Female Genital Blastomycosis: Case Report and Review

We report a case of female genital blastomycosis that presented as an ovarian tumor and was successfully treated with itraconazole. To our knowledge, this is the fourth reported case of female genital blastomycosis in the literature.

A 28-year-old female was admitted to the hospital in December 1993 with shortness of breath and increased abdominal girth of 6 weeks’ duration. She also complained of weight gain, loss of appetite, and fever (temperature, 38°C). She had never traveled outside the New Orleans area and was not involved in any outdoor recreational activities. Physical examination was remarkable for a temperature of 38.1°C, decreased breath sounds at both lung bases with dullness to percussion, and massive ascites. Her WBC count was 11,100/mm³ with 71% polymorphonuclear leukocytes, 14% lymphocytes, and 11% monocytes. Analysis of blood chemistry yielded normal results, but a carcinoembryogenic antigen, CA125, was elevated (293 IU/mL; normal level, <25). A chest roentgenogram showed bilateral basilar atelectasis with minimal pleural effusion.

Paracentesis was performed, yielding sterile serous fluid with only 4 granulocytes/mm³. A CT scan of the abdomen and pelvis showed a right ovarian lesion. Nodular pleural thickening was noted on a CT scan of the chest. The patient underwent exploratory laparotomy; a 6-cm right tubo-ovarian abscess was discovered, with numerous small nodules along the surface of the peritoneum and the small intestine. A right salpingo-oophorectomy was performed. The only antibiotics administered were prophylactic perioperative doses of a cephalosporin. Histopathologic examination showed a tubo-ovarian abscess, pyogranulomas in the fallopian tube and the peritoneal nodules, and giant cells containing fungal inclusions. A Grocott-Gomori methenamine–silver nitrate stain showed broad-based budding yeast (figure 1). Numerous WBCs, but no organisms, were seen on a gram stain. A KOH smear was negative, but the fungal culture of the tubo-ovarian abscess showed peritoneal nodules yielded pure colonies of broad-based budding yeast, which were identified as Blastomyces dermatitidis. Repeated cultures of urine and vaginal secretions were negative for fungi.

The patient’s steady sexual contact had no evidence of cutaneous or genitourinary infection; findings on physical examination were normal, and results of a urine culture were negative. Itraconazole monotherapy (200 mg per os, once daily) induced a good clinical response (apyrexia and resolution of the ascites) at 3 weeks and normalization of the abdominal CT scan findings and of the CA125 level at 3 months. There has been no recurrence of infection 1 year after discontinuation of a 6-month therapeutic regimen.

Genitourinary infection is the fourth most common manifestation of blastomycosis after involvement of the lungs, skin, and bones [1, 2]. It has been reported in males almost exclusively as either prostatitis or epididymo-orchitis [1, 3]. Only three cases of female genital blastomycosis have been reported in the literature. All three cases presented as tubo-ovarian abscesses; two cases occurred following a distant undiagnosed pulmonary infection [4, 5], and one had been acquired sexually [6]. Peritoneal seeding was present in all three cases.

Our case was different: the patient had no historical or radiographic evidence of antecedent pulmonary infection, and her sexual partner was free of disease; a remote and asymptomatic pulmonary focus was the most likely source of infection. The same assumption has been made to explain an isolated case of splenic abscess caused by B. dermatitidis, which was also complicated by peritoneal seeding [7].

All four of these cases of female genital blastomycosis could have been clinically confused with advanced ovarian cancer with peritoneal involvement. In this context, the marked elevation of the ovarian cancer marker, CA125, is worrisome. Although an elevated CA125 level may in fact be detected in 80% of patients with epithelial ovarian cancers, high values (>500 IU/mL) have been reported for patients with benign conditions, including ascites [8].

Female genital blastomycosis can be acquired through either hematogenous dissemination from an active or dormant pulmonary focus or from sexual contact with a man who has genitourinary blastomycosis. Medical evaluation should include repeated fungal cultures of urine for both the patient and her sexual partner (preferably after prostatic massage). Cultures of vaginal secretions and chest roentgenography are also warranted.

In the absence of meningial involvement, itraconazole per os (200–400 mg daily) is the recommended therapy for both pulmonary and extrapulmonary blastomycosis. An extended duration of
treatment (more than 2 months and, preferably, 6 months), should decrease the chances of relapse [9].

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References

Hepatitis E Virus Infection in Peru

Hepatitis E virus (HEV) is a major cause of epidemic and sporadic hepatitis in many tropical and developing areas. With the exception of two outbreaks in neighboring rural Mexico, the data on HEV transmission in North, Central, and South America [1, 2] are limited. Since 1989, we have evaluated patients with acute hepatitis for HEV infection in Peru (in coastal Lima and in lquitos on the Amazon River).

A total of 747 patients (age range, 10–83 years) with acute jaundice of <3 weeks’ duration were evaluated. Sera from 158 patients with acute non-A, non-B hepatitis or acute non-C hepatitis (91 from lquitos and 67 from Lima) were tested for IgG antibodies to HEV at a 1:21 dilution by use of a second-generation ELISA (Diagnostic Biotechnology, PTE, Singapore). This ELISA comprises recombinant antigen 3-2 Mexico (M), containing 42 amino acids of open reading frame (ORF) 2 HEV, and recombinant antigen 4-2 Mexico, Burma (M, B), containing 33 amino acids of ORF3 HEV (M) and (B) [4]. Sera from 24 patients (14 from lquitos and 10 from Lima) were repeatedly reactive for IgG antibodies to HEV. All 24 patients recovered without apparent sequelae.

The 24 sera samples that were reactive for IgG antibodies to HEV subsequently were retested for IgM and IgG antibodies to HEV at 1:100 final dilution with four experimental ELISAs that included a glutathione S-transferase (GST) fusion protein as a