

# Meningitis Caused by *Candida parapsilosis* in HIV Infected Patient

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## Abstract

A 50 year old HIV seropositive male presented with chronic headache, altered sensorium and neck rigidity. He was diagnosed as a case of meningitis based upon CSF microscopic findings and isolation. The case is being reported because *Candida parapsilosis* is uncommonly reported to cause meningitis.

## Introduction

Candidal infection of CNS is an uncommon manifestation of disseminated infection due to *Candida* species. It usually occurs in immunosuppressed patients,<sup>1</sup> patients on broad spectrum antibiotics, in association with intravenous hyperalimentation, following surgical manipulation of a mucosal site colonized with *Candida* species or following a neurosurgical procedure.<sup>2,3</sup>

Here we report a rare case of meningitis caused by *Candida parapsilosis* in an HIV seropositive patient.

## Case Report

A 50 year old, HIV seropositive patient presented with headache since one month and altered sensorium and neck stiffness since the last three days. On examination, he was afebrile with a heart rate of 80/ min. and a blood pressure of 120/80 mm of Hg. Respiratory and cardiovascular systems were within normal limits. The abdomen was soft with normal bowel sounds. On central nervous system examination, terminal neck stiffness was present. His renal and liver function tests were within normal limits. Hb% 12 gm/dl, WBC 4000 cells /mm<sup>3</sup> with a differential count of 78% polymorphs and 22% lymphocytes.

CSF obtained from lumbar puncture was received

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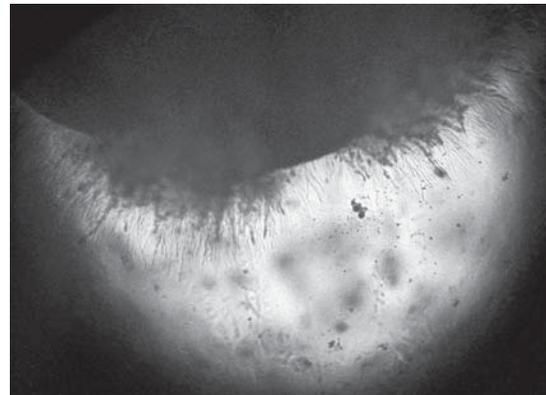


Fig. 1 : Microscopic photograph showing the edge of colony of *Candida parapsilosis* on CMA showing "siege brush" appearance.

in the laboratory. CSF cell counts showed a lymphocytic predominance (98%) with glucose 18 mg/dl and proteins 64 mg/dl. Wet mount showed budding yeast and few pseudohyphal forms. Nigrosin preparation showed non capsulated yeast cells with occasional budding forms. Gram's stained smear also revealed budding yeast cells with pseudohyphae.

The isolate was confirmed by negative germ tube test, culture on cornmeal agar and sugar assimilation test. The culture on cornmeal agar showed satellite colonies from original line of inoculation.

The patient was started on injection Amphotericin B (1 mg/kg) to which the patient responded well and was discharged on oral Fluconazole 400 mg daily for 10 weeks.

## Discussion

Although candidiasis is the most frequent

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fungal infection in patients with HIV infection or AIDS, in most cases it involves the foregut (mouth, pharynx and oesophagus). CNS candidiasis seems to be exceptional. Complications of HIV infection Levy *et al*<sup>4</sup> reported 5 cases among 366 neurologically symptomatic patients, including 4 brain abscesses and one child with AIDS and probable meningoencephalitis. Casade *et al* analyzed 14 cases of candidial meningitis in HIV infected persons. He reported *Candida albicans* as the most frequent species causing meningitis in 13 cases, while *Candida tropicalis* was reported in only one case. Candidal infection of CNS by *Candida parapsilosis* was reported by Lipton *et al*.<sup>6</sup>

Casado *et al*<sup>5</sup> reported that at least one of the predisposing factors was present for systemic or CNS candidiasis, which included active intravenous drug addiction or ventriculoperitoneal shunt. No such predisposing factor was present in the present case.

*Candida* meningitis is more common in neonates than adults. In adults most frequent findings reported were fever, headache, neck rigidity, altered mental status, confusion and disorientation.<sup>7, 8</sup> Similar findings are present in the present study. In most of the reports<sup>5,7,8</sup>, mean time of presentation was more than one month, hence the authors.<sup>5,7,8</sup> have proposed this entity to be referred as Chronic Candidial Meningitis. In one case also there is history of headache since more than one month.

In contrast with other immunocompromised individuals, candidal meningitis is a rare event in AIDS. Despite decreased candidicidal activity, AIDS itself is not considered a full risk factor for disseminated candidiasis because cellular defects related to T lymphocytes more than neutrophils and macrophage function.<sup>5</sup>

Mild lymphocytic or polymorphonuclear

pleiocytosis, a raised protein level and low glucose levels were predominant findings reported earlier<sup>5,6,7</sup> which is comparable with present report. These findings are indistinguishable from tuberculosis, cryptococcal meningitis which occur more frequently in HIV infected patients.<sup>5,6</sup> Intravenous Amphotericin B is considered the first line antifungal agent for treatment of candidial meningitis. Our patient responded to IV Amphotericin B treatment.

As CSF picture in candidial meningitis is similar to those cases of other fungal aetiologies, a high index of suspicion and culture is required to diagnose such rare cases of candidial meningitis.

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