Thiabendazole for the Treatment of Strongyloidiasis in Patients with Hematologic Malignancies

A total of 21 patients with hematologic malignancies were given thiabendazole for treatment of strongyloidiasis. Fifteen patients were cured. Since there were no relapses, it is unlikely that maintenance therapy has a role in the management of strongyloidiasis in this population of patients.

Thiabendazole has been considered the mainstay of treatment for strongyloidiasis for decades, with a clinical efficacy of ~90% in the immunocompetent host [1]. Nevertheless, information regarding its use in immunosuppressed patients is limited to anecdotal reports of patients treated for the disseminated syndrome [2, 3], with little being known about the best therapeutic regimen and its efficacy. In this study, we report the treatment response to thiabendazole in 21 cases of strongyloidiasis diagnosed in a cohort of 163 patients with hematologic malignancies. All patients were screened for strongyloidiasis by examination of 3 stool samples with use of the direct and Baermann-Moraes methods [4]. Patients with strongyloidiasis were treated with thiabendazole, 25 mg/kg, given twice daily for 3 days (maximum dose, 3000 mg/day), and they were subsequently monitored with monthly stool examinations. Patients with ≥3 negative stool samples after treatment were considered to be cured. The definition of disseminated strongyloidiasis was the same as that in our previous report [5].

From April 1995 through December 1997, 163 consecutive patients with hematologic malignancies were evaluated, and 22 (13%) had strongyloidiasis. One patient was excluded because he died of uncontrolled acute leukemia before the beginning of treatment. The median age of the 21 patients was 46 years (range, 12–76 years), and the male:female ratio was 16:5. Six patients had acute leukemia, 7 had chronic leukemia, 6 had lymphoma, and 2 had multiple myeloma. Corticosteroids were being used by 17 (81%) of the patients. Symptoms attributable to strongyloidiasis were present in 17 patients (81%), and cough was the most frequent symptom (7 patients), followed by diarrhea and abdominal pain (6 patients each). Four patients (19%) were asymptomatic. The median number of samples examined was 2 (range, 1–6), and the median number of positive stool samples was 1 (range, 1–3).

One patient complained of dizziness, but all patients took the full dose of thiabendazole. The median follow-up was 14 months (range, 1–29 months). Eighteen patients (86%) were shown to be free of infection by all subsequent stool examinations (median, 4 examinations; range, 1–12 examinations). Fifteen patients (71%) had ≥3 negative examination results and were considered to be cured. Of the 3 patients for whom <3 examinations were performed, 2 died of acute leukemia in relapse and 1 died of sepsis of cutaneous origin. Three patients remained infected after 1 course of thiabendazole (cure rate in 15 of 18 patients, 82%). Of the 3 patients for whom therapy failed, 1 was cured after a 10-day course of treatment with thiabendazole, whereas the other 2 died during relapse of their underlying diseases, before the results of a second course of treatment could be evaluated. Ten patients are still alive. One patient was lost to follow-up and was censored after the last...
examination. Of the 10 patients who died during the study, 6 died of relapse of the underlying malignancy, 1 died of leukostasis, 1 died of infection of cutaneous origin, 1 died of pulmonary hemorrhage, and 1 died while in a blastic crisis of chronic myeloid leukemia. There were no episodes of disseminated strongyloidiasis or relapse of infection in 253 patient-months of observation.

The cure rate of 82% observed in the present study is very similar to the rate obtained in clinical trials involving immunocompetent individuals. Gann et al. [6] reported a cure rate of 89.6% with use of a higher dose of thiabendazole. Grove [7] had a success rate of 93%, but the clinical and immunologic responses were much worse (14 [33%] of 42 patients had persistent diarrhea or urticaria and a less-marked decrease in specific antibody titers). In our study, more stool samples were tested (median of 4 examinations vs. 1 examination in the study by Grove), and the follow-up was longer than that in the study by Grove [7]. Although 1 patient complained of dizziness, compliance was very good. Other drugs, such as albendazole and ivermectin, that have been used for the treatment of strongyloidiasis have had comparable efficacy and fewer side effects [6, 8]. However, no study has evaluated their efficacy in immunocompromised patients. Although no maintenance therapy was given, there were no relapses after treatment, no episodes of disseminated or hyperinfection syndrome, and no patients who died of strongyloidiasis. This is in sharp contrast to the experience reported for patients with AIDS [9]. Considering both the high cure rate obtained and the 14-month follow-up (which was long enough to encompass the period of chemotherapy) in the present study, in addition to a lack of data in the literature that support maintenance therapy in patients with strongyloidiasis, it is unlikely that maintenance therapy has any role in the management of strongyloidiasis in this population of patients.

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References


The Use of Adjuvant Interferon-γ Therapy for Hepatosplenic Blastoschizomyces capitatus Infection in a Patient with Leukemia

Hepatosplenic fungal infections are a devastating complication of neutropenia. Despite aggressive antifungal therapy, clinical response may be poor. We describe a case of hepatosplenic Blastoschizomyces capitatus infection that responded to adjuvant interferon-γ therapy.

Hepatosplenic fungal infections are a devastating complication of prolonged neutropenia in patients with leukemia. Despite aggressive antifungal therapy, clinical response may be very slow, and mortality remains high. We describe a case of hepatosplenic Blastoschizomyces capitatus infection that was failing to respond to standard amphotericin B therapy but that subsequently responded when adjuvant interferon-γ was added. A summary of the patient’s clinical course appears in table 1.

The patient was a 20-year-old man who had acute lymphoblastic leukemia that was in first relapse. Because the patient had neutropenic fevers that were refractory to treatment with broad-spectrum antibiotics, empiric amphotericin B was begun (day 0), with doses increasing to 0.6 mg/kg by day 6. An abdominal CT scan was performed on day 13 because of increasing right upper-quadrant pain; it revealed scattered low-density lesions within both the liver and the spleen. Culture of CT-guided aspirate yielded a strain of Blastoschizomyces capitatus that was resistant to all standard antifungals, with the exception of amphotericin B. On day 16, treatment with amphotericin B was switched to treatment with liposomal amphotericin B (Abelcet [The Liposome Company, Princeton, NJ]), 5 mg/kg, because of a rising creatinine level. On day 39, the dose of liposomal amphotericin B was increased to 7 mg/kg.