differential diagnosis in acute abdomen with intestinal perforation caused by intestinal tuberculosis.

As it is a rare event and a refined diagnosis, it must be reported in the literature.

OBJECTIVES

GENERAL OBJECTIVE

Report the case of an acute abdomen with perforation due to intestinal tuberculosis.

SPECIFIC OBJECTIVES

- Evaluate epidemiological data;
- Show the clinical outcome.

CASE REPORT

A 34-year-old male patient with a history of alcohol abuse was admitted to the emergency room with hyporexia, disorientation and a dry cough that had started more than 1 month ago. He was febrile, jaundiced, hypoxemic (SPO2 88%, without the use of supplemental oxygen), hypotensive and poorly perfused. It progressed to Type I Respiratory Failure

and shock, requiring the use of Invasive Mechanical Ventilation and vasoactive amine in the emergency room.

Admitted to the ICU, in the initial clinical evaluation, the abdomen was like a board with involuntary defense upon palpation and the Septic Shock worsened 5 days after admission to the emergency room.

In the evaluation of complementary exams, the presence of pneumoperitoneum was identified on the chest x-ray and referred for the surgical approach of Exploratory Laparotomy. The surgical findings were: perforation in the distal ileum 30 cm from the ileum-cecal valve and suffering from an ileum loop 130 cm from the ileum-cecal valve. He underwent segmental enterectomy of both lesions and entero-anastomoses. Material was sent for histopathological study, which identified caseous granulomas with the presence of acid-fast bacillus.

The patient remained hospitalized in the ICU and was started on the RIPE regimen (Rifampicin, Isoniazid, Pyrazinamide and Ethambutol) after surgery, but died with a new Septic Shock. 46 days after admission to the ICU due to Pulmonary Sepsis secondary to Pneumonia associated with mechanical ventilation caused by the multidrug-resistant *Acinetobacter Baumannii* germ.



Figure 1: AP chest x-ray performed in bed. Note the presence of air below the diaphragm (pneumoperitoneum).

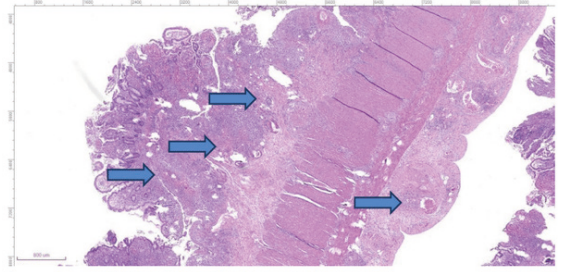


Figure 2. Low-power view of the enteric wall shows a chronic granulomatous inflammatory process characterized by caseous necrosis, evident in multiple transmural foci (arrows) and inflammatory polyps.

In figure 2 there is also a mixed inflammatory process, notably associated with areas of perforation and extending throughout the wall of the segment. In addition, vascular congestion and edema were observed. The exam also revealed a positive result for acid-fast bacilli (AFB) staining, favoring the diagnosis of intestinal tuberculosis (shown in the figures).

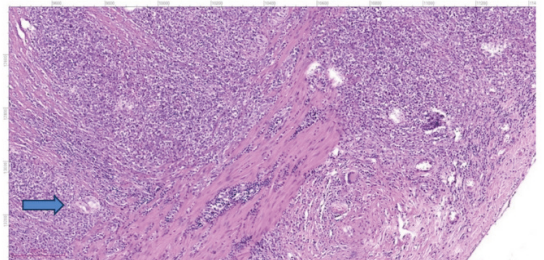


Figure 3: Slide stained with Hematoxylin and Eosin of the intestinal wall and enlarged views of multiple granulomas in the muscularis propria (arrow).

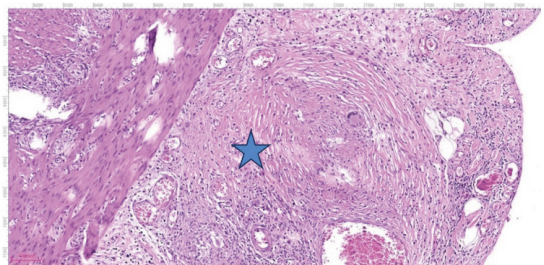


Figure 4: Enlarged views of multiple granulomas in the muscularis propria and serosa (star).

