Published in final edited form as:

Infect Dis Clin Pract (Baltim Md). 2012 November 1; 20(6): 407–. doi:10.1097/IPC.0b013e318264132a.

An Incidental Abscess in a Patient with Acquired Immunodeficiency Syndrome

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Keywords

Abscess; HIV; AIDS; Immunocompromised

CLINICAL CASE

A 52 year old gentleman with acquired immunodeficiency syndrome (AIDS) presented to clinic for routine follow up. His most recent CD4 count was 69 cells per mm³ with an undetectable human immunodeficiency virus (HIV) viral load. He had been adherent to antiretrovirals for a number of years, but did have a remote history of treated disseminated *Mycobacterium avium* complex (MAC) infection. He was no longer on MAC prophylactic therapy. He was without complaints and denied any recent symptoms or trauma. His vital signs were within normal limits, and a full physical exam, including musculoskeletal, oropharyngeal and neurological evaluation, was completely normal except for mild hepatomegaly. A liver protocol computerized tomography (CT) scan was obtained to evaluate the enlarged liver felt on exam. The scan, in figure 1, revealed a normal liver, but noted an incidental 12.0 × 7.0 × 4.7 centimeter left psoas abscess with phlegmonous change around the inferior vena cava and aorta and mild mass effect on the adjacent kidney. Surveillance MAC blood cultures sent 8 weeks prior failed to demonstrate growth. White blood cell (WBC) count on presentation was 9900 cells per microliter, with an absolute neutrophil count of 8540 cells per microliter. All other laboratory studies were within the normal range. Peripheral blood cultures revealed no growth of bacterial organisms. The patient had a transthoracic echocardiogram that was negative for endocarditis with high quality images. The patient underwent CT-guided aspiration of the abscess with drain placement and the fluid had a WBC count of 315,000 per centimeter squared (89% neutrophils) and gram and acid-fast stains failed to reveal any organisms.

What is the cause of this asymptomatic abscess?

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Conflicts of Interest: None to report for either author.

Diagnosis: Asymptomatic primary psoas abscess with *Streptococcus oralis*.

DISCUSSION

The abscess fluid was sent for culture and ultimately grew *Streptococcus oralis* in multiple cultures. Multiple samples of the abscess fluid and peripheral blood cultures, aerobic and anaerobic, were negative for mycobacteria, fungi and other bacteria. Cytological evaluation was negative for malignancy or premalignant cells. The patient remained completely asymptomatic with normal vital signs, but had persistent fluid drainage. Endoscopy, capsule study and direct injection of the abscess cavity with contrast failed to reveal a fistula tract between the intestines and psoas muscle or evidence of contiguous spread from another location.

Psoas abscesses are rare and can be either primary or secondary, with a rise in incidence as a result of widely available and utilized computerized tomography (CT). Primary psoas abscesses result from hematogenous or lymphatic seeding and secondary abscesses are the result of direct extension from surrounding tissues [1], most commonly from vertebra, hips and the gastrointestinal and genitourinary tracts [2]. Primary psoas abscesses are less common than secondary, are most often monomicrobial and the most common bacterial organism isolated is *Staphylococcus aureus*, ranging from 42.9–88.4% [1–4]. *Escherichia coli*, streptococci and *Mycobacterium tuberculosis* are also seen. Less commonly, *Proteus*, *Pasteurella*, *Clostridium*, *Yersinia* and *Klebsiella* species have been isolated [2,3,5]. Frequently, patients present with back or flank pain, fever, anorexia, weight loss or limp [2,4]. Ultrasonography has been reported to be diagnostic in 70% of cases and abdominal CT in 91%. Plain x-ray radiography is of low diagnostic yield [6]. In patients with HIV infection, primary psoas abscesses have been reported as being more common than secondary and *Mycobacterium tuberculosis* was reported as more commonly isolated than *Staphylococcus aureus* in one series, where affected patients were more severely immunosuppressed [7], but it is unclear whether this is broadly applicable to HIV positive patients. Irrespective of HIV status, the management of psoas abscess involves careful evaluation for an infectious source, CT-guided drainage of abscess fluid, and appropriate antibiotic therapy, reserving surgery for relapsing cases or abscesses with septae [7].

Streptococcus oralis and other members of the viridans group streptococci were traditionally considered to be opportunistic infections, mostly implicated in dental caries. In the context of immunocompromised states, these organisms have been known to result in systemic disease [8]. In addition to dental caries, *Streptococcus oralis* has been a reported cause in a number of infections including infective endocarditis, adult respiratory distress syndrome, epidural abscesses and bacterial meningitis [8,9,10]. Although streptococci have been reported in the past to cause psoas abscesses, they are rare etiologies of a rare condition and *Streptococcus oralis* is exceedingly unusual. The immune system of the patient reported here was significantly impaired which left him vulnerable to occult infection by this opportunistic organism. His lack of symptoms in the context of this very large abscess is also very unusual. The patient was at risk for MAC infection, although the blood cultures he had sent as part of routine surveillance eight weeks prior to this presentation made

disseminated disease less likely. The patient received a total of two weeks of oral penicillin after CT-guided drainage and remained well over the next year of follow up.

Acknowledgments

Sources of Support: None

None

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Figure 1. Coronal plane computerized tomography scan of the abdomen and pelvis demonstrating a 12.0 by 7.0 by 4.7 centimeter left psoas muscle abscess (noted by black arrow) in an asymptomatic patient with AIDS.