

Peritoneal tuberculosis mimicking ovarian cancer

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ABSTRACT

Peritoneal tuberculosis is a frequent form of abdominal tuberculosis. As clinical and laboratory findings mimicking many other abdominal pathologies, especially ovarian cancer, differential diagnosis is difficult. Here, we report a woman presented with abdominal pain in her lower abdominal quadrant. There were uncertain bordered bilateral adnexial masses, ascite, peritoneal nodular thickening and lytic lesion with soft tissue component at 11th thoracal vertebra at computed tomography. CA 125 level was 445.7 U/ml and positron emission tomography was resulted in favour of metastasis for lesion at thoracal vertebra. The patient underwent expletory laparotomy with suspicion of ovarian cancer but peritoneal biopsy taken from nodular lesions was reported as caseating granulomatous inflammation in favour of peritoneal tuberculosis. As differentiation between tuberculosis and malignancy is too difficult, these two possibilities should be part of the differential diagnosis.

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1. Introduction

Tuberculosis is one of the most important medical problems of developing countries. The causative organism is mycobacterium tuberculosis and prominent risk factors are immunosuppression, infections, especially Human Immunodeficiency Virus (HIV), poor economic condition, malnutrition and contact to patient infected with tuberculosis bacillus in close area (Panoskaltis et al., 2000).

While primary infection site is the lung, tuberculosis can affect other organs and systems like abdominal tuberculosis. Peritoneal tuberculosis is a frequent form of abdominal tuberculosis and seen in 1-3% of all cases (Lantheaume et al., 2003). The bacillus reaches peritoneal cavity by direct intestine wall, genital organs or haematogenous route from primary pulmonary focus (Julien, 2003). The clinical and laboratory findings of peritoneal tuberculosis can cause difficulties in differential diagnosis. Because of abdominal pain and distension, weight loss, cystic or solid masses, ascites and elevated CA 125 levels, peritoneal tuberculosis usually mimickings ovarian cancer (Barutcu et al., 2002; Piura et al., 2002).

In this case, we report a patient who was attended to hos-

pital with abdominal pain and underwent exploratory laparotomy with suspicion of ovarian cancer because of ascites, adnexal masses and elevated CA 125 levels and intraoperatively diagnosed as peritoneal tuberculosis.

2. Case

A 40-year-old, gravida 0 parity 0 woman presented with abdominal pain in lower abdominal quadrant for two months. The patient had a history of unexplained infertility for which two unsuccessful invitro fertilizations were performed. She had no systemic disease like pulmonary tuberculosis and had three previous surgery; cholecystectomy, laparoscopy and laparotomy which were performed for benign ovarian cysts. On physical examination, the patient's blood pressure was 100/60 mmHg, heart rate was 70 beat/min and she was febrile. There was slight tenderness in her lower abdominal quadrant. There were bilateral mobile adnexial masses on pelvic examination and there was no pathologic result at cervical smear. Radiologic studies were performed in order; transvaginal ultrasonography (TVUSG) findings showed left ovarian cyst measured 50x60 mm in diameter and free flu-

id in douglas. At computed tomography (CT) of abdomen, there were uncertain bordered right adnexial mass, bilobule left ovarian cystic mass, ascite (Fig. 1), nodular thickening on peritonea resembling peritoneal carcinomatosis (Fig. 2), lymphadenopathies with cystic-necrotic areas looking like metastasis in mesentery region and lytic lesion with soft tissue component on 11th thoracal vertebra (Fig. 3).



