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Case report of a pelvic-peritoneal tuberculosis presenting as an adnexial mass and mimicking ovarian cancer, and a review of the literature

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CASE

A 49-year-old perimenopausal woman, gravida 7, para 5 was referrred to our gynecology clinic for the evaluation of extensive ascites. From her history we learned that she had been admitted to the rheumatology clinic with complaints of arthalgia and fatigue 2 months previously and had been given salazopyrin therapy for the past 2 months with a presumptive diagnosis of rheumatoid or infective arthritis. After 15 days of therapy she started to feel abdominal swelling and distension, had difficulty in breathing and started to feel an epigastric burning sensation. She had not experienced any gynecological complaints other than irregular menses for the past 6 months and had not experienced any weight loss for the past few months. The patient described something like a hot-flush during the nights, but there were no measured body temperatures available so it was impossible to make the discrimination between fever and hot-flush.

Abdomino-pelvic CT (computerized tomography) demonstrated mild splenomegaly, lobulation of the uterine contours and hypodens lesions on the right side of the myometrium and extensive ascites in the abdomen. Transvaginal ultrasound was irrelevant except for a 25 x 31 mm pure cystic right adnexial mass. Doppler ultrasound confirmed a 26 x 22 x 26 mm right adnexial cystic mass, with no solid components and no pathological blood flows or impedence measures. Laboratory findings were all within normal ranges except for an elevated eritrocyte sedimentation rate and CA 125 (normal range is 0–35) which were 84 and 844.8 respectively. Liver function tests and viral and immunologic markers were in normal ranges or negative. On the basis of these findings we planned an exploratory laparotomy with the presumption of ovarian cancer. For this age, a chest x-ray is not a routine procedure of our clinic, therefore we did not take a chest x-ray before the operation. The day before the operation, about a month later than the first one, we performed another transvaginal ultrasound and found that the right adnexial cystic mass lesion had increased in size to 57 x 51 mm. At laparotomy, miliary deposits were seen on the hemidiaphragmatic surfaces, the surface of the liver, the peritoneal surfaces covering the abdominal walls and on the serozal surfaces of the small bowels, which were at first sight misdiagnosed as metastatic lesions of ovarian cancer. A 50 x 50 mm cystic mass originating from the right ovary and a 30 x 40 mm plaque on the mesentery of the ileum (which was thought to

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be a metastatic lesion) were also detected. When dissecting the adnexial cystic mass from the periphery, a purulent material spilled out. Intraoperative frozen section of the ovarian mass and the ileal mesenteric lesion showed granulomatious inflammation. Total abdominal hysterectomy, a bilateral salphingoopherectomy and total omentectomy were performed. The final histologic report confirmed necrotizing granulomatas in the left ovary, both tubes, the seroza of the uterus, omentum and the mesentery of the ileum that were consistent with tuberculosis. Simple serous cyst of the right ovary and intramural leiomyoma of the uterus were also reported. No live organism was detected on the postoperative histopathologic evaluation. Postoperative chest x-ray revealed pleurisy on the left side and opasity in the right lung. Postoperative skin reaction to injection of purified protein derivative was of 20 mm. Postoperative thoracic CT revealed lymphadenopathies (the maximum being 22 mm), linear atelectasis and bronchiectasis in the lungs, which are findings in accordance with tuberculosis infection. The patient was discharged from the hospital on quadruple drug therapy (isoniazid, rifampisin, ethambutol and pyrazinamide) for 9 months.

DISCUSSION

Pelvic tuberculosis, which occurs more frequently in women, classically presents with pelvic pain, infertility, poor general health or menstural disturbances. However, tuberculous pelvic disease may also create an adnexal mass, ascites or both and thus can be difficult to distinguish from an ovarian malignancy. Our patient presented with an adnexial cystic mass, extensive ascites and elevated CA 125 level, which led us to the diagnosis of an ovarian cancer preoperatively. The fast progress of ascites accumulation (within 2 months) and the cystic right adnexial lesion increasing in size from approximately 30 mm to 50 mm within a month or so were highly suggestive of a malignant disease. Though we could not show an acid-fast microorganism by Ziehl-Nielsen stain, or culture the microorganism from the specimens obtained at laparotomy; due to clinical and histological findings we concluded that this was a case of pelvic-peritoneal tuberculosis. The lesions in the lungs and the lymphadenopathies observed in the thorax by CT-scan resolved after 9 months of anti-tuberculosis treatment, which further confirms our diagnosis. In this case we had the evidence to believe that this was a metastatic ovarian cancer, but the histological findings helped us to make the right diagnosis. If the diagnosis could have been made before the operation then it would have been wise to postpone it until after treatment with antibiotics to reduce the risk of infectious complications. As it was only after the operation that the diagnosis was made, a heavy drug regimen was initiated for the sake of preventing the spread and complications of tuberculosis.

