

## APPARENT SUCCESSFUL OUTCOME OF CUTANEOUS AND CEREBRAL ZYGOMYCOSIS COMPLICATING AN OMMAYA RESERVOIR TREATED WITH HIGH DOSE LIPOSOMAL AMPHOTERICIN B

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Despite the availability of several alternative options to amphotericin B for the treatment of systemic fungal disease little choice is available for the treatment of zygomycete infections. The azole antifungal agents and 5 fluorocytosine have been shown to have no activity against zygomycetes. Options therefore for treatment remain amphotericin B deoxycholate versus liposomal amphotericin B products. In the face of neutropenia the mortality rate of systemic zygomycete infection remains high despite therapy even with amphotericin B.

A pregnant (~24-28 weeks gestation) 17 year old Hispanic female with acute lymphocytic leukemia presented in blast crisis. Induction with chemotherapy was begun. An Ommaya reservoir was placed in her ventricular system for intrathecal administration of methotrexate. Profound neutropenia with fever developed. Broad spectrum antibacterial antimicrobics were started. Despite the use of vancomycin with piperacillin-tazobactam she developed erythema and exquisite tenderness along the margins of her Ommaya reservoir. Functionality of the Ommaya reservoir was questioned; however, it remained in place for several days due to profound thrombocytopenia. Caesarian section was also precluded due to thrombocytopenia. An area of devitalized tissue (eschar) around the Ommaya reservoir became apparent. Cerebrospinal fluid could not be obtained from the Ommaya reservoir for analysis. Ultimately, the Ommaya reservoir was removed after the appearance of facial swelling and ptosis. Histopathologic specimens revealed a zygomycete with broad aseptate hyphae. Computerized axial tomographic (CAT) scans indicated that involvement of the Ommaya reservoir from the skin to the interior of the ventricle was present. A C-section was performed the next day when the platelet count was deemed safe for surgery. Initial therapy of amphotericin B followed by amphotericin B lipid complex was begun. 2 days after the Ommaya surgery she developed hemiplegia involving the left side. The dose of liposomal amphotericin was escalated from 5 to 7 mg/kg daily and then ultimately 8 mg/kg daily. In addition to broad spectrum antibacterial therapy, amphotericin B lipid complex was continued with GMCSF and high dose steroids. Following an extremely stormy course in the medical intensive care unit the patient's mental status began to improve. She was able to respond to simple commands and ultimately had return of her mental status. A residual left-sided hemiparesis persisted but ultimately she was able to be discharged home. Her infant daughter did well. Unfortunately several months later she relapsed with her leukemia and expired. At the time of her death there was no evidence for recurrent disease although autopsy was declined.

Liposomal amphotericin B is purported to be less toxic and possibly more efficacious than standard amphotericin B although costly. In this single case of a pregnant woman with leukemia in crisis, removal of an infected Ommaya reservoir due to a zygomycete with invasion of skin and into the central nervous system coupled with the use of high dose liposomal amphotericin B in a dose of 8 mg per kg per day over 8 weeks resulted in eradication of the disease. Further observations are needed to document the efficacy of liposomal amphotericin B preparations in the treatment of systemic zygomycete infections.