METHODOLOGY

STUDY DESIGN

Case report. Observational, descriptive and retrospective study.

TARGET POPULATION

Patient who was admitted to the ADULT ICU of the Dr. Waldemar Alcântara General Hospital, from January to March 2023, with a diagnosis of Acute Abdomen.

STUDY LOCATION

They were obtained from medical records and exams performed on the patient.

The Dr. Waldemar Alcântara General Hospital emerged in 2002, the result of a process intensely discussed by the technical group of the Health Department of the State of Ceará, with the support of specialized consultancy, where the need for the public health network to have secondary care beds was assessed, in view of overcrowding of tertiary hospital care services in Fortaleza. It has 21 beds in the Adult ICU with intensive care focused on the care of patients with acute or severe chronic diseases, with a specialized multidisciplinary care team.

It was submitted to the Ethics Committee of that hospital.

DATA COLLECTION TECHNIQUE AND INSTRUMENT

For the theoretical basis, a search was carried out in the following databases: Pubmed, LILACS, COCHRANE in articles published in the last 10 years that contained the following descriptors: Tuberculosis and Intestinal Perforation (descriptors found in the VHL with the following codes C01.150.252.410.040, 552,846; C06,405,469,557).

The following inclusion criteria were considered: articles published from 2013 to

2023, full text available, adults over 18 years old, without immunosuppression, without language restrictions. And the exclusion criteria were: pregnant women, postpartum women, children, immunosuppressed people and paid texts.

The risks found in the research were: The possibility of identifying the patient that was resolved by abbreviating their personal data. Other risks will be minimized, as the authors are committed to not disclosing data that could result in patient exposure. Waiver requested for the application of the Informed Consent Form (TCLE). The limits of the research were financial resources, being financed by the authors themselves.

DISCUSSION

Contamination of the abdomen can occur by swallowing bacilli in sputum, hematogenous dissemination, ingestion of contaminated dairy products and by contamination of the peritoneum due to contiguity with lymph nodes or genital organs, as stated by Furin J, Cox H, Pai M, 2019.

Intestinal tuberculosis predominantly affects the ileum, ileocecal valve and cecum, explained by the existence of physiological stasis in the terminal ileum, the richness of this region in lymphoid elements and the alkaline pH favorable to the development of Koch's bacillus, as reported by Michiel L. S., Samuel MV, Frank Z, 2021.

The main symptoms in this form of involvement are fever, weight loss, anorexia, night sweats associated with abdominal cramps, bloating, nausea and constipation, but it may not have characteristic symptoms and can be diagnosed from complications such as gastric obstruction, gastrointestinal bleeding and intestinal perforation. Intestinal tuberculosis with perforation has become rare with treatment, but cases are still reported in the literature by P. Bavor, P. Kocian, J. Hoch,

2015.

The predominant complication is obstruction and perforation are rare because of the surrounding inflammatory fibrosis induced by the ulcer, also described by Sharma S. K, Mohan A, Kohli M, 2021. The difficulty in diagnosis occurs because most patients must undergo by surgery before confirming the disease as described by Sung H. K, et al in 2021.

In the reported case of acute abdomen with intestinal perforation, it was only diagnosed after admission to the intensive care unit. The surgery findings were ileal perforation and loop suffering. The histopathology of the specimen showed caseous necrosis with acid-

fast bacillus in the sample as Sasse D, et al in 2021.

FINAL CONSIDERATIONS

Intestinal tuberculosis is one of the forms of extrapulmonary tuberculosis that is difficult to diagnose as it does not present characteristic symptoms. Generally, cases present with intestinal obstruction, with intestinal perforation being rarer.

The patient presented a significant improvement in his abdominal condition, but ended up dying on the 45th day of hospitalization in the intensive care unit due to pneumonia associated with mechanical ventilation.

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