Stan Deresinski, Section Editor

# In the Literature

## Visceral Leishmaniasis in Italy: Treatment With Liposomal Amphotericin B

Di Masi F, Ursini T, Iannece MD, et al. Five-year retrospective Italian multicenter study of visceral leishmaniasis treatment. Antimicrob Agents Chemother 2014; 58:414–8.

Approximately 50–200 patients with visceral leishmaniasis (VL) due to *Leishmania infantum* are seen annually in countries of the Mediterranean basin. *Leishmania infantum* infection is zoonotic, with canines being the major reservoir. Although the number of cases among immunocompetent individuals has been decreasing in recent years, cases in human immunodeficiency virus (HIV)–infected patients have not.

Di Masi and colleagues retrospectively examined the records of all patients with VL seen at 15 Italian centers from 2004 to 2008. Of the 166 patients with a confirmed diagnosis, 120 (72.3%) were immunocompetent, 25 (15.1%) were HIV infected, and 21 (12.6%) had other immunodeficiencies. The majority (65.1%) were male, and the mean age of the total cohort was 34.9 ± 24.3 years; 29.5% were <18 years of age. The mean hemoglobin concentration at the time of diagnosis was 9.2 ± 2.0 g/dL (range, 4.8–16 g/dL), the mean platelet count was 116 027 ± 58 466/μL (range, 4500–301 000/μL), and the mean white blood cell count was 3385 ± 1978 cells/μL (range, 400–12 700 cells/μL). The mean $CD4^+$ T-cell count among HIV-infected patients was 125.4 ± 180.7 cells/μL (range, 7–855 cells/μL). Almost one-third of these had never received antiretroviral therapy. Amastigotes were visualized in 85.0% of 135 bone marrow smears, and 83.0% of 127 serological tests were positive, as were 89.2% of 58 qualitative polymerase chain reaction tests performed on blood or bone marrow.

All but 6 patients were treated with amphotericin B: 7 with the deoxycholate preparation and 153 (92.2% of the total) with the liposomal product (L-AmB). A wide variety of L-AmB regimes were administered, but both the immunocompetent patients and those with immunodeficiency in the absence of HIV infection received a mean total of approximately 30 g. HIV-infected patients, in contrast, received a mean total of 40.8 g. Among the 165 evaluable patients with follow-up of at least 1 year, 154 (93.3%) had a clinical cure—including 98.3% of immunocompetent patients, 90.5% of the non-HIV-infected immunodeficient patients, and 72.0% of those with HIV infection. Only 7 patients overall had a primary treatment failure, and 11 patients suffered a relapse. Among the latter, all 5 immunocompetent patients responded to retreatment whereas 4 of 6 with HIV infection failed repeated drug administration. The only independent predictors of treatment failure were HIV infection and increased age.

Although it is costly and must be administered intravenously, where financially feasible, L-AmB has become the drug of choice for the treatment of VL. The total doses given to the patients reviewed here are similar to the US Food and Drug Administration (FDA)–approved regimen for treatment of VL. For immunocompetent patients, this consists of a dose of 3 mg/kg daily, by

intravenous infusion, on days 1–5, 14, and 21 (total dose of 21 mg/kg). The FDA-approved regimen for immunosuppressed patients consists of 4 mg/kg daily on days 1–5, 10, 17, 24, 31, and 38 (total dose of 40 mg/kg). The clinical aspects of VL in HIV-infected patients have recently been reviewed [1].

## Reference

1. Jarvis JN, Lockwood DN. Clinical aspects of visceral leishmaniasis in HIV infection. Curr Opin Infect Dis **2013**; 26:1–9.