Fig. 1. Uncertain bordered right adnexial mass, bilobule left ovarian cystic mass and ascite at abdominal CT

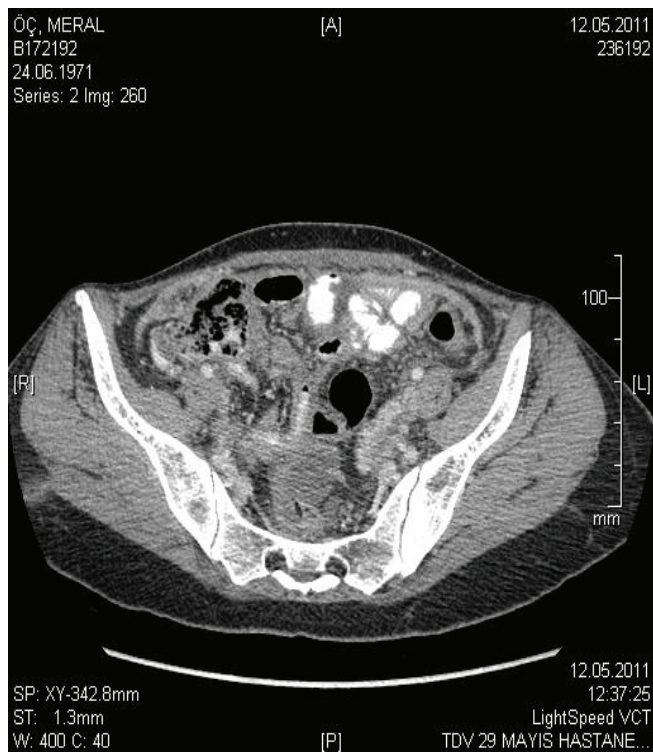


Fig. 2. Nodular thickening on peritonea resembling peritoneal carcinomatosis at abdominal CT

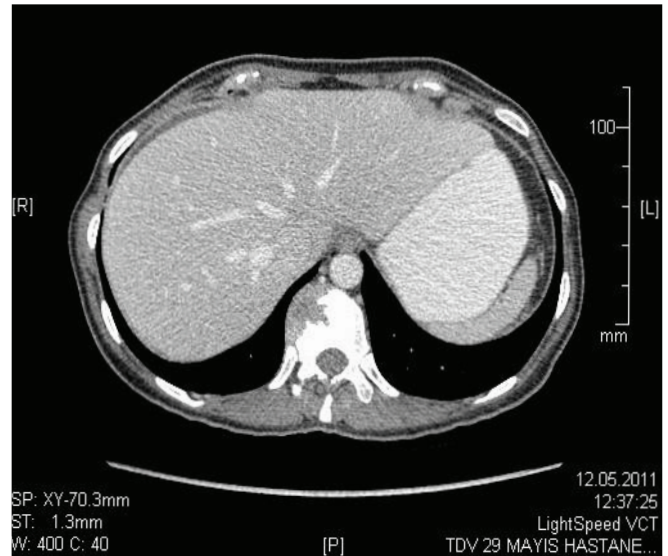


Fig. 3. Lytic lesion with soft tissue component on 11th thoracal vertebra at abdominal CT

There were no pathologic findings at posteroanterior (PA) lung graph. Thorax CT was performed and showed no pathology except minimal right pleural effusion and lesion found on 11th thoracal at abdominal CT. Because of this lesion magnetic resonance imaging (MRI) of thoracal vertebra was performed and found masses on 7th and 11th thoracal vertebra in favour of metastasis (Fig. 4).

