

11th July 2008

CLINICAL SOCIETY MEETING: GHTM, TAMBARAM, CHENNAI

Musculoskeletal complication in HIV-a case of Pyomyositis

Dr. Sree T. Sucharitha ¹, Dr. Ravichandran N. ²

1. Fellow HIV clinical and leadership training
2. Asst.Professor- Ward Mentor

Case Report:

A 48-year-old HIV positive man on ART- Stavudine, Lamivudine, Nevirapine had a 4-week history of swelling on the anteromedial aspect of right thigh. Four weeks before admission, he had developed the swelling which increased gradually, and is painful. It is not associated with fever. No history of any trauma was recalled by the patient. Chest radiograph was normal. On the day of admission, the patient reported continued pain and difficulty walking.

His medical history reveals history of fall one year back. During its course he developed pressure sores and incision and drainage was done. He has history of drug allergy to Sulpha drugs. .

He presented afebrile, blood pressure of 110/70 mm Hg. Results were otherwise normal except for the presence of a 7 x 6 cm non –fluctuating, tender mass on the anteromedial aspect of the right thigh, with overlying purplish discoloration of the skin.

Laboratory values included a white blood cell count of 8600/mm³ with 83% polymorphonuclear (PMN) cells, 4% band forms, 14% lymphocytes, and 03% monocytes; hemoglobin 11.1 gm%; CD4-419. Fine needle aspiration of the mass is suggestive of acute inflammatory lesion. Treated with analgesics and antibiotics and discharged.

On a follow-up visit 3 wks after discharge, there was development of the abscess, followed by new lesion and abscess on left leg. Swab culture and sensitivity revealed gram positive cocci, resistant to Penicillin, Ampicillin, CTZ, Gentamicin, Ciprofloxacin, sensitive to Cephalothin, Oxacillin, Vancomycin and intermediate resistance to Amikacin. Blood cultures were negative. Inj. Vancomycin was started but the patient developed allergy and eventually Inj. Amikacin and Inj. Cloxacillin were started for 2 weeks and patient responded very well. Patient is discharged with oral antibiotic and asked to report at the hospital after 2 week duration for subsequent follow-up.

DISCUSSION:

Pyomyositis is being recognized with increasing frequency in patients infected with HIV. It has three clinical stages: the "invasive stage," with pain localized to the involved muscle; the "suppurative stage," with pain, fever, and edema; and the "septicemic stage," with clinical signs of toxicity and sepsis. Many factors are thought to play a major part in the pathogenesis, including intense exercise, parasitic infestation, and debilitating disease. A report from Uganda stressed the importance of HIV infection as an underlying condition in patients with pyomyositis; HIV seropositivity was present in 31% of patients with pyomyositis, compared with 5.7% in an age- and sex-matched control group.¹ IV drug abuse was observed in 25% of the reported cases of HIV-associated pyomyositis, but contributing risk factor for the acquisition of HIV in 31% of all patients with AIDS.² Pyomyositis usually manifests itself insidiously. The median duration of symptoms in HIV-positive patients is 14 days (n = 29, range 1/2 to 375 days). Fever is more common in the HIV-positive group (87%) than in HIV-seronegative North American patients (55.7%) ($P < .001$).³ Large muscle groups, especially those of the lower extremities, are characteristically involved in the disease process. As in previous reports from the tropics, lower limbs were involved in 55 of 61 (90%) of the HIV-positive patients. A single muscle group was involved in the majority of HIV-positive patients (80%), whereas the remaining patients had multiple sites involved at presentation.³ A high index of suspicion is a key factor for early diagnosis and management of pyomyositis. Needle aspiration of the involved muscle is a simple initial step for detection of pus and providing material for microbiologic isolation of the causative organism. *Staphylococcus aureus* is the most commonly implicated organism, accounting for 90% of the cases in HIV-positive patients, 65% of the cases in HIV-seronegative patients ($P < .001$), and more than 90% of the recovered organisms in the tropics. Other bacteria were found less frequently in HIV-positive patients and included *Streptococcus* group C,⁵ *Streptococcus* species,⁶ *Salmonella enteritidis*,⁷ *Salmonella* species, *Escherichia coli*,⁸ *Citrobacter freundii*,⁹ and *Pseudomonas aeruginosa*.¹⁰ Imaging techniques such as CT, ultrasonography, and magnetic resonance imaging are helpful tools in determining the extent of the disease, identifying the involved muscle group, and directing surgical intervention.⁴ In HIV-positive patients, the average duration of intravenous antibiotic therapy was 15 days, and the mean duration of total antibiotic administration, including oral antibiotics, was 25 days.³ Pyomyositis may occur in HIV-positive patients particularly when the CD4 count is low. These patients tend to be febrile and have *S aureus* infection more frequently than HIV-seronegative patients with pyomyositis. Bilateral involvement is also more common in HIV-positive patients. In patients without HIV infection, pyomyositis tends to be associated with leukocytosis and bacteremia more frequently. The outcome is generally favorable in both groups.

REFERENCES:

1. Ansaloni L, Acay GL, Re MC: High HIV seroprevalence among patients with pyomyositis in northern Uganda. *Trop Med Int Health* 1996; 3:210-212.
2. Centers for Disease Control: HIV/AIDS Surveillance Report 1997; 9:16.
3. **Jaffar A. Al-Tawfiq, George A. Sarosi et al Pyomyositis in the Acquired Immunodeficiency Syndrome. *South Med J* 93(3):v, 2000. © 2000 Southern Medical Association**
4. *Fleckenstein JL, Burns DK, Murphy FK, et al: Differential diagnosis of bacterial myositis in AIDS: evaluation with MR imaging. *Radiology* 1991; 179:653-658^{1*}
5. Nitta AT, Kuritzkes DR: Pyomyositis due to group C streptococci in a patient with AIDS. *Rev Infect Dis* 1991; 13:1254-1255
6. Vassilopoulos D, Chalasani P, Jurado RL, et al: Musculoskeletal infections in patients with human immunodeficiency virus infection. *Medicine* 1997; 76:284-294
7. Medina F, Fuentes M, Jara J, et al: Salmonella pyomyositis in patients with the human immunodeficiency virus. *Br J Rheum* 1995; 34:568-571
8. Vilades C, Garcia-Queralt R, Rivas I, et al: Pyomyositis due to Escherichia coli in a patient infected by HIV. *Br J Rheum* 1994; 33:404-405
9. Widrow CA, Kellie SM, Saltzman BR, et al: Pyomyositis in patients with the human immunodeficiency virus: an unusual form of disseminated bacterial infection. *Am J Med* 1991; 91:129-136
10. Lortholary O, Jehl F, Petitjean O, et al: Polymicrobial pyomyositis and bacteremia in a patient with AIDS. *Clin Infect Dis* 1994; 19:552-553