Sociedade Brasileira de Infectologia

The Brazilian Journal of
INFECTIOUS DISEASES

www.elsevier.com/locate/bjid

FUNGAL INFECTIONS

513

PHAEOHYPHOMYCOTIC BRAIN ABSCESS IN AN IMMUNOCOMPETENT PATIENT: A CASE REPORT

Laura Martins Rangel *,
Cristiane da Cruz Lamas,
Leonardo Pereira Quintella,
Marco Antonio Sales Dantas de Lima,
Claudio Ballesteros de Aguiar

Instituto Nacional de Infectologia Evandro Chagas (INI), Fundação Oswaldo Cruz (Fiocruz), Rio de Janeiro, RJ, Brazil

Brain abscesses caused by dematiaceous fungi are rare. Most causative agents are filamentous fungi, and the involvement of immunocompetent individuals distinguishes them from other filamentous fungi, such as Aspergillus sp., typically found in immunocompromised patients. We present the case of a 57-year-old woman, heterosexual, Black, domestic worker, with hypertension, living in Rocha Miranda (Rio de Janeiro), born in Jacarepaguá, admitted with a 2-month history of headache, dysarthria, and right hemiparesis, culminating in a focal impaired-awareness epileptic seizure. At the referring hospital, a brain MRI showed a 2.1 × 1.9 cm expansive lesion in the left frontal lobe. After biopsy of the lesion, histopathology revealed a chronic granulomatous inflammatory process with multinucleated giant cells and fungal structures suggestive of Paracoccidioides brasiliensis. Amphotericin B was initiated and surgical resection of the lesion was performed. However, histopathological analysis of the new specimen identified pigmented toruloid hyphae, supporting the diagnosis of phaeohyphomycosis. After this result, the patient was transferred to a reference infectious diseases institute, where she received 6 weeks of intravenous amphotericin B, voriconazole, and dexamethasone, with partial improvement of paresis and dysarthria. Maintenance therapy with oral voriconazole was prescribed after discharge. The patient was readmitted 4 weeks later due to decreased level of consciousness and cholestatic syndrome. Owing to the neurological status and overall clinical condition, she again received combined voriconazole and amphotericin B. Subsequent imaging ruled out recrudescence of infection. Because of the persistent worsening of bilirubinemia, antifungal therapy was deemed the cause of the cholestatic syndrome and was discontinued. After improvement in bilirubin levels, the patient was discharged and is currently followed up as an outpatient. She still has right hemiparesis, with progressive improvement under rehabilitation. Most phaeohyphomycotic brain abscesses have a poor prognosis, with mortality above 70%. The therapeutic regimen for systemic/neurological phaeohyphomycosis is not well defined due to the paucity of reported cases and wide etiologic diversity, but generally requires excisional surgical management combined with antifungal therapy.

Keywords: Phaeohyphomycosis, Brain Abscess, Central Nervous System Infection.

https://doi.org/10.1016/j.bjid.2026.105141

514

THE ERA OF ANTIGEN TESTS IN THE SCREENING OF HISTOPLASMOSIS AND TUBERCULOSIS IN PEOPLE LIVING WITH HIV/AIDS

Pablo Eliack Linhares de Holanda [a,b,*],
Aliniana da Silva Santos [c],
Zayra Hellen de Abreu Alexandre [b],
Jacó Ricarte Lima de Mesquita [b],
Lisandra Serra Damasceno [a,b]

[a] *Universidade Federal do Ceará (UFC), Fortaleza, CE, Brazil*
[b] *Hospital São José de Doenças Infecciosas, Fortaleza, CE, Brazil*
[c] *Centro Universitário Christus (Unichristus), Fortaleza, CE, Brazil*

Introduction/Objectives: Antigen tests are rapid assays that enable early screening of opportunistic infections in

1413-8670/

people living with HIV (PLHIV). This study aimed to assess the prevalence and performance of tests for disseminated histoplasmosis (DH) and tuberculosis (TB) in PLHIV, between 2023 and 2024, in a referral hospital in northeastern Brazil.

Methods: Prevalence study including patients who underwent lateral flow antigen tests for DH screening through detection of urinary Histoplasma capsulatum galactomannan antigen (LF-AgHc, Miravista®) and for TB through detection of urinary lipoarabinomannan antigen (LF-LAM, Abbott). We included PLHIV >18 years of age with CD4 < 200 cells/mm^3 or World Health Organization clinical stage 3 or 4, as well as PLHIV with treatment interruption.

