COCCIDIOIDOMYCOSIS PRESENTING AS TESTICULAR MASS

JOSEPH C. LIAO AND ROBERT E. REITER

From the Department of Urology, University California Los Angeles School of Medicine, Los Angeles, California

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Coccidioides immitis is a ubiquitous fungal pathogen endemic to the southwest and western United States. Clinical coccidioidomycosis is usually restricted to the respiratory tract and extrapolummary involvement accounts for less than 1% of reported cases.\(^1\) Involvement of the genitourinary tract is usually asymptomatic and discovered post mortem in patients with disseminated coccidioidomycosis.\(^2\) Antemortem diagnosis of genitourinary coccidioidomycosis is rare.\(^3\) We report a case of a painless testicular mass which presented as the sole clinical manifestation of coccidioidomycosis.

CASE REPORT

A 75-year-old white man from the San Joaquin Valley in central California with diabetes mellitus presented with a 3-month history of a slowly enlarging, painless left scrotal mass. The patient denied a history of recent respiratory tract infection, orchalgia, dysuria, frequency or other constitutional symptoms. He was treated with ciprofloxacin by his primary care physician and diagnosis was presumed to be bacterial epididymo-orchitis. No bacterial or fungal urine culture was done at the time. After no clinical improvement, the patient was referred to our urology clinic.

He was again questioned and denied history of systemic illness or scrotal pain. Pertinent physical findings included a normal prostate examination, normal left spermatic cord and solid intratesticular mass near the inferior pole of the left testicle. There was no inguinal adenopathy or evidence of fistula on the scrotal skin, and white blood cell count was normal. Given the possibility of testicular malignancy, no further serological or scrotal imaging studies were done, and he consented to undergo left radical orchiectomy. Preoperative chest x-ray was normal.

An enlarged left testicle with moderate peritesticular inflammation was noted at operation. The left spermatic cord and testicle were removed intact through the left inguinal incision and the tunica albuginea was incised sharply at the back table. An intratesticular abscess cavity filled with greenish purulent material was found, and bacterial and fungal cultures were taken. Final pathological study revealed acute necrotizing granulomatous epididymo-orchitis and an intraoperative fungal culture was positive for Coccidioides immitis. Histological staining using periodic acid-Schiff and Gomori methanamine-silver was positive for Coccidioides immitis.2 Dr. George Thomas prepared the histopathological slide.

Orchitis with arrow pointing at spherule of Coccidioides immitis. Periodic acid Schiff stain, reduced from × 400.

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REFERENCES


no further antifungal therapy and manifested rapid healing of the wound postoperatively. There was no evidence of clinical recurrence 1 year after surgery.

DISCUSSION

Coccidioidomycosis is the most common systemic fungal infection in the southwest and western United States. In some of the endemic areas up to 80% of the population has a positive coccidioidin skin test demonstrating previous exposure. The organism Coccidioides immitis is acquired by inhalation of the infective airborne spores, particularly after environmental and climatic changes such as dust storms and earthquakes. Clinical manifestations may range from asymptomatic infection and flu-like illness to fulminant pneumonia. Less than 1% of individuals have disseminated coccidioidomycosis, and risk factors include an immunocompromised state, diabetes mellitus, pregnancy, dark skin pigmentation and age.

Asymptomatic genitourinary involvement in disseminated coccidioidomycosis is not rare. Postmortem studies of patients with disseminated infection demonstrate involvement of the kidney in 30% to 46%, adrenal in 16% to 22%, prostate in 3% to 6% and scrotal content in 1.5%.1 Symptomatic involvement of the lower genitourinary tract, such as the epididymis and testicle, in the absence of systemic illness is rare. Involvement of the epididymis and testicle usually presents as clinical epididymitis or epididymo-orchitis.2 Diagnosis is usually made by localized clinical symptoms associated with a positive chest x-ray, skin test (coccidioidin), serological test, fungal culture and/or biopsy. Patients with extrapolummary coccidioidomycosis frequently have normal chest x-ray findings. The first line of treatment of genitourinary tract coccidioidomycosis is systemic antifungal therapy with an azole or amphotericin B.

We report an unusual case of coccidioidomycosis presenting as a painless testicular solid mass. The differential diagnosis of a painless testicular mass includes primary testicular malignancy, metastatic disease, acute bacterial infection, tuberculosis and granulomatous infection. Infection with tuberculosis and fungal species, including coccidioidomycosis, histoplasmosis and blastomycosis, may be associated with cutaneous fistula tracts. Our patient had no other clinical evidence of coccidioidomycosis and received definitive surgical treatment for a solid testicular mass. If coccidioiduria had been diagnosed preoperatively systemic antifungal therapy rather than surgical treatment would have been instituted, thus illustrating one of the problems associated with empiric antimicrobial therapy for presumed epididymitis in older patients. Radical orchiectomy appeared to be curative at 1 year without additional systemic antifungal therapy in our case. We suggest coccidioidomycosis to be considered as part of the differential diagnosis of a solid testicular mass particularly in patients from endemic areas.

Dr. George Thomas prepared the histopathological slide.