ELSEVIER

Journal of the Neurological Sciences 228 (2005) 109–112

Journal of the Neurological Sciences

www.elsevier.com/locate/jns

Short communication

Fungal granuloma of the brain caused by *Cladosporium bantianum*—a case report and review of literature

Sumit Singh[a], Prabhjeet Singh[a], Chitra Sarkar[b], Vinay Goel[a], Trilochan Srivastava[a], M.C. Sharma[b], Madhuri Behari[a,*]

[a]*Department of Neurology, 702, Neurosciences Centre, All India Institute of Medical Sciences, Ansari Nagar, New Delhi, 110029, India*
[b]*Department of Pathology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi, 110029, India*

Received 2 March 2004; received in revised form 16 September 2004; accepted 18 October 2004
Available online 19 November 2004

Abstract

Involvement of the brain by neurotropic, dematiaceous fungi namely *Cladosporium bantianum* is extremely rare. The disease is very resistant to treatment and prone for frequent relapses despite treatment with amphotericin B and flucytosine, the drugs of choice for the infection. Surgery is often required for resection of the fungal granuloma. Isolation of the fungus from the tissue specimens and its culture, showing dark colored fungal colonies clinches the diagnosis. Animal inoculation studies can provide insights to the portal of entry of the organism. We hereby report a case of fungal granuloma of the brain due to *C. bantianum*, which responded favorably to intensive antifungal treatment alone, with relevant review of literature.

Keywords: Cladosporium; Dematiaceous; Culture; Fluconazole; Inoculation

1. Introduction

Cladosporium bantianum, a dematiaceous fungus (fungi with dark colored colonies and hyphae), rarely infects the brain, with only about 30 culture proven cases in the literature. Morphological demonstration of *Cladosporium* in intracranial fungal granulomas is equally rare [1]. The disease, very resistant to treatment, is prone to frequent relapses and is often fatal [2]. Here we report a case of intracranial fungal granuloma due to *C. bantianum* in an immunocompetent adult, which was cured successfully by intensive antifungal treatment.

2. Clincial details

A 20-year-old student presented with history of left partial motor seizures which started as twitching movements of his face, followed by secondary generalization for 15 months. After the first seizure he had mild headache, without any fever, vomiting, Todd's palsy or double vision. A contrast enhanced CT scan of the head revealed a right frontal lobe mass, with perilesional edema suggestive of an inflammatory granuloma.

Considering the possibility of neurocysticercosis the patient was prescribed Albendazole (15 mg/kg/day) for 3 weeks, along with sodium valproate (1000 mg/day). The patient continued to have one to two seizures per month, even after carbamazepine (CBZ) was co prescribed (800 mg/day). A MRI of brain done after ten months revealed a mass lesion in his right frontal lobe (Fig 1a and b). Antitubercular treatment was advised empirically and Phenytoin was added to his anti-epileptic regimen.

* Corresponding author. Tel.: +11 26864851, 26561123x4210; fax +11 26862663.
E-mail address: madhuribehari@hotmail.com (M. Behari).

0022-510X/$ - see front matter © 2004 Elsevier B.V. All rights reserved.
doi:10.1016/j.jns.2004.10.002

