Cladosporiosis (Cerebral Phaeohyphomycosis) of Brain – a case report

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Abstract

A case of cerebral cladosporiosis caused by Cladosporium trichoides (bantianum) now known as Xylohypha bantiana is described and illustrated. Predisposing debilitating diseases were not detectable. The Cladosporiosis diagnosis was based on visualisation of hyphal element in direct Gram’s stain, direct KOH prepartate of pus from brain abscess and on repeated successful cultivation of Cladosporium trichoides from specimen and by histopathology. Following surgery and anti-fungal chemotherapy the patient was cured.

Introduction

Documented cases of mycotic brain abscess due to Cladosporium trichoides (bantianum) are very rare. Most references are to be found in texts [6, 9, 10]. The first case was reported by Binford and associates in 1952 [6, 9] since then about 22 cases have been reported in world literature [10] and out of which only 4 cases reported from India [1, 3, 5, 10]. The rarity of the condition has prompted the present report.

Case report

A 28 years old male patient, rice merchant by occupation was admitted to Neurosurgery ward on 27th January, 1986 with history of mild generalised headache for 8 months and two attacks of generalised seizures. He had few attacks of blurring vision over 1 month prior to admission. On examination, the patient was fully concious and higher mental functions were normal including speech. His fundi revealed blurring of disc margin and fullness of optic cups. Other neurological examination was essentially normal. There was no focus of infection any where in the body. He was not on any immunosuppresive therapy. Investigations showed haemoglobin 14 mg/dl, total leucocyte count 11,400 cu/mm and ESR 30 mm in 1st hour. The X-ray skull including PNS was normal. X-ray chest was normal. The contrast enhanced computerised tomograph (CT) scan showed left frontal ring lesion with surrounding oedema. Left frontal lobe was compressed and there was midline shift to the rightside (Fig. 1). On the CT finding provisional diagnosis was abscess or gliaoma.

Twist drill tapping of the ring lesion revealed 30 cc of white pus. The pus was examined for aerobic, anaerobic and fungal pathogens. The left frontal abscess was excised through a left frontal trephine craniotomy on the 7th day following aspiration. At surgery there was a multiloculated abscess in the left frontal lobe, two loculi were empty with collapsed capsule while there were 3
bacteria was seen. Specific fungal stain (PAS and silver methanamine) of the pus revealed fungus with similar morphology. Direct KOH preparation (10%, KOH) also revealed pale brown fungus hyphae with branching of conidial chains. Similar findings was observed on the second sample of pus and in brain tissue.

Culture

The pus and brain tissue were cultured in both the occasions on Sabouraud’s dextrose agar (SDA) with chloramphenicol (0.5 mg/ml), SDA with chloramphenicol and cycloheximide (1 mg/ml) in duplicate, and on blood agar plates.

Blood agar plates were incubated at 37 °C aerobically and anaerobically. Mycological culture media were incubated at 37 °C and at 25 °C. No bacterial growth observed even after incubation upto 72 hrs. in aerobic and anaerobic atmosphere.

After 96 hrs. of incubation, minute black colonies appeared on SDA and SDA with chloramphenicol. Size of the colonies increased in next 1 wk. The colonies were greyish black in colour, irregularly folded at the centre, velvety in texture, reverse of colony jet black colour. Lactophenol cotton blue (LPCB) mount of the colony showed brown septate hyphae with sparsely

Microbiological investigations

Direct

Septate fungal hyphae with branching of conidial chains were observed on Gram’s stained smear, width of hyphae varied from 4–6 μm (Fig. 2). No

Fig. 1. Cladosporiosis of Brain. Contrast enhanced C.T. scan showing left frontal abscess with surrounding oedema and massive midline shift to right side.

more loculi containing varying amount of pus. The pus and brain tissue were examined for aerobic, anaerobic and fungal pathogens by microbiological and histopathological methods.

Fig. 2. Cladosporiosis of Brain. Smear of pus showing septate fungal hyphae with branched conidial chains. Gramstain: 85 x objective.

Fig. 3. Cladosporium trichoides. Wet mount from culture showing characteristic septate hyphae with branched chain of conidia. Lactophenol cotton blue: 34 x objective.