Primary Peritoneal Tuberculosis Presenting as a Huge Cystic Mass

A Case Report

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Introduction

Primary peritoneal tuberculosis without involvement of gastrointestinal tract is still a diagnostic problem. Though peritoneal tuberculosis has become an uncommon disease in developed countries, it is occasionally encountered in endemic areas. Various CT and sonographic findings of peritoneal tuberculosis have been reported but they are not characteristic and many cases could be confirmed by laparotomy and pathologic examination. We report a case of peritoneal tuberculosis presenting as a huge cystic mass with a fluid–fluid level and multiple internal solid materials.

Case Report

A 23 year old male patient presented with progressive abdominal distension for 7 years. On physical examination a large protruding mass was palpated in the abdomen which was firm, not tender, not movable. Routine laboratory examinations including chest X-ray were all normal. Ultrasound showed a large cystic mass in the abdomen. Multiple variable sized solid hyperechoic materials were noted in the dependent portion of the mass. A sharply delineated fluid–fluid level was noted in the mass, upper part was anechoic and lower part was hypoechoic(Fig. 1A). CT also demonstrated a cystic mass measuring about 12x18x20cm in the abdomen. Ascending
colon and small bowel were posterolaterally displaced suggesting intraperitoneal location of the mass. Multiple soft tissue density materials were also noted in the mass some of which contained calcifications. But the fluid–fluid level which was noted on sonography was not demonstrable on CT (Fig. 1B). U.G.I., small bowel series and colon study demonstrated only displaced bowels without mucosal abnormality (Fig. 1C). Preoperative radiological diagnosis was an intraperitoneal cystic tumor such as cystic lymphangioma. At laparotomy an intraperitoneal cystic mass was removed. The capsule adhered densely to the peritoneum and the mesentery. About 3000cc dark brownish colored fluid was evacuated from the cyst and multiple yellowish soft tissue materials were also found in the mass, some of which contained calci-

**Fig. 1A.** Abdominal sonography. A large cystic mass containing multiple internal hyperechoic solid materials. Note a sharply delineated fluid-fluid level in the cystic portion of the mass; The upper part is anechoic and the lower part is hypoechoic.

**Fig. 1B.** Abdominal CT. A well encapsulated cystic mass containing multiple partly calcified soft tissue density materials in the dependent portion. Posterolateral displacement of bowel loops suggest intraperitoneal location of the mass. The fluid-fluid level which was noted on sonography is not shown.

**Fig. 1C.** Delayed film of small bowel series. Small bowel and colon are displaced by the mass but mucosal abnormality is not noted.
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Peritoneal tuberculosis may occur without gastrointestinal tract involvement. Bhansali et al. reported that among the 300 cases of abdominal tuberculosis up to one thirds of patients had lymphadenopathy or peritoneal disease without alimentary canal involvement. Peritoneal tuberculosis on CT may produce some abnormalities such as enlarged mesenteric lymph nodes, high density ascites, diffuse peritoneal enhancement and omental or mesenteric masses. Sonography can also demonstrate ascites and abdominal masses of variable echogenicity. Among these manifestations of peritoneal tuberculosis the intraabdominal mass or abscess type of presentation may be a more difficult diagnostic problem because enlarged mesenteric lymph nodes, omental or mesentric thickening, matted loops of bowels all can be demonstrated as a mass on CT or sonography with variable shape, CT No. or echogenicity. The centraallow density of tuberculous lymphadenopathy has been well known but it is not characteristic for tuberculosis because it may be found occasionally in metastatic malignancy, lymphoma, pyogenic infection and Whipple’s disease. Our case was such a huge mass that preoperative diagnosis was a cystic tumor and tuberculosis was not included in differential diagnosis. The fluid–fluid level which was noted on sonography in our case has not been previously described on the literature to our knowledge. It was probably due to the different components of the cystic fluid that could be delineated on sonography, not on CT.

Usually the caseation necrosis of tuberculosis is cheese–like material, but sometimes it can solidify with or without calcifications and sometimes liquify acquiring a more fluid–like consistency. Our case showed the possible different states of caseation necrosis in peritoneal tuberculosis especially on sonography: supernatent anechoic fluid, dependent hypoechoic fluid and hyperechoic solid materials.

Our case is very unusual for peritoneal tuberculosis but in view of the protean clinical and radiological manifestations, the possibility of peritoneal tuberculosis could be considered even with cystic tumor–like appearance in endemic areas. For there is an effective chemotherapy so good prognosis can be expected if promptly diagnosed, but misdiagnosis of peritoneal tuberculosis is tragic.

REFERENCES