Peritoneal Tuberculosis in an Immunocompetent Patient with Findings of Chronic Liver Disease and Peritoneal Carcinomatosis

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Introduction

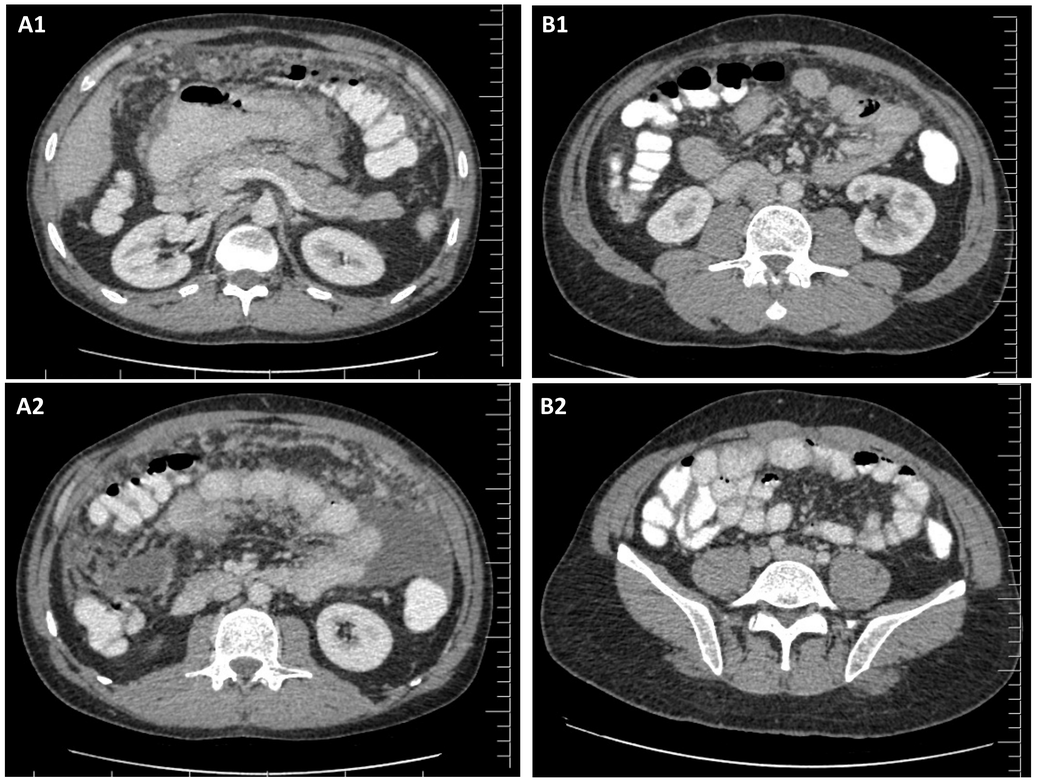
- Peritoneal tuberculosis (PT) accounts for 1-2 % of all tuberculosis cases. Diagnosis of PT can be challenging due to non-specific symptoms, insidious onset, and variable imaging findings.
- We present a case of PT presenting with ascites and imaging studies suggestive of chronic liver disease (CLD), and peritoneal carcinomatosis.

Clinical Presentation

- A 48-year-old man presented to our clinic with complaints of increased abdominal girth, weight loss, and night sweats for the past 3 months.
- Physical exam revealed soft and distended abdomen with shifting dullness. Laboratory tests showed a mild anemia of Hb at 13.0 g/dL (13.1-17.2) and ESR at 34 mm/h (0-15).
- Abdominal ultrasound (US) revealed the presence of free abdominal fluid, and diffuse heterogenous granular liver parenchyma supporting the diagnosis of CLD. His liver tests were within normal ranges.
- Ascitic fluid analysis revealed serum ascites albumin gradient (SAAG) of 0.2 g/dL, WBCs of 1.70 x103 cells/dL (91.8% lymphocytes).
- Ascitic fluid cytology was negative for malignant cells. Ascitic fluid acid-fast bacilli (AFB) test and mycobacterial culture were negative. Adenosine deaminase (ADA) level in ascitic fluid was 108.5 U/L (0-40). Interferon-gamma release assay (IGRA) test was positive.

CT imaging findings; before and after treatment

- Contrast-enhanced computed tomography (CT) scan revealed normal liver parenchyma, diffuse thickening and nodularity of the peritoneum, and thickening of omentum with omental cake appearance.
- CT scan was suggestive of peritoneal carcinomatosis.



A1, A2: Before treatment; axial contrast-enhanced computed tomography scan showing moderate ascites, and diffuse thickening and nodularity of peritoneum. Imaging is suggestive of peritoneal carcinomatosis. **B1, B2:** After treatment; resolution of ascites and peritoneal findings.

Clinical Presentation-continued

- EGD and colonoscopy were unremarkable.
- With consistent clinical history, SAAG< 1.1, ascitic fluid with lymphocytic predominance, high ADA levels, and positive IGRA, a diagnosis of PT was made.
- Anti-tuberculosis treatment was initiated, and the patient's clinical symptoms have improved.
- CT scan at the end of treatment showed the resolution of ascites and peritoneal findings.

Discussion

- Ascites is the most common presenting symptom of PT.
- High suspicion of PT is important in the setting of ascites of unknown origin. Despite the US findings were suggestive of CLD in this patient, CT scan revealed normal liver findings.
- Differing PT from peritoneal carcinomatosis might be challenging due to overlapping findings on imaging.
- Ascitic fluid analysis of SAAG < 1.1, high ADA levels, positive IGRA test should lead towards the diagnosis of PT.
- AFB and mycobacterial culture of the ascitic fluid may often have low diagnostic yield in PT.

Conclusions

- Diagnosis of abdominal TB can be difficult given the non-specific and variable clinical presentation.
- Early diagnosis and treatment of PT are important to prevent morbidity and mortality.