When the patient presents with abdominal pain, ascites and pelvic mass, discrimination between other abdominal pathologies and advanced ovarian cancer is extremely difficult. CA 125, which is a tumor-associated antigen, is a non-spesific marker of ovarian cancer and may be a misleading parameter, as it is elevated in a variety of conditions such as infections, tuberculosis, endometriosis, Meig's syndrome, menstruation, ovarian hyperstimulation and a number of non-gynecologic conditions like active hepatitis, acute pancreatitis, pericarditis, pneumonia, etc[1–3]. However, ovarian cancer remains the first dignostic consideration, and for this purpose, peritoneal and/or mass tissue acquisition for pathological study is mandatory. Since ascitic fluid analysis for mycobacteria provides only about 25% of the tuberculosis peritonitis diagnosis[4], peritoneal tissue study is often required and is recommended. An elevated ADA (Adenine diaminase) level in the serous cavity fluid is now considered to be a perfect marker[5] for the diagnosis of tuberculosis, but many centers, including ours do not use it routinely as an exclusive data for the daignosis.

There are 14 reports[1–11] of similar cases that we have found; 15 of these patients were reported to have ascites, nine of them had pelvic masses and five had pleural effusions. In two of the cases the effusion being scant. In three of these patients ADA levels in ascitic fluid were investigated and found to be elevated. In two cases CA 125 levels were quantified in the peritoneal fluid and found

to be higher than the corresponding serum levels, hence it seems likely that peritoneal mesothelial cells release this marker into the peritoneum and from there it passes into the bloodstream[4].

Pelvic tuberculosis should always be kept in mind for the differential diagnosis of a patient with adnexial mass and ascites, especially in those patients at high-risk (from countries where tuberculosis and AIDS are prevalant and patients have compromised general health).

REFERENCES

1. Sinha P, Johson AN, Chidamberan-Pillai S. Pelvic tuberculosis: an uncommon gynaecological problem presenting as ovarian mass. *BJOG* 2000;107:139–40
2. Groutz A, Carmon E, Gat A. Peritoneal tuberculosis versus advanced ovarian cancer: a diagnostic dilemma. *Obstet Gynecol* 1998;9:868
3. DiSaia PJ, Creasman WT. *Clinical Gynecologic Oncology*, 5th edn. 1997:290–1, 536–9
4. Nistal de Paz F, Herrero fernandez B, Perez Simon R, *et al*. Pelvic-peritoneal tuberculosis simulating ovarian carcinoma: report of three cases with elevation of the CA 125. *Am J Gastroenterol* 1996;91:1660–1
5. Marshall JB. Tuberculosis of the gastrointestinal tract and peritoneum. *Am J Gastroenterol* 1993;88:989–99
6. Irwin Wp Jr, Rice LW, Andersen WA. Abdominal tuberculosis mimicking metastatic ovarian carcinoma.*Obstet Gynecol* 1998;92:709
7. Penna L, Manyonda Y, Amias A. Intraabdominal miliary tuberculosis presenting as disseminated ovarian carcinoma with ascites and raised CA 125. *Br J Obstet Gynaecol* 1993;100:1051–3
8. Gürgan T, Zeyneloğlu H, Urman B, *et al*. Pelvic-peritoneal tuberculosis with elevated serum and peritoneal fluid CA 125 levels. A report of two cases. *Gynecol Obstet Invest* 1993;53:60–1
9. Hoffman MS. Peritoneal tuberculosis, large ovarian thecoma and elevated CA 125 mimicking ovarian carcinoma. *J Florida Med Assoc* 1989;76:388–9
10. Okazaki K, Mizuno K, Katoh K, *et al*. Tuberculous peritonitis with extraordinarily high serum CA 125(case report). *J Med* 1992;23:353–61
11. Bankier AA, Herold C. Abdominal tubercolosis mimicking a gynecologic tumor. *AJR* 1993; 161:211–2

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