**Mycobacterium haemophilum Epididymal Abscess in a Renal Transplant Patient**

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**CASE REPORT**

The patient was a native of Trinidad and immigrated to Canada 40 years prior to the presentation. He worked as a taxi driver since arriving in Canada. He denied performing any farm work or being exposed to construction sites. The patient was diabetic, and because of that, he had developed end-stage renal disease. In 2003, he underwent a cadaveric renal transplant. His immunosuppressive regimen consisted of mycophenolate mofetil, tacrolimus, and prednisone. During his pretransplant evaluation, results of both tuberculin skin testing and anergy screening were negative. The renal donor had been a healthy 40-year-old man previous to succumbing to an intracerebral hemorrhage, with no known history of receiving immunosuppression therapy or chronic illness.

In November 2006, the patient presented to a university hospital emergency room after 2 days of scrotal swelling and pain. He looked well and was afebrile. On examination, the right scrotum was clearly enlarged and tender, but there was no overlying cellulitis, skin lesion, or palpable nodes. A chest X-ray revealed multiple calcified granulomata that were unchanged from previous films. The patient was brought to the operating room, where the tunica vaginalis was opened, revealing a necrotic epididymis. A right orchietomy was performed, and purulent material was sent to the microbiology laboratory for bacterial and mycobacterial cultures. The patient was treated with clarithromycin, rifabutin, and ethambutol, with all results of bacterial and mycobacterial cultures. The patient was brought to the hospital emergency room after 2 days of scrotal swelling and pain. He looked well and was afebrile. On examination, the right scrotum was clearly enlarged and tender, but there was no overlying cellulitis, skin lesion, or palpable nodes. A chest X-ray revealed multiple calcified granulomata that were unchanged from previous films. The patient was brought to the operating room, where the tunica vaginalis was opened, revealing a necrotic epididymis. A right orchietomy was performed, and purulent material was sent to the microbiology laboratory for bacterial and mycobacterial cultures. The patient was treated with clarithromycin, rifabutin, and ethambutol, with all results of bacterial and mycobacterial cultures. The patient was brought to the hospital emergency room after 2 days of scrotal swelling and pain. He looked well and was afebrile. On examination, the right scrotum was clearly enlarged and tender, but there was no overlying cellulitis, skin lesion, or palpable nodes. A chest X-ray revealed multiple calcified granulomata that were unchanged from previous films.

Auramine-rhodamine staining of the abscess material gave positive results for fluorocoeur bacilli, and Kinyoun staining revealed 4+ bacilli (i.e., fewer than nine bacilli per field at a magnification of ×1,000). The PCR result by Amplicor MTB (Roche Diagnostics System, Somerville, NJ) testing was negative for the *Mycobacterium tuberculosis* complex. Following decontamination, the specimen was inoculated into two sets of liquid medium mycobacterial growth indicator tubes (BACTEC MGIT 960; BD Diagnostic Systems, Sparks, MD) and Lowenstein-Jensen solid medium. All sets were supplemented with hemin. One set was incubated at 37°C, and the other at 30°C. Once growth was detected in the MGIT set incubated at 30°C, and a DNA probe (AccuProbe for *M. tuberculosis* complex; Gen-Probe, San Diego, CA) test result was negative, the cultures were sent to the Quebec Provincial Public Health Laboratory for final identification. In the reference laboratory, the MGIT broth was subcultured on different media, including chocolate and Middlebrook 7H10 agar, and incubated at 30°C. Growth appeared on the chocolate agar after 8 days, and an X factor disc was placed on the surface of the 7H10 agar. Following 2 weeks of incubation, growth was clearly seen on the chocolate agar, as well as around the X factor disc. 16S rRNA gene sequencing demonstrated 100% sequence identity with a partial sequence of type strain *M. haemophilum* ATCC 29548 (Escherichia coli positions 54 to 510).

*Mycobacterium haemophilum* is an established cause of cutaneous lesions in immunocompromised hosts. It has also been reported as a rare cause of osteomyelitis, arthritis, and cervical lymphadenitis in immunocompetent children (3). There are no reported cases of soft tissue abscesses or testicular involvement. We report the case of a 57-year-old man who underwent renal transplantation and presented, 3 years later, with an epididymal abscess.

Not all specimens received for mycobacterial processing are grown under the special conditions required for *M. haemophilum*. In fact, many laboratories will process specimens only in hemin-supplemented broths at 30°C when the specimens are derived from a skin biopsy of an immunocompromised patient (2). The patient’s diagnosis might have been missed if his specimen had been processed as a routine mycobacterial specimen.

There is no known explanation for the transmission of *M. haemophilum* to the human host. There are no reported cases of human-to-human spread or environmental inoculation. It is of interest that the patient developed this infection on the right epididymis. There is a possible anatomical link through the tunica vaginalis to his renal graft in the right pelvis. Thus, we

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cannot determine whether there was a direct extension of the infection to the testicle, where the temperature is lower than that in the rest of the body, or whether the infection occurred through hematogenous spread.

Since 1986, there have been 21 other known cases of *M. haemophilum* infections in the province of Quebec. We have information for 20 of the 21 isolates (Table 1). Almost half of the specimens came from skin lesions, while the remainder were found in bone, blood, and joint specimens. There was one lung biopsy-proven case of *M. haemophilum* infection. There are no positive cultures from the genitourinary tract. Seven of the affected patients had human immunodeficiency virus (HIV) infection, two had dermatomyositis, two had rheumatoid arthritis, one had diabetes mellitus type 1, and two were previously healthy.

According to the current guidelines for treating nontuberculous mycobacteria from the American Thoracic Society, specimens from immunocompromised patients with skin lesions, lymphadenitis, or arthritis should be evaluated for *M. haemophilum* (1). Considering that this organism is very slow growing and that it affects immunocompromised patients, we consider this approach too limited. This case report illustrates the utility of processing all mycobacterial specimens that originate from an immunocompromised patient for *M. haemophilum*, regardless of the clinical presentation. We suggest that all such specimens from immunocompromised patients, especially allograft recipients, should receive hemin supplementation and be incubated at 30°C as a routine protocol.

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**REFERENCES**