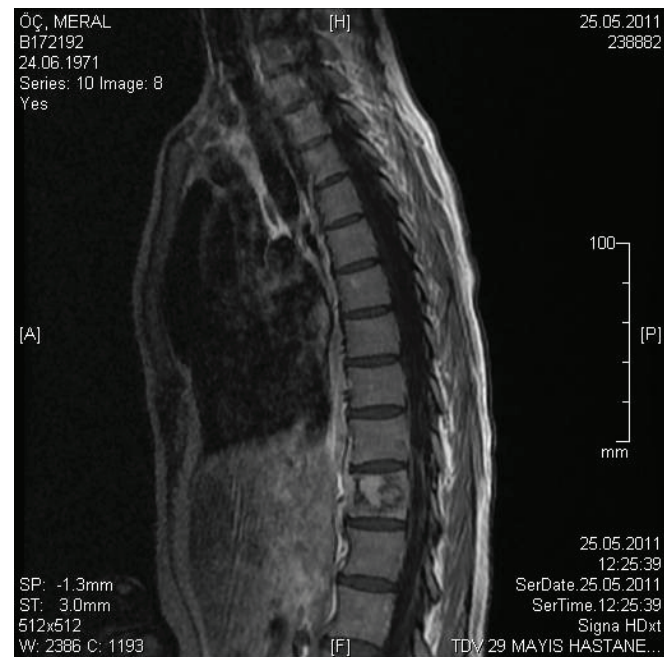


Fig. 4. Masses at 11th thoracal vertebra in favour of metastasis at thoracal MRI

Laboratory findings were; Hb: 11.7 g/dl, WBC: $10 \times 10^3/uL$, sedimentation: 75 mm/h and CA 125: 445.7 U/ml. As there was suspicion of ovarian cancer, positron emission tomography (PET) was performed for the lesions of thoracal vertebra and resulted in favour of metastasis. Then gastrointestinal endoscopy, colonoscopy, bilateral mammography and USG were performed for detecting primary region of the suspected metastasis, but there were no pathologic findings except chronic atrophic gastritis and internal haemorrhoids.

The patient underwent exploratory laparotomy; there were millimetric nodules on whole peritonea and intestinal serosa. Abdominal washing was performed and reported as exudates and there was no atypical malignant cell. Because of the adhesion, uterus and ovaries could not be observed. Biopsy was performed from the nodules and resulted as caseating granulomatous inflammation in favour of peritoneal tuberculosis. There was no complication and the patient was consulted to thorax diseases service for treatment of peritoneal tuberculosis.

3. Discussion

Peritoneal tuberculosis can be seen in all age groups and women are more included than men (Uzunkoy and Nazligul, 2006). Beginning of the disease is silent and symptoms are nonspecific. Ascite, abdominal pain, distension, weight loss, fever and adnexial masses are most common symptoms (Uzunköy et al., 2004; Kawatra et al., 2010); which were mentioned in many studies about pelvic-peritoneal tuberculosis in the literature (Li et al., 2003; Jurcut et al., 2009). In an analysis of 26 cases, abdominal pain, distension, adnexial masses and menstrual irregularities were observed in women who underwent laparotomy for ovarian cancer and tuberculosis granuloma and AFB stain on histopathology were found (Sharma et al., 2010). In our case, these non specific symptoms made us think in favour of ovarian cancer too.

Laboratory findings of peritoneal tuberculosis are mimicking many abdominal diseases especially ovarian cancer. CA 125 is an important marker of gynaecologic malignan-

cies, foremost ovarian cancer, but elevation of CA 125 level can be seen in some benign pathologies like endometriosis, pregnancy, adenomyosis and pelvic inflammatory disease (Sheth, 1996). CA 125 levels also arise in peritoneal tuberculosis, but decrease to normal range after the treatment of the disease (Thakur et al., 2001; Barutcu et al., 2002). As our patient had high CA 125 levels, there are many case reports of peritoneal tuberculosis with elevated CA 125 levels in the literature (Thakur et al., 2001; Corapcioglu et al., 2006; Koc et al., 2006). Imaging studies are also important in the diagnosis of peritoneal tuberculosis, abdominal ultrasonography; computed tomography and PA lung graphy usually show nonspecific findings like ascites, intraabdominal masses and nodular thickening. The incubation of the causative agent or detecting by PCR from the excised tissue can be used for the current diagnosis. Exploratory laparotomy and peritoneal biopsy show caseating granulomatous inflammatory reaction in favour of tuberculosis. Laparoscopy also can be used for diagnostic biopsy and can prevent unnecessary and more invasive laparotomies (Thakur et al., 2001). We performed expletory laparotomy and peritoneal biopsy because of suspected ovarian cancer and histopathologic results support tuberculosis, therefore the tuberculosis treatment planned to our patient.

