Title: Tuberculous polyserositis in a young woman: a case report

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Abstract**:**
Introduction: Tuberculous polyserositis is an uncommon manifestation of extrapulmonary tuberculosis. The difficulty in obtaining bacteriological confirmation and its nonspecific clinical presentation often delay early diagnosis. This case report describes a young woman presenting with polyserositis whose diagnosis was established based on epidemiological findings, exclusion of alternative diagnoses, and a high clinical suspicion supported by the characteristics of the ascitic fluid. Case Report: A 27-year-old female with a 10 pack-year smoking history and a previous hospitalization for pneumonia four months earlier presented to the emergency department with a five-day history of pleuritic chest pain. Chest computed tomography (CT) revealed enlarged mediastinal lymph nodes and bilateral small pleural effusions, while abdominal CT demonstrated a small amount of free intraperitoneal fluid. During hospitalization, she developed worsening abdominal pain associated with progressive abdominal distension. Abdominal ultrasonography showed a moderate volume of ascites. Diagnostic workup, including serological tests for syphilis, HIV, hepatitis B, and hepatitis C, autoimmune markers, and a molecular test for *Mycobacterium tuberculosis*, yielded negative results. Transvaginal ultrasonography demonstrated a large amount of fluid in the pouch of Douglas, and echocardiography revealed a small pericardial effusion. Diagnostic paracentesis showed a leukocyte count of 320/mm³ with 74% mononuclear cells, total protein of 5.5 g/dL, glucose of 62 mg/dL, lactate dehydrogenase (LDH) of 298 U/L, and adenosine deaminase (ADA) of 53 U/L. Based on these findings, treatment with rifampicin, isoniazid, pyrazinamide, and ethambutol was initiated. The patient was discharged after five days with clinical improvement while awaiting the results of ascitic fluid smear microscopy. Discussion: This case highlights the diagnostic challenges of tuberculous polyserositis due to its nonspecific clinical presentation, the difficulty in obtaining cavitary fluid samples, and the low rate of bacteriological confirmation. Although pleural and pericardial effusions were present, their volumes were insufficient for diagnostic sampling. The exclusion of hepatic, autoimmune, and other infectious etiologies, combined with the patient's epidemiological and socioeconomic background, raised the suspicion of tuberculosis. Elevated ADA levels in the ascitic fluid further supported the diagnosis and justified the initiation of RIPE/HRZE (rifampicin, isoniazid, pyrazinamide, and ethambutol) therapy based on clinical criteria. Conclusion: Polyserositis is a rare manifestation of extrapulmonary tuberculosis with nonspecific clinical features. Treatment with the RIPE regimen may be initiated based on a presumptive clinical diagnosis when the overall clinical, epidemiological, and laboratory findings strongly suggest tuberculosis.