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The full report is titled "Safety and Efficacy of Liposomal Amphotericin B Compared with Conventional Amphotericin B for Induction Therapy of Histoplasmosis in Patients with AIDS." It is in the 16 July 2002 issue of *Annals of Internal Medicine* (volume 137, pages 105-109). The authors are PC Johnson, LJ Wheat, GA Cloud, M Goldman, D Lancaster, DM Bamberger, WG Powderly, R Hafner, CA Kauffman, and WE Dismukes, for the U.S. National Institute of Allergy and Infectious Diseases Mycoses Study Group.

## Treatment of Histoplasmosis in Patients with HIV Infection

### What is the problem and what is known about it so far?

People who are infected with human immunodeficiency virus (HIV) have weak immune systems and cannot fight infections well. Sometimes, they get serious infections with fungi. The fungal infections can spread throughout the body and can be fatal. Successful treatment requires taking powerful antifungal drugs for long periods (weeks to months).

Histoplasmosis is a serious fungal infection that occurs in as many as 5% to 20% of people with HIV infection. The standard initial treatment for severe histoplasmosis is a drug called *amphotericin B*. Amphotericin B is usually given daily, through a vein, for a few weeks. Later, a different antifungal drug that can be taken by mouth is given for several months. Many side effects, such as fever, chills, nausea, and problems with kidney function, can occur with standard preparations of amphotericin B. New preparations of amphotericin B that do not have as many side effects are needed.

### Why did the researchers do this particular study?

To compare the efficacy and safety of two different preparations of amphotericin B for treating severe histoplasmosis in adults with HIV infection.

### Who was studied?

81 adults with HIV infection and histoplasmosis that had spread (disseminated) throughout the body.

### How was the study done?

Patients were randomly assigned to receive either a standard preparation of amphotericin B or a special preparation called *liposomal amphotericin B*. Both preparations were given through a vein over a period of 2 hours each day for several days (1 to 2 weeks). Neither the patients nor their doctors knew which preparation was given. Patients who improved were switched to an antifungal drug (itraconazole) that was given by mouth. Treatment response was defined as no fever for at least 3 days; no worsening of any symptoms, physical findings, or laboratory test results; and improvement in at least one symptom or finding related to histoplasmosis. After 3 months of follow-up, the researchers compared treatment responses and side effects in patients given standard amphotericin B and those given liposomal amphotericin B.

### What did the researchers find?

Patients given liposomal amphotericin B responded to treatment more often than those given standard amphotericin B (88% vs. 64%). Fewer patients given liposomal amphotericin B died (2% vs. 13%). Only 25% of the patients who were given liposomal amphotericin B had side effects; 63% of the patients given the standard preparation had side effects. Fewer patients who received liposomal amphotericin had problems with kidney function (9%) than those given the standard preparation (37%).

### What were the limitations of the study?

Both preparations were given into the veins over a 2-hour period. Either preparation given more slowly and continuously over a 24-hour period might work better and cause fewer side effects.

### What are the implications of the study?

Although expensive, liposomal amphotericin B is better than standard amphotericin B for treating disseminated histoplasmosis in patients with HIV infection.

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