Peritoneal tuberculosis should always be considered in women presented with abdominal mass, ascites and elevated CA 125 level's. As differentiation between ovarian cancer and peritoneal tuberculosis is too difficult, these two possibilities should be part of the differential diagnosis.

REFERENCES

- Barutcu, O., Erel, H.E., Saygili, E., Yildirim, T., Torun, D., 2002. Abdominopelvic tuberculosis stimulating disseminated ovarian carcinoma with elevated C.A. 125 level: Report of two cases. *Abdom. Imaging.* 27, 465-470.
- Corapcioglu, F., Guvenc, B.H., Sarper, N., Aydogan, A., Akansel, G., Arisoy, E.S., 2006. Peritoneal tuberculosis with elevated serum C.A. 125 level mimicking advanced ovarian carcinoma in an adolescent. *Turk. J. Pediatr.* 48, 69-72.
- Julien, T.M.Y., Friedman, S.L., McQuaid, K.R., Grendel, J.H., 2003. Miscellaneous diseases of the peritoneum&mesentery. Ineds. *Current diagnosis and treatment in gastroenterology 2 nd edition* New York: McGraw-Hill Companies. 166-173.
- Jurcut, C., Filisan, C., Popovici, C., Toma, L., Panaite, B., Nicodin, O., Copaci, I., 2009. Young woman with polyserositis, ovarian cystic mass and increased level of C.A.125. Case report of peritoneal and pleural tuberculosis. *Rom. J. Intern. Med.* 47, 297-299.
- Kawatra, V., Kohli, K., Khurana, N., 2010. Pelvic tuberculosis mimicking ovarian malignancy: A case report *J. Reprod. Med.* 55, 449-451.
- Koc, S., Beydilli, G., Tulunay, G., 2006. Peritoneal tuberculosis mimicking advanced ovarian cancer: A retrospective review of 22 cases. *Gynecol. Oncol.* 103, 565-569.
- Lantheaume, S., Soler, S., Issartel, B., 2003. Peritoneal tuberculosis stimulating advanced ovarian carcinoma: A case report. *Gynecol. Obstet. Fertil.* 31, 624-626.
- Li, X.J., Wu, L.Y., Li, X.G., Sun, Y.C., 2003. Analysis of 20 cases of pelvic tuberculosis initially suspected of ovarian carcinoma *Zhonghua Jie He He Hu Xi Za Zhi.* 26, 462-464.
- Panoskaltis, T.A., Moore, D.A., Haidopoulos, D.A., Mc Indoe, A.G., 2000. Tuberculous peritonitis: Part of differential diagnosis in ovarian cancer. *Am. J. Obstet. Gynecol.* 182, 740-742.
- Piura, B., Rabinovich, A., Leron, E., Yanai-Inbar, I., Mazor, M., 2002. Peritoneal tuberculosis mimicking ovarian carcinoma with ascites and elevated serum C.A. 125: Case report and review of literature. *Eur. J. Obstet. Gynecol.* 23, 120-122.
- Sharma, J.B., Jain, S.K., Pushpraj, M., Roy, K.K., Malhotra, N., Zutshi, V., Rajaram, S., 2010. Abdomino-peritoneal tuberculosis masquerading as ovarian cancer: A retrospective study of 26 cases. *Arch. Gynecol. Obstet.* 282, 643-648.
- Sheth, S.S., 1996. Elevated C.A. 125 in advanced abdominal or pelvic tuberculosis. *Int. J. Obstet. Gynecol.* 52, 167-171.
- Thakur, V., Mukherjee, U., Kumar, K., 2001. Elevated serum cancer antigen 125 levels in advanced abdominal tuberculosis. *Med. Oncol.* 18, 289-291.
- Uzunkoy, A., Harma, M., 2004. Diagnosis of abdominal tuberculosis: Experiences from 11 cases and review of the literature. *World J. Gastroenterol.* 10, 3647-3649.
- Uzunkoy, A., Nazligul, Y., 2006. Peritoneal tuberculosis : Review. *Turkiye Klinikleri J. Med. Sci.* 26, 404-408.