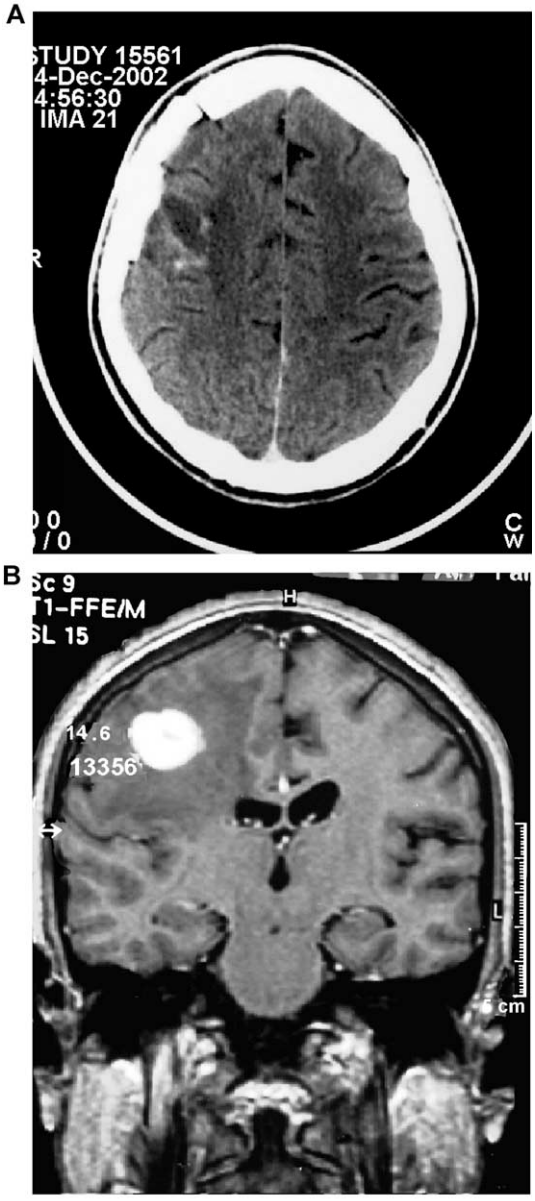

Fig. 1. MRI images of the brain of the patient showing a mass lesion with perifocal edema.

Following a non-specific short febrile illness after one year, his seizures increased to 10–15 per day which responded to increment in CBZ dosage. Two days after the fever he developed left hemiparesis. A brain biopsy, performed at another hospital, was suggestive of a fungal granuloma due to a dematiaceous fungus. Treatment was started with flucytosine and amphotericin B. The patient developed headache, anorexia, nausea and a dense left hemiplegia following biopsy, which recovered almost completely in about 15 days. The patient was referred to our hospital at this stage. He denied any history of unprotected sex, pruritic skin rash, corticosteroid intake at any time. His past medical history was unremarkable.

General physical examination was normal except for a mild pallor. He had a left central facial palsy, with left hemiparesis, left sided hyperreflexia and an extensor left plantar response. The rest of the neurological examination was normal. Routine hemogram was normal except for mild anemia (Hb. 11.6 g/dl). HIV 1/2 serology was negative, CD4 count was 946/cmm. The CSF examination was normal with a normal CSF Gram's stain, culture, fungal culture and PCR for *Mycobacterium tuberculosis*. The biopsy revaluated by us revealed large areas of necrosis with abscess formation and inflammatory exudates comprising of polymorphs, eosinophils and foreign body giant cells, scattered amidst which were numerous golden brown colored septate fungal profiles including both hyphae and yeast forms (Fig 2a and b)

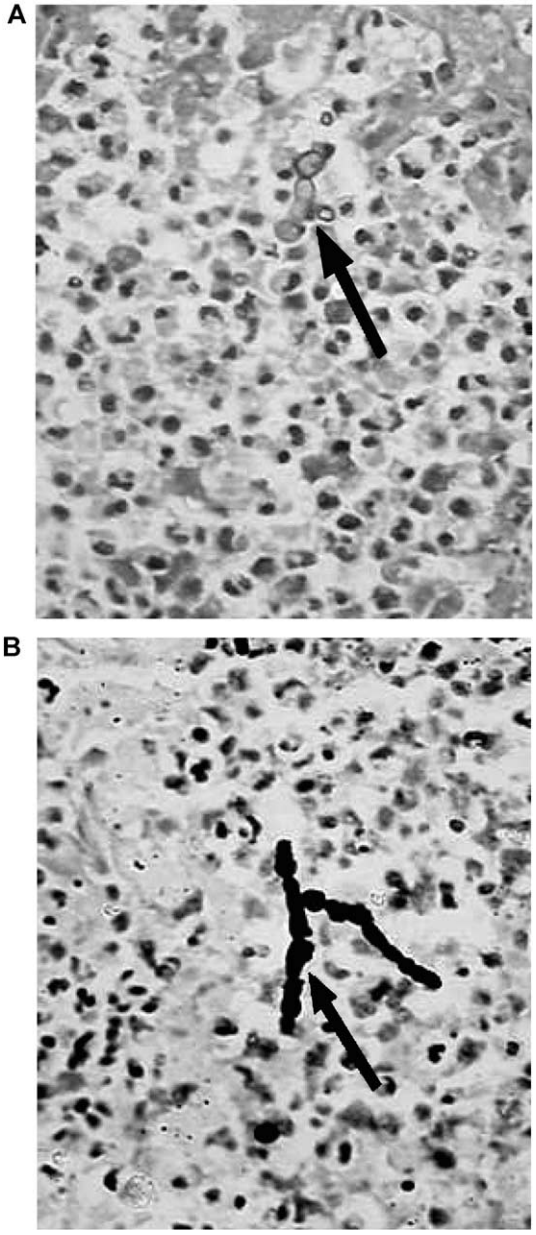

Fig 2. (A) Photomicrograph of the mass showing presence of septate filamentous pigmentary fungal profiles on an inflammatory background (H and E ×200). (B) Silver methenamine stain highlighting the branched hyphae of the fungus (×400).