

Case Report

Cryptococcal Meningitis in an Immunocompetent Adult with Persistent Papilledema

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Abstract: Cryptococcosis is a potentially fatal fungal disease. The prevalence of cryptococcosis has been increasing for many reasons, including the increase in incidence of AIDS and the expanded use of immunosuppressive drugs. Cryptococcal meningitis is a threatening disease and visual loss is reported as a rare manifestation due persistent papilledema and optic nerve involvement. We report a case of an immunocompetent young male who presented with cryptococcal meningitis, left lateral rectus palsy and papilledema. In spite of appropriate medical therapy with amphotericin and flucytosine, his papilledema persisted and developed decreased vision.

Keywords: Cryptococcal meningitis, Immunocompetent, Papilledema, visual loss

INTRODUCTION

Cryptococcal meningitis is caused by *Cryptococcus neoformans* and usually occurs in immunosuppressed patients. The incidence is on the rise due to the epidemic of HIV and the increasing use of immunosuppressive agents. Recently instances have been reported in immunocompetent individuals as well [1, 2]. Although the primary site of Cryptococcal infection is respiratory, meningitis is the most commonly encountered manifestation among those presenting to a tertiary care centre.

CASE REPORT

A 24-year-old man presented with complaints of headache, vomiting, blurred vision, low grade fever and diplopia for duration of 2 weeks. On examination patient was febrile and his vitals were stable. The neurological examination revealed neck stiffness. There was no focal neurological deficit. On ocular examination, his visual acuity was 6/18 in both eyes. There was left lateral rectus palsy. Fundoscopy of both eyes showed early papilledema changes.

CT scan of the brain was normal with no evidence of raised intracranial tension. Cerebrospinal fluid [CSF] analysis showed elevated proteins of 73mg/dl. Gram stain of CSF revealed capsulated budding yeasts. Presence of *Cryptococcus* was confirmed on Indian ink staining of the CSF. His blood culture also grew *Cryptococcus*. HIV screening was

done twice using ELISA and once by western blot and both was confirmed to be negative.



Fig-1: Papilloedema

Liposomal Amphotericin B was given intravenously in titration from 0.5-1mg/kg/day. Simultaneously oral Flucytosine 200mg twice daily was started. A total cumulative dose of 1 gm of Liposomal Amphotericin B was given. The patient's fever and headache improved. Left lateral rectus palsy also showed resolution however patient continued to have blurred vision.

Repeat fundoscopy revealed persistent papilledema. MRI Brain was done which was normal. Patient was discharged with oral Flucytosine and to

review. Though patient had no features of meningitis, his papilledema progressed to chronic stage.

DISCUSSION

Cryptococcus can affect any organ in the body but the most commonly affected ones are the lungs and Central nervous system [CNS]. Meningitis is the most frequent manifestation [1,2]. Patients present with headache, fever, blurring of vision, malaise, cranial nerve palsies [esp. abducent nerve] over several weeks duration. The ocular complications which have been reported include photophobia, diplopia, ptosis, amblyopia, nystagmus, ophthalmoplegia, anisocoria, papilledema, neuroretinitis, and primary optic atrophy [5]. Our patient here presented with headache, blurred vision and diplopia with fundus revealing early papilledema changes and left sixth nerve palsy [3-5].

Cryptococcal meningitis mostly does not produce abnormalities in baseline haematological findings. However, it certainly shows an abnormal CSF. The CSF opening pressure is usually high and there may be pleocytosis with elevated protein levels [6]. The definitive diagnosis is made through direct identification of Cryptococcus capsule in microscopy [7].

CT or MRI of brain is valuable to rule out other causes such as intracranial mass lesion. In our patient both were normal.

Combination of intravenous liposomal amphotericin B and oral flucytosine have been made the recent guidelines for the treatment of cryptococcal meningitis. Liposomal amphotericin B 1mg/kg + Flucytosine 200mg twice daily for 4 weeks followed by oral fluconazole 400mg twice daily is a recommended regimen which has shown benefits [1,6,7]. Posaconazole is a new antifungal which has been showing promising results [7]. In patients with persistent papilledema, surgical interventions have showed improvement in vision and reduction in papilledema [8]. Optic atrophy is sequelae of chronic and persistent papilledema, which is an irreversible vision impairing condition [9]. Ventriculo-peritoneal shunts and luno-peritoneal shunts allow cerebrospinal fluid to drain and help in normalizing intracranial pressure thus reducing the pressure on the optic nerve head and hence preventing the progression to atrophy and salvaging vision [10,11].

CONCLUSION

Cryptococcal meningitis can be encountered in immunocompetent individuals as well and requires a high index of clinical suspicion to diagnose. Early initiation of appropriate antifungal therapy is the mainstay of treatment and may result in a complete neurological recovery. Persistent papilledema is an unusual complication that was noted in this patient.

CSF shunt procedures may be needed to alleviate papilledema and restore vision.

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