

ABSTRACT

Introduction

Cryptococcus causes invasive disease almost exclusively in patients with abnormal immune systems. Cryptococcal meningitis is one of the primary opportunistic infections in patients with HIV disease. Other patients at risk include patients with lymphoma, cirrhosis, and corticosteroid therapy. Here we present a case of cryptococcal meningitis in a patient without immunodeficiency.

Case Report

The patient is a 56-year old male who seven days prior to hospitalization developed fatigue followed by headaches and nausea. Since the symptoms were becoming worse, he presented to the emergency department for evaluation. At the time of initial assessment the patient was afebrile with normal vital signs. Physical examination was unremarkable. An initial CT scan of the head showed no evidence of mass lesions. Initial spinal tap was abnormal with 40 WBCs, 200 RBCs, proteins 170, and glucose 24. Cryptococcal antigen in the CSF was positive. Within 24 hours of hospitalization, the patient became lethargic and was transferred to the intensive care unit. He responded clinically to therapy with amphotericin B and flucytosine. HIV test was negative and CD4 cell count was normal.

Discussion

Cryptococcal meningitis classically presents as chronic meningitis in immunocompromised patients. Before seeking medical attention, patients are usually symptomatic with headaches for several weeks. In this report we present a case of subacute meningitis due to Cryptococcus in a non-immunocompromised patient. Cryptococcal meningitis should always be included in a differential diagnosis of patients presenting with subacute or chronic meningitis or meningoencephalitis regardless of the immune status of the patient.

INTRODUCTION

Cryptococcus neoformans is an opportunistic fungal infection that causes human disease mostly in patients with significant underlying predisposition factors, particularly HIV disease.

Other identifiable underlying disorders include transplant recipients, patients receiving immunosuppressive agents such as glucocorticosteroids, cytotoxic chemotherapy, TNF- alpha inhibitors and other disease modifying agents; and less common on a heterogeneous group of patients with underlying disorders such as organ failure syndromes, innate immunologic problems, common variable immunodeficiency and hematologic disorders.

This is a case presentation with cryptococcal meningitis in a patient who is HIV negative and had no apparent underlying disorders or risk factors for cryptococcal disease.

CASE REPORT

PRESENTING HISTORY

A 56 year-old male presented to the Emergency Department, transferred from an outside hospital for a Cerebrovascular accident. Patient's symptoms began 1 week prior to admission and were still present on day of admission. Patient had complained of lightheadedness, fatigue, severe headache and nausea. His symptoms were becoming progressively worse and then went to his local Emergency Department.

- Patient denied previous medical problems. He denied h/o immunosuppression, organ transplant, HIV, diabetes, cirrhosis or h/o sarcoidosis.
- Patient did admit to use of a Medrol dose pack about 1 month earlier.
- Past medical history was negative according to his wife.
- Social history was positive for cigarette smoking for several years.

PHYSICAL EXAM AND LABORATORY FINDINGS

Oral temperature was 98.1°F, pulse was 74 beats per minute, respiratory rate was 16 per minute and blood pressure was 164/82 mmHg. On physical exam patient was awake, alert and oriented in non-acute distress. No meningeal signs. Lungs were clear to auscultation.

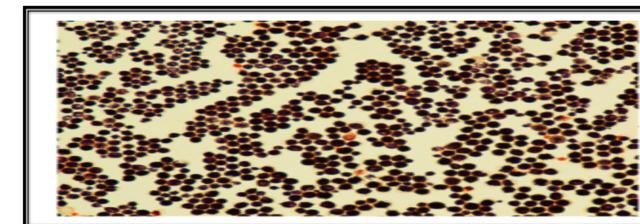
Initial Laboratory results included WBC 19.5. A CT head and neck showed bilateral cerebellar infarcts and smaller scattered supratentorial infarcts; the lateral ventricles appear slightly more dilated compared to the outside, cannot exclude developing hydrocephalus; the cerebral cortical sulci remain partially effaced as do the cerebellar folia bilaterally; this may be secondary to an infectious/inflammatory process.

Lab results:
Blood cultures: Negative
HIV test: Nonreactive
CD4 count: 767

Cerebral spinal fluid analysis:

Date	10-Aug	12-Aug
Appearance	slightly cloudy	slightly cloudy
RBC	208	230
ANC	40	159
Neutrophils	4%	26%
Total Nucleated cells	1,009	610
Lymphocytes	93%	68%
LDH	211	227
Glucose	24	23
T. Protein	170	236
Lactate	-	4.4

CSF gram stain:



Cryptococcal antigen: CSF Positive 1:320 and Serum positive 1:320
CSF cultures: Positive for Cryptococcal Neoformans
Fungitell : Negative

The Patient was treated with antifungal therapy. He received induction therapy with amphotericin B liposomal preparation plus flucytosine for 2 weeks. This was followed by consolidation therapy with fluconazole 800 mg p.o. daily for 8 weeks. Finally he was placed on 200 mg of fluconazole p.o. daily for life. This patient's most recent hospital course was described as benign. He presently is continuing rehabilitation with physical and occupational therapy.

DISCUSSION

This is an unusual case of Cryptococcal meningitis where we could not find any underlying disorder that could explain the acquisition of the disease.

There are 19 cryptococcal species that have been identified however the two major pathogenic species are Cryptococcal neoformans and Cryptococcal gattii. The vast majority of patients with symptomatic disseminated cryptococcosis have a clearly identified underlying immunocompromised condition. The most common underlying conditions worldwide include AIDS, prolonged treatment with corticosteroids, organ transplantation, advanced malignancy, diabetes, and sarcoidosis. Development of cryptococcosis may identify an underlying idiopathic CD4 lymphocytopenia.

It has been estimated that approximately 20% of patients who have cryptococcosis without HIV infection have no apparent underlying disease or risk factor. It would appear that this patient would represent one of the rare cases of cryptococcal meningitis in an immunocompetent person.

This case emphasizes the importance of considering Cryptococcus as a probable etiology of meningitis in all patients regardless of the presence or not of immunosuppression.

REFERENCES

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