

Case Reports

Vertebral tuberculosis presenting with elevated CA-125 and weight loss mimicking ovarian malignancy; case report

G. Kilic¹, M.D.; J. Blankstein¹, M.D.; R. Kadanoff², M.D.

¹Department of Obstetrics and Gynecology, Chicago Medical School-Mount Sinai Medical Center

²Department of Rheumatology, Loyola University Medical Center, Chicago, IL (USA)

Summary

Ovarian cancer is the leading cause of death among gynecologic cancers and currently the measurement of serum CA-125 is the most acceptable screening test. Here we are reporting the first case of a patient with elevated CA-125 as a consequence of tuberculosis vertebral osteomyelitis. Tuberculosis is a benign condition, which must be considered in the premenopausal female with elevated CA-125.

Key words: CA-125; Tuberculosis, Bone; Ovary.

Introduction

Ovarian cancer is the leading cause of death among gynecologic cancers. Despite the advances in medicine, early diagnosis is still a major challenge. Measurement of serum CA-125 is an attractive screening test for ovarian cancer because it is readily available and non invasive. Levels of this antigen are elevated in approximately 90% of women with Stage II, III, and IV ovarian cancer, but in only 50% of women with Stage I disease. The sensitivity of the CA-125 level to detect these cancers is only 24%, and the specificity 96%. Moreover, the test has own limits to use clinically, since CA-125 levels are also elevated in many common benign conditions, including liver disease, endometriosis, and ovulation. Tuberculosis is a benign condition, which must be considered in the premenopausal female with elevated CA-125.

Here we are reporting the first case of a patient with elevated CA-125 as a consequence of tuberculosis vertebral osteomyelitis. No obvious visceral involvement was present.

Case History

The patient was a 42-year-old woman who initially presented to the rheumatology clinic with a six-month history of severe unremitting back pain, requiring codeine and ultimately oral morphine for pain control. The patient also had anorexia, an 18-pound weight loss in the previous five weeks, and weakness. She complained of constipation and bloating since the start of narcotics. There was no recent history of trauma, travel, or tuberculosis exposure. She had a history of menorrhagia.

Physical exam revealed a pale, chronically ill patient in moderate pain. Positive findings were new fingernail clubbing, a systolic flow murmur III/VI, a marked positive leg raise, and acute tenderness on the lumbar spine. Lab work revealed Hgb 6.1 g/dl, sedimentation rate was 32 mm, and a HIV ELISA test was negative. Serum CA 125 was 478 IU/ml (n = 10-35). At this point, gynecology consultation was requested to evaluate menorrhagia and elevated CA-125. Gynecological examination was remarkable for a large fibroid. Transvaginal ultrasound revealed normal ovaries; there was no peritonitis or other abdominal fluid collection. Abdominal CT disclosed a large fibroid in the uterus and non-specific changes in the lumbar spine. MRI of the lumbar spine revealed a narrowed L3-L4 disk space with lesions in the disk, the adjacent vertebrae, and anterior and posterior extensions consistent with osteomyelitis/diskitis and abscess. Aspiration of this disk space yielded 3 cc of pus, which was AFB-smear positive and eventually grew mycobacterium tuberculosis.

The patient was started on isoniazid, rifampin, ethambutol, pyrazinamide, pyridoxine, ferrous sulfate, and folic acid. The anemia responded rapidly with amelioration of the constitutional symptoms and increased appetite. After five months of therapy the Hgb was 13.6 g/dl with normal indices. The patient improved to the point that after a month of therapy she no longer required narcotics as analgesia and used ibuprofen and acetaminophen to control the pain. The TB isolate was reported to be sensitive to isoniazid and rifampin. Based on these results ethambutol and pyrazinamide were discontinued. The CA-125 level decreased to 94 IU/ml after five weeks of therapy, to 47 IU/ml after three months, and to 23 IU/ml after five months.

Discussion

CA-125 antigen is a 200,000 MW glycoprotein present in the fallopian tubes, endometrium, endocervix, ovary, and mesothelial cells of pleura, pericardium and peri-

toneum. The current literature points out the link between false positive CA-125 to visceral tuberculosis [1]. Advanced peritoneal tuberculosis, in addition to elevated CA-125, also presents with nonspecific signs and symptoms such as ascites, weight loss, pelvic pain or mass, and hence mimics ovarian cancer. Therefore, TB should be included in the differential diagnosis of ovarian cancer, especially in developing countries and HIV-positive premenopausal patients. Since TB has been dramatically increasing in the HIV-positive pregnant population in the last five years in the United State, the CDC recommends routine screening during prenatal care.

The level of CA-125 in patients with TB peritonitis may rise as high as in ovarian cancers when it is associated with severe peritoneal infiltration [2]. In our case none of the imaging studies showed any signs of peritoneal disease. It is important to note that TB, including tuberculosis of the spine without obvious peritonitis or visceral involvement and with no ovarian disease, can give high levels of CA-125, thus helping gynecologists to avoid unnecessary explorative laparatomies in these patients.

References

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Address reprint requests to:
G. KILIC, M.D.
Department of Obstetrics and Gynecology
Mount Sinai Medical Center
California Ave at 15th Street, F208
Chicago, IL 60608 (USA)