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Tuberculous Polyserositis- The Great Mimicker

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ABSTRACT

Tuberculous polyserositis is a rare presentation of tuberculosis, often mimicking metastatic malignancy due to overlapping clinical and radiological features. A patient presenting with breathlessness, fever, weight loss, and abdominal distension was diagnosed with tuberculous polyserositis involving the peritoneum and pleura. Imaging revealed peritoneal and omental thickening, pleural effusion, and abdominal lymphadenopathy, raising suspicion of metastatic disease. Diagnostic evaluation, including pleural fluid analysis, demonstrated elevated ADA levels but negative cytology and Xpert PCR for Mycobacterium tuberculosis. A laparotomy and omental biopsy confirmed tuberculosis through histopathology and Xpert PCR testing. The patient was treated with Antituberculous Therapy (ATT) and supportive care, resulting in symptomatic improvement and discharge after 25 days. This case highlights the necessity of considering tuberculosis in patients with unexplained abdominal and pleural effusions, especially in endemic regions. Positive findings such as elevated ADA levels and imaging features of peritoneal and omental thickening were critical for diagnosis. Early initiation of ATT and supportive measures ensured a favorable outcome, emphasizing the significance of a comprehensive diagnostic strategy and prompt management in cases of tuberculous polyserositis.

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Introduction

Tuberculous polyserositis is an uncommon manifestation of tuberculosis that involves serosal surfaces such as the pleura, peritoneum, and pericardium. Due to its nonspecific presentation, it is often misdiagnosed as metastatic malignancy, leading to delays in treatment. The clinical overlap with malignancy necessitates a thorough diagnostic approach to differentiate between the two. This paper presents a case that underscores the importance of considering tuberculosis as a differential diagnosis in patients with unexplained serosal effusions.

Case Presentation

A 47-year-old male presented with complaints of progressive breathlessness, fever, significant weight loss, and abdominal distension over three months. His medical history was unremarkable, with no known history of tuberculosis or immunosuppression. Physical examination revealed ascites, pleural effusion, and generalized lymphadenopathy.

Investigations

Initial imaging studies, including contrast-enhanced CT scans, revealed peritoneal and omental thickening, pleural effusion, and abdominal lymphadenopathy, raising suspicion of a metastatic malignancy. Laboratory investigations showed:

- Elevated erythrocyte sedimentation rate (ESR)
- High serum adenosine deaminase (ADA) levels
- Negative cytology for malignant cells in pleural and peritoneal fluid
- Negative Xpert MTB/RIF PCR in pleural fluid

A laparotomy was performed, and an omental biopsy was obtained. Histopathological examination confirmed the presence of caseating granulomas, and Xpert MTB/RIF PCR from the biopsy specimen was positive for Mycobacterium tuberculosis, confirming the diagnosis of tuberculous polyserositis.

Treatment and Outcome

The patient was initiated on a standard Antituberculous Therapy (ATT) regimen consisting of isoniazid, rifampicin, pyrazinamide, and ethambutol for two months, followed by isoniazid and rifampicin for an additional four months. Supportive care, including nutritional supplementation and symptom management, was provided. The patient showed significant clinical improvement and was discharged after 25 days.

Discussion

Tuberculous polyserositis is an underrecognized form of extrapulmonary tuberculosis, with symptoms that can mimic malignancy. The presence of ascites, pleural effusion, and weight loss often leads to initial suspicion of metastatic disease. However, certain diagnostic clues, such as elevated ADA levels and imaging findings of peritoneal and omental thickening, suggest tuberculosis as a possible diagnosis.

Histopathology and molecular testing play a crucial role in confirming tuberculosis when routine microbiological tests fail. This case underscores the importance of considering tuberculosis in the differential diagnosis, especially in endemic regions.

Conclusion

Tuberculous polyserositis remains a diagnostic challenge due to its clinical similarity to malignancies. Early recognition and confirmation through histopathology and PCR testing are essential

to prevent delays in treatment. Prompt initiation of ATT leads to favorable outcomes. This case highlights the need for heightened clinical suspicion and a systematic diagnostic approach to ensure timely intervention [1-3].

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