Results: During the study period, 244 hospitalized patients and 97 outpatients were screened for DH and TB. Most were cisgender men. The mean age was 40 years and mean CD4+ count was 104 cells/mm^3. Overall DH prevalence was 12.2%; however, among hospitalized patients, prevalence was higher than among outpatients (14.75% vs. 5.15%; $p < 0.005$). When evaluating LF-AgHc performance against leukocyte concentrate culture (n = 101), sensitivity was 85%, specificity 88.9%, positive predictive value (PPV) 65.4%, negative predictive value (NPV) 96%, and kappa index 0.663. Among patients with reactive LF-AgHc only (n = 24/41), 83.3% received antifungal treatment for probable DH. Regarding LF-LAM, overall TB prevalence was 11.3%, similar in hospitalized and outpatient groups (11.57% vs. 10.71%; $p > 0.05$). Compared with the Rapid Molecular Test for TB (TRM-TB; n = 143), LF-LAM sensitivity was 40.5%, specificity 94.3%, PPV 71.4%, NPV 82%, and kappa 0.630. Among patients with reactive LF-LAM only (n = 21/36), 90.5% were treated for TB. Death occurred in 22% of patients with positive LF-AgHc and in 5.8% of those with reactive LF-LAM.

Conclusion: The high prevalence of DH among hospitalized patients reinforces the need for early screening in this population. For tuberculosis, confirmatory testing with TRM-TB is important to establish the diagnosis of pulmonary TB, given the low sensitivity of LF-LAM. It is worth noting the high mortality in PLHIV with DH when compared to TB.

Keywords: Antigen test, Histoplasmosis, Tuberculosis.

https://doi.org/10.1016/j.bjid.2026.105142

515

HIGH GLUCOSE CONCENTRATION INCREASES THE M2 PROFILE AND REDUCES THE MICROBICIDAL ACTIVITY OF MACROPHAGES CHALLENGED WITH ENCEPHALITOZOON CUNICULI

Elisangela Pinto *, Juliana Braga Gomes, Anuska Marcelino Alvares Saraiva, Elizabeth Cristina Peres, Maria Anete Lallo

Programa de Patologia Ambiental e Experimental, Universidade Paulista (UNIP), Brazil

Introduction: Hyperglycemia, an alteration seen in diabetes, causes changes in the immune response and increases the susceptibility of diabetic individuals to infections. In macrophages cultured in high glucose (HG), changes in metabolism, phenotype, and phagocytic activity have been identified, compromising their function as a primary line of defense.

Objective: To evaluate the effects of HG on the phenotype and activity of macrophages obtained from adherent peritoneal cells (APerC) challenged with the microsporidium E. cuniculi.

Methods: APerC were cultured in RPMI medium supplemented with 10% fetal bovine serum (R10) or R10 with 30 mM glucose (R10HG30) and challenged with E. cuniculi spores at a ratio of 4 spores per macrophage for 1, 3, 6, and 24 hours. After these periods, cell viability, median fluorescence intensity (MFI) of CD40 and CD206, fungal burden, and production of Th1, Th2, and Th17 cytokines were measured.

Results: Macrophages cultured in R10 and challenged with E. cuniculi for 1 and 3 hours showed an increase in the M2 profile and a decline in the M1/M2 ratio (1:1), with increased production of pro-inflammatory cytokines TNF-α and IL-6 and greater microbicidal activity (lower fungal burden) associated with increased NO production. In the same group, after 24 hours, there was an increase in M1 macrophages, a decrease in the M2 profile with an increase in the M1/M2 ratio (5:1), and increased production of pro-inflammatory cytokines TNF-α, IL-6, IL-17, and IFN-γ. However, microbicidal activity and NO production were similar to those in the R10HG30 group. When challenged with the pathogen for 1 and 3 hours, macrophages cultured in high glucose showed a macrophage profile similar to that observed with R10, with predominance of M2, associated with reduced microbicidal activity (higher fungal burden compared with R10) and lower NO production. After 24 hours, despite an increase in M1 macrophages, M2 macrophages remained elevated and there was a decline in the M1/M2 ratio (1:1). In line with this finding, a mixed cytokine profile was identified, including TNF-α, IL-6, IL-17, IFN-γ, and IL-10.

Conclusion: High glucose concentration skewed macrophages toward an M2 profile and reduced NO production and the microbicidal activity of M1 macrophages against E. cuniculi.

Keywords: Innate Immunity, Hyperglycemia, Macrophages, Microsporidia.

https://doi.org/10.1016/j.bjid.2026.105143

516

CUTANEOUS PRESENTATION IN A CASE OF DISSEMINATED PARACOCCIDIOIDOMYCOSIS: A CLINICAL ALERT

Danilo Galvão Teixeira *, Tassiana Rodrigues dos Santos, Bryan Felipe Firmino Mardegan Durães, Ana Paula Bento Maia Lima, Dulcilane Saraiva da Silva

HGI, Brazil