

ORIGINAL ARTICLE

Sudden Death: The Unseen Danger of Tuberculosis

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HOW TO CITE THIS ARTICLE:

Syed Affridh, Ganesh Rajahan, Venkatesan M. *et al.* Sudden Death: The Unseen Danger of Tuberculosis. Indian J Forensic Med Pathol. 2026; 19(2): 174-178.

ABSTRACT

Tuberculosis still remains a major global health problem, especially in developing countries. Death and prevalence of tuberculosis has been reported worldwide. Tuberculosis usually presents primarily as lung disease with dissemination to the intestines increasing its morbidity. But the challenging part is its vague symptoms. Sudden death following intestinal TB is rare. A case involving a 24-year-old woman was received unconscious at the emergency department with complaints of severe stomach pain and vomiting. Despite resuscitative measures, she was declared dead. The postmortem examination revealed a white, cheese-like area at the apex of her right lung. Thickened dark tissue noted over the ileocecal junction. Histopathology confirmed tuberculosis in both lungs and intestines. Intestinal obstruction was noted at the site of TB involvement. This case highlights the importance of recognizing severe forms of intestinal tuberculosis. This case underlines the vital role of precise medicolegal autopsy and complete histopathological examination in identifying hidden causes of sudden death.

KEYWORDS

• Tuberculosis • Sudden death • Intestinal TB • Intestinal obstruction

INTRODUCTION

Tuberculosis remains one of the major healthcare problems worldwide, especially in developing countries. Many incidental cases

have been reported in lower economic strata.¹ It primarily affects the lungs, extrapulmonary involvement has been noted. These include the lymph nodes, brain, spine, bones, kidneys, and

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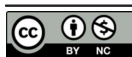
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➤ Received: 24-03-2026 ➤ Accepted: 26-05-2026



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digestive system.² Intestinal tuberculosis is a rarity. It is crucial for the doctors to diagnose promptly. It most often affects the ileocecal region, where the small and large intestines meet. This area has a lot of lymphoid tissue. It also has slower intestinal motility and increased absorption. These features make it more vulnerable to infection.³ People with intestinal tuberculosis usually present with chronic non-specific symptoms.

These include abdominal pain, weight loss, changes in bowel habits, or low-grade fever.⁴ The symptoms mimic other gastrointestinal diseases, such as inflammatory bowel disease, cancer, or infections. This makes early diagnosis difficult. Hence, the disease can go unnoticed or be misdiagnosed for a long time.⁵ Intestinal tuberculosis can lead to serious complications such as intestinal blockage, perforation, or heavy bleeding. Such complications can sometimes lead to sudden death, in delayed diagnosis and treatment.⁶

In case of sudden death without any preexisting comorbidities, a medicolegal autopsy is essential. Microscopic examination of tissues can detect diseases that were previously undiagnosed. Histopathological examination of tuberculosis can show granulomatous inflammation and also reveal epithelioid cells, Langhans-type giant cells, and central caseous necrosis. These are hallmarks of tuberculosis even in the absence of acid fast bacilli.⁷ Detailed histopathological evaluation is recommended.

Case Presentation: The “Unseen” Fatal Complication

A 24-year-old woman was brought to SRMC emergency in an unconscious state with complaints of abdominal pain followed by multiple episodes of vomiting at 10:28 PM on 08/02/2024. On examination, she was unresponsive and not oriented to time, place, or person, and the pulse was absent. Cardiopulmonary resuscitation was initiated; however, despite the efforts, she was declared dead on arrival at the casualty on the same day, 08/02/2024.

Autopsy Findings

Lungs

A white cheese-like area with hemorrhage was present over the apex of the right lung.

Histopathology Report: Necrotizing granulomatous inflammation suggestive of tuberculosis.

Gastrointestinal Tract

The ileocecal region showed blackish discoloration and marked thickening of the bowel wall.

Histopathology Report: Necrotizing granulomatous inflammation consistent with tuberculosis.

Final opinion on cause of death: Acute intestinal obstruction due to a complication of ileocecal tuberculosis.



Figure A: Gross specimen reveals a white cheesy area with hemorrhage present over the apex of the right lung



Figure B: Gross resected specimen reveals blackish discoloration and concentric thickening of the ileocecal wall



Figure C: Shows a circumferential ulcer, which is an open sore that goes around the bowel wall in the terminal ileum, the last part of the small intestine. This ulcer narrows the lumen, or interior passage, creating the typical “napkin-ring” stricture, a ring-shaped narrowing that looks like a napkin ring.



Figure D: Shows a microscopic image stained with Hematoxylin and Eosin (H&E) at 40× and 100× magnification. It reveals epithelioid granulomas. These are clusters of immune cells. The image also displays central caseous necrosis. This means dead tissue with a cheese-like center.

Additionally, Langhans giant cells are observed. These are large, fused immune cells commonly seen in tuberculosis.

Discussion: Mechanisms of Tuberculosis-Related Sudden Death (TBRSD)

Sudden death by intestinal tuberculosis is rare.⁸ Due to slow progression. Early symptoms tend to be vague and hard to detect before complications develop.⁹ Most patients experience chronic abdominal pain, fever, weight loss, and changes in bowel habits. These symptoms can mimic inflammatory bowel disease or cancer.

In this case patient had abdominal pain and repeated vomiting, then suddenly collapsed and died before starting treatment. Research shows intestinal tuberculosis can cause unexpected problems like blockage or perforation.¹⁰ Early symptoms may start slow, making extrapulmonary tuberculosis difficult to diagnose.

The ileocecal region is the most common site for intestinal tuberculosis, likely because it has abundant lymphoid tissue and slow transit of contents.¹¹ Tuberculosis can also thicken the bowel wall, cause strictures, and narrow the passage.¹² In this case, thickened ileocecal wall were noted which probably led to luminal narrowing and intestinal obstruction.¹³ The white, cheese-like lesion was noted in the right lung apex showed pulmonary tuberculosis, suggestive of primary ghon complex. This indicates intestinal infection might have spread from the lungs through the bloodstream

or by swallowing infected sputum [14]. Histopathology played a very important role. Microscopic examination showed necrotizing granulomatous inflammation in both lung and intestinal tissues, which is typical of tuberculosis.¹⁵ Epithelioid granulomas with central caseous necrosis strongly support the diagnosis, even if acid-fast bacilli are hard to find. Similar findings have been reported in other cases of intestinal tuberculosis with obstruction or perforation.¹⁶

Overall, this case shows how important medicolegal autopsy and histopathology are in finding cause in sudden death without comorbidities. Gross examination suggestive of abdominal disease and was confirmed as intestinal tuberculosis in microscopic examination. This highlights the need for careful evaluation during autopsy and histological analysis, especially in areas where tuberculosis is common.

CONCLUSION

Fatal complications from intestinal tuberculosis are rare. when they especially present as sudden, unexpected death without prior clinical suspicion.¹⁷ This type of case show that extrapulmonary tuberculosis may remain clinically asymptomatic until morbid complications occur.

This case emphasizes the vital role of precise medicolegal autopsy and complete histopathological examination in identifying hidden causes of sudden death. A thorough postmortem evaluation not only establishes the precise cause of death but also provide valuable knowledge regarding atypical presentations of common infectious diseases. Documenting such rare occurrence increases clinical awareness, earlier diagnosis of tuberculosis in unexplained abdominal emergencies. This helps in improving medical vigilance and public health measures in regions where tuberculosis remains endemic.

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