

AmBisome® today: expanding the perspectives on liposomal amphotericin B

While amphotericin B deoxycholate has been considered by many to be the gold standard for the treatment for numerous invasive fungal infections for over 45 years, toxicities associated with its use often necessitate treatment modifications or discontinuation. Lipid-based formulations, including liposomal amphotericin B were developed to decrease many of these toxicities. These agents have proven their value in a variety of clinical settings.

The concept of liposomal amphotericin B was formulated in the mid-1980s and the first treatment in the Nordic region took place in 1989. So far, over 250.000 patients that have been treated. The use of liposomal amphotericin B continues to accelerate. Recent treatment guidelines mention its use as first-line therapy in certain defined situations. Liposomal amphotericin B has a wide array of indications and recent data supports the ability to escalate the dose in very serious infections.

Because few comparative studies have been performed, open-label studies are a major source of data on the efficacy of liposomal amphotericin B in proven invasive fungal infections. Of equal value are case reports, situations where all the real life problems of diagnosis and optimal treatment are presented. This second issue of "*Acta Biomedica*", focusing primarily on mould infections in profoundly immunocompromised patients (the first issue devoted to invasive fungal infections was published in 2004), reinforces the value of liposomal amphotericin B as monotherapy, or in combination with an echinocandin. A number of infection themes are presented from all corners of the European Community indicating the diverse epidemiology of

invasive fungal disease in different climatic areas and in diverse patient groups. The spectrum of cases that we present here are summarized in the following overview.

The aetiological agents of zygomycosis (mucormycosis) are ubiquitous in the environment and the likelihood that infection will occur following inhalation, ingestion or implantation of spores largely depends on host factors. Mucormycosis is an uncommon, but often lethal infection, among several groups of immunocompromised patients. The treatment of invasive aspergillosis continues to be problematic. The effective dose of amphotericin B for treating invasive aspergillosis varies considerably with the location of infection and severity of disease. A number of case reports in this issue of the Journal underline the value of fungicidal therapy but also highlight the need for longer treatment courses in some cases to allow maximum tissue penetration and optimum pharmacokinetics. There is increasing anecdotal evidence that suggests a rise in cases of zygomycosis, especially in the setting of azole prophylaxis. Zygomycosis has a complex pathogenesis and is a formidable infection to treat. Sinopulmonary infections are increasing in patients with leukaemia and in allogeneic bone marrow transplant recipients. Considerable experience is being gained in the use of antifungals in combination. Combinations of liposomal amphotericin B and echinocandins or new generation azole antifungals appear to be effective in salvage treatment of mould infections. Clinicians need to think beyond common yeast and mould infections. Potentially, any environmental fungus is capable of causing invasive fungal disease. Species of *Fusarium* are ubiquitous in the environment.

Invasive *Fusarium* infection has emerged as a significant problem in several groups of immunocompromised individuals, not only in North America but in Europe also. Finally, a case report on visceral leishmaniasis successfully treated with liposomal amphotericin B. The treatment options for leishmaniasis are limited. The drug of choice in Europe for visceral leishmaniasis, a disseminated and potentially fatal form of leishmaniasis, is AmBisome®.

It is hoped that these clinical experiences illustrate how serious infectious disease can be managed ef-

fectively and highlight the occurrence of emerging infectious agents.

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