Central Nervous System Infection Caused by Cryptococcus

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A 52-year-old man presented with a persistent headache and fever that had lasted for four days. He had a medical history of diabetes mellitus. A physical examination revealed nuchal rigidity. Computed tomography of the brain showed hydrocephalus. Magnetic resonance image (MRI) of the brain revealed an enlarged and enhanced choroid plexus with leptomeningeal enhancement and dilatation of Virchow-Robin (VR) spaces (Picture 1). In addition, the formation of intraventricular enhanced mass lesions that filled the ventricles and the region of the foramen of Monro with large cysts compressing the brain stem was noted (Picture 2). An examination of the cerebrospinal fluid revealed positive India-ink staining and elevated cryptococcal antigens (1:2,048). Cryptococcus neoformans grew in a culture obtained from the cerebrospinal fluid, which confirmed the diagnosis of cryptococcus. Following the administration of systemic antifungal treatment with amphotericin B and fluconazole and surgery to relieve the subsequent hydrocephalus, the patient’s condition gradually improved.

Cryptococcus is the most common fungus causing central nervous system infection (1), particularly in the era of the increasing size of the HIV-infected population (2). In immunocompetent patients, cryptococcus can present as intraparenchymal cryptococoncomas on MRI. In contrast, MRI shows dilated VR spaces with occasional meningeal enhancement in immunocompromised patients (3). The choroid plexus lies between the CSF and the systemic circulation; however, it is an uncommon site of cryptococcal infection (3). In this case, we demonstrated an unusual presentation of cryptococcus with involvement of the choroid plexus. Although the finding of choroid plexus enhancement on MRI is detected in a variety of clinical entities, including tuberculosis, cytomegalovirus meningoencephalitis, pyogenic and granulomatous infections, parasitic infestations and even neoplasms (1), our report suggests that cryptococcus is a differential diagnosis, especially in combination with leptomeningeal involvement on MRI.

The authors state that they have no Conflict of Interest (COI).

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