

Answer

Tuberculous Peritonitis

The intraoperative findings, including multiple diffuse involvement of the visceral and parietal peritoneum, white military nodules, ascites, violin string–like fibrinous strands, and omental thickening, as shown herein, typically signify the diagnosis of tuberculous peritonitis. Granulomatous inflammation of the peritoneum with multinucleated giant cells was also demonstrated microscopically. Acid-fast bacilli were found. Fibrous tuberculous peritonitis was confirmed. The patient recovered by using 4 combined antituberculous medications.

The first reported case of tuberculous peritonitis dates back to 1843.¹ Approximately 3.5% of patients with pulmonary tuberculosis have tuberculous peritonitis.² It represents 2% of the causes of ascites.³ According to a summary of 11 series,⁴ 25% to 83% of cases of tuberculous peritonitis are associated with pleuropulmonary tuberculosis. Sixty-two percent of patients have alcoholic liver disease. Continuous ambulatory peritoneal dialysis and human immunodeficiency virus are other risk factors.

Although recognized early historically, the diagnosis of tuberculous peritonitis still poses significant challenges. Clinical features, including fever, abdominal pain, and ascites, are not specific. Ascitic fluid analysis might show predominant lymphocytes and a high protein level (>2.5 g/dL [to convert to grams per liter, multiply by 10]), but results of acid-fast staining of fluid are seldom positive for tuberculous peritonitis. Culture of fluid is positive in only 25% of patients. Polymerase chain reaction, with sensitivity up to 95% in smear-positive patients, was disappointingly low in smear-negative patients with tuberculous peritonitis.⁵ Adenosine deaminase activity in the ascitic fluid seems to be a promising diagnostic measure.⁵

Peritoneal carcinomatosis, sarcoidosis, starch peritonitis, and Crohn disease may mimic the features of tuberculous peritonitis. Peritoneal biopsy, therefore, must be performed to make a diagnosis if no other foci suggest tuberculosis. Currently, to our knowledge, there are no randomized controlled trials comparing image-guided biopsy, laparoscopy, and laparotomy. Laparotomy, however, is reserved for patients with the fibro-adhesive type of tuberculous peritonitis, as in the present patient. Most patients with acute symptoms are diagnosed using only laparotomy.⁶

If left untreated, the overall mortality of tuberculous peritonitis may be as high as 51%.⁷ Epidemiologically

speaking, extrapulmonary tuberculosis is rarely infectious. Transmission is likely, nevertheless, in rare cases of contact with discharge (such as from an open wound) that contains tuberculous bacilli.⁸ Surgeons should be alert for this possibility when performing similar consulting operations.

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Submissions

Due to the overwhelmingly positive response to the Image of the Month, the *Archives of Surgery* has temporarily discontinued accepting submissions for this feature. It is anticipated that requests for submissions will resume in mid 2008. Thank you.