

Auditory Neuropathy Secondary to Cryptococcal Central Nervous System Infection in 2 Immunocompromised Patients

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Auditory neuropathy (AN) is an otologic syndrome characterized by normal otoacoustic emissions and altered or absent auditory evoked potentials in patients with moderate to profound sensorineural hearing loss (SNHL).

Patients with AIDS (acquired immunodeficiency syndrome) can develop SNHL secondary to tumors, ototoxicity, and/or opportunistic infections. In addition, the AIDS virus is known to cause direct damage to the cochlear nerve.¹

Cryptococcal central nervous system (CNS) infection can present as sudden or progressive SNHL. Moreover, SNHL can be the first symptom of cryptococcal infection. A high index of suspicion is necessary when dealing with an immunocompromised patient. Treatment is directed toward the infection.^{2,3}

Auditory neuropathy due to cryptococcal meningitis has not been described yet, but temporal bone studies have demonstrated direct damage to the cochlear nerve by cryptococcal infiltration.² In addition, Maslan et al³ suggested a retrocochlear lesion in a patient with sudden hearing loss and cryptococcal meningitis. We present 2 cases with diagnosis of AN secondary to cryptococcal infection.

Case I

A 31-year-old man started with a 1-month history of rapidly progressive SNHL. A diagnosis of AIDS was made 1 month previously, and antiretroviral therapy was started simultaneously. He developed meningeal symptoms and was hospitalized. Institutional review board (IRB) approval and patient informed consent were obtained. A lumbar puncture showed an increased opening pressure. China ink stained positive for a *Cryptococcus neoformans* infection. Computed tomography

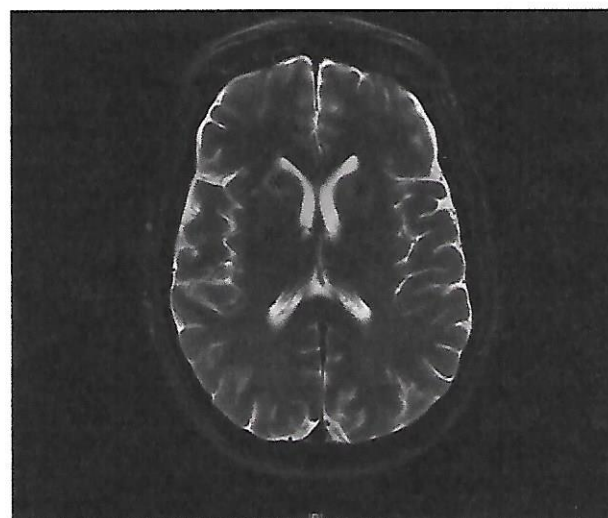


Figure 1. Magnetic resonance imaging of the first patient with cryptococcal infection and AIDS showed areas of hyperintensity in white matter, predominantly in the caudate and lenticular nucleus (T2 sequence). There were no pathological findings in the cerebellopontine angle. Also, no reinforcement was found with gadolinium contrast. Asterisks represent the areas of hyperintensity in the white matter due to cryptococcal infection.

(CT) scan was normal, but magnetic resonance imaging (MRI) showed areas of hyperintensity in white matter in a T2 sequence (**Figure 1**). Therapy was initiated with amphotericin (1230 mg accumulative dose) and fluconazol (400 mg qid). During hospitalization, audiological tests revealed no hearing in the right ear and left mild SNHL; acoustic reflexes were negative. The

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