The Use of Technetium-99m–Labeled White Blood Cell Scan in the Management of a Case of Group A Streptococcus Necrotizing Fasciitis with Polymyositis

Radionuclide imaging in the diagnosis of musculoskeletal infection has been previously reviewed [1]. Diagnosis of *Staphylococcus aureus* tropical pyomyositis using bone scan and gallium scintigraphy has been reported [2, 3]. We describe a case that demonstrates the utility of technetium-99m–labeled WBC (Tc-99m WBC) scan in the management and treatment of group A streptococcus necrotizing fasciitis with polymyositis.

A 16-year-old previously healthy girl presented with headache, fever, and vomiting. Cefaclor was prescribed for a left otitis media. Three days later, she was admitted to the hospital because of ongoing fever with pain in her upper arms and thighs. A rash was noted over both elbows and the anterior aspect of the right calf 2 days after admission. She was transferred to our hospital with a diagnosis of suspected viral myositis or collagen vascular disease. On examination, she was flushed and drowsy with a temperature of 38°C, heart rate of 135/min, respiratory rate of 32/min, and blood pressure of 100/50 mm Hg. Head and neck examination revealed a perforated left tympanic membrane. Cardiac, respiratory, and abdominal examinations were unremarkable. Her arms and legs were swollen and were covered with patches of an irregularly marginated, erythematous rash that were painful on palpation. Her complete blood cell count revealed a hemoglobin level of 104 g/L, platelet count of 103 × 10^9/L, and a WBC count of 9.7 × 10^9/L with 58% neutrophils, 9% lymphocytes, 1% monocytes, 1% eosinophils, and 31% band forms. Her creatine kinase level was 479 U/L.

Multifocal fasciitis or myositis was suspected because of the toxic appearance of the patient and the degree of pain and localized edema of the limbs. Clindamycin was started, and the diagnosis was confirmed in the operating room, where all four limbs were explored and edematous tissue was noted in multiple muscles. Fascial necrosis was noted in the right thigh only, and debridement was done. Gram staining of specimens from all limbs showed gram-positive cocci in chains, and cultures grew group A streptococcus.

The patient required ventilation and inotropes postoperatively. Clindamycin therapy was continued and penicillin was added. A dose of 1 g/kg intravenous immunoglobulin was given. She remained hemodynamically unstable the next day, suggesting the...
Brief Reports

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References

Strongyloidiasis and Infection Due to Human Immunode®ciency Virus: 25 Cases at a Brazilian Teaching Hospital, Including Seven Cases of Hyperinfection Syndrome

Strongyloidiasis is a common intestinal parasitosis in the Tropics. Hyperinfection syndrome and disseminated infection have long been recognized as potentially fatal complications of infections due to Strongyloides stercoralis in immunocompromised individuals, particularly those receiving systemic corticosteroids [1]. However, only a few cases of disseminated strongyloidiasis have been recognized in patients with AIDS, even in tropical regions [1]. We report 25 cases of strongyloidiasis in HIV-infected patients (including 7 [28%] in which hyperinfection syndrome was diagnosed) observed since January 1990 during 77 months at a teaching hospital in Uberlândia, Brazil.

During the study period, 650 adolescents and adults for whom results of at least two ELISA tests were positive for HIV were seen at our teaching hospital. The majority of these patients, independent of their clinical manifestations, had at least one stool examination positive for larvae and ova of parasites. For 25 (3.85%) of the cases, larvae of S. stercoralis were found in the stool (23 cases), sputum (2 cases), and/or upon postmortem examination (5 cases). The median age of the patients was 28 years (range, 15–62 years); 20 (80%) were male, 11 (44%) were drug addicts, and 8 (32%) were homosexual/bisexual. Fever (18 cases, 72%), diarrhea (15 cases, 60%), and cough (13 cases, 52%) were the most common symptoms observed, although not necessarily related to strongyloidiasis, given that most patients had concurrent opportunistic infections. Larva currens was present in four individuals. The median eosinophil count (performed for 21 patients) was 186/µL (range, 0–1,300/µL); only four patients had eosinophil counts of ≥400/µL, notwithstanding the fact that none of the patients had recently used corticosteroids.

Seven patients were diagnosed as having hyperinfection syndrome, all of whom died: in five patients the diagnosis was made postmortem and in the remaining two, larvae of Strongyloides were found in the sputum (both had systemic infection due to gram-negative bacteria). Postmortem examinations disclosed extensive involvement of the gastrointestinal tract and lungs, but larvae of S. stercoralis were not observed in a site outside its normal migration pattern in any of the cases. Of these 7 patients, 4 (57.1%) had had at least one AIDS-defining infection, whereas one infection was present in 13 (72.2%) of the 18 patients with intestinal strongyloidiasis, a difference not statistically significant (P = 0.64, Fisher’s exact test).

Of the 25 patients, 23 were treated with either thiabendazole (22 cases) and/or albendazole (2 cases). Sixteen patients (64%) died; the contribution of strongyloidiasis to death in these patients varied, given that the majority of the patients had other opportunistic infections. Among the nine survivors, eight were considered cured, and there was recurrence of the strongyloidiasis in the remaining survivor.

Our experience was different from that of previous studies, which have failed to demonstrate an increased prevalence of severe forms of strongyloidiasis among HIV-positive individuals. The majority of our patients were symptomatic, and 28% of them had a severe form of strongyloidiasis that led or contributed to their deaths. There is no obvious explanation for this finding except for the depressed cellular immunity induced by the HIV infection; none of our patients had received corticosteroids. Postmortem examinations certainly contributed to the recognition of the hyperinfection syndrome.

Although we have seen severe cases, none of them could be classified as disseminated strongyloidiasis in which larvae are found in multiple organs, including some that are not sites for the...