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Introduction/Objectives: *Cryptococcus deuterogattii* is one of the species within the *C. gattii* complex. It is endemic in Northern (Amazonas, Pará, and Rondônia) and Northeastern (Piauí, Pernambuco, and Bahia) Brazil. This study aimed to analyze the clinical features and antifungal susceptibility of *C. deuterogattii* isolates.

Methods: This was a prospective cohort of patients aged ≥18 years diagnosed with cryptococcosis caused by *C. gattii*, admitted to a referral hospital in Northeastern Brazil between October 2020 and April 2025. Lineage identification was performed using MALDI-TOF, and antifungal susceptibility testing followed the CLSI M27-A4 protocol. The study was approved by the institutional Research Ethics Committee (protocol no. 5.275.155).

Results: Eight patients were included, and all isolates belonged to the species *C. deuterogattii* (VGII). Seven clinical isolates were autochthonous cases from Ceará, five originating from Fortaleza and two from the mountainous region (Baturité massif). Only one case was imported from Pará. The median age was 51.5 years, and 62.5% were male. HIV coinfection was identified in 37.5% of cases (3/8), and the median CD4 + T lymphocyte count was 18 cells/mm^3. Environmental risk exposure was identified among HIV-negative patients, including contact with birds (3/5), construction work (2/5), and inhalation of eucalyptus (2/5). Central nervous system involvement was observed in 87.5% (7/8) of patients. Cryptococcoma was identified in 75% of cases (6/8). Death occurred in 62.5% of patients (5/8). Altered mental status was observed only among patients who died (Glasgow <15). The most significant cerebrospinal fluid abnormalities were observed mainly in patients who died, including higher median cell counts (178 vs. 5 cells/mm^3) and protein levels (105 vs. 31 mg/dL). Regarding antifungal susceptibility, minimum inhibitory concentrations (MIC, mg/L) ranged as follows: amphotericin B 0.016–0.5; fluconazole 0.125–8.0; 5-fluorocytosine 1.0–2.0; voriconazole 0.016–0.25; and isavuconazole 0.016–0.031, with no in vitro resistant isolates identified.

Conclusion: Ceará emerges as a new endemic region for *C. deuterogattii* infections. Clinical severity and intense inflammatory response in the central nervous system may be contributing to the high lethality observed in this case series. Surveillance and molecular studies are needed to improve understanding and management of this infection.

Keywords: Cryptococcosis, *Cryptococcus Gattii*, Antifungal Susceptibility.

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IMPACT OF HISTOPLASMOSIS AND TUBERCULOSIS COINFECTION ON THE SURVIVAL OF PEOPLE LIVING WITH HIV/AIDS

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Introduction/Objectives: The frequency of disseminated histoplasmosis (DH) and tuberculosis (TB) coinfection among people living with HIV/AIDS (PLWHA) in Brazil ranges from 11% to 26%. This study aimed to evaluate the impact and factors associated with DH/TB coinfection in PLWHA between 2020 and 2024 at a hospital center in Northeastern Brazil.

Methods: Retrospective cohort study of hospitalized patients diagnosed with DH, followed for 90 days. The primary outcome was TB diagnosis. PLWHA aged ≥18 years with confirmed DH (isolation of *Histoplasma capsulatum* from buffy coat culture) or probable DH (positive urinary galactomannan antigen test) were included. TB diagnosis was established by rapid molecular testing or positivity of urinary lipoarabinomannan antigen testing. Statistical analysis was performed using STATA 18.0 software.

Results: During the study period, 251 patients were hospitalized with DH. The incidence of DH/TB coinfection was 19.5% (n = 49). Most patients were male. Median age (38.7 DH vs. 35.7 DH/TB; p = 0.053), CD4+ count (52 DH vs. 54.2 DH/TB; p = 0.689), and HIV viral load log (5.12 DH vs. 5.34 DH/TB; p = 0.841) were similar between groups. DH as an AIDS-defining illness (35.6% vs. 65.4%; p < 0.001) and previous TB history (6.4% vs. 65.3%; p < 0.001) occurred mainly in the coinfection group. Recent antiretroviral therapy use occurred in 8.91% of the DH group and 4.08% of the DH/TB group (p = 0.382). Dyspnea was more frequent in the DH/TB group (51% vs. 35.1%; p = 0.040), as was higher total serum bilirubin (1.8 vs. 1.3 mg/dL; p = 0.047). Itraconazole use was more frequent in the DH group (47% vs. 24.5%; p = 0.004). Mortality frequency was

similar between groups (25.7% DH vs. 34.7% DH/TB; p = 0.208). Ninety-day survival was 74.3% in the DH group and 64.8% in the DH/TB group (p = 0.267). In Poisson regression analysis, prior TB history was an independent factor associated with DH/TB coinfection (p < 0.001).

Conclusions: The impact of coinfection on patient survival was similar to that observed in DH alone. However, patients with a prior history of TB should be closely monitored for the risk of coinfection in the setting of advanced HIV disease. Long-term studies are needed to assess the impact of coinfection treatment on survival in PLWHA.

Keywords: Histoplasmosis, Tuberculosis, HIV.

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IMPEDIMETRIC IMMUNOSENSOR FOR DETECTION OF PEPTIDORHAMNOMANNAN (PRM) FROM *SPOROTHRIX BRASILIENSIS*

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Introduction: Sporotrichosis is a subcutaneous mycosis caused by *Sporothrix* species, with *Sporothrix brasiliensis* being the main etiological agent in Brazil. Currently, the gold standard technique for sporotrichosis diagnosis is culture of affected tissue, body fluids, or blood on Sabouraud dextrose agar, Mycosel agar, or Brain Heart Infusion agar for 5–8 days; however, microscopy, immunological tests, and mass spectrometry are also used. These techniques have limitations related to analysis time, high equipment costs, and the need for specialized labor. In this context, the development of impedimetric biosensors using IgY antibodies that are sensitive and selective for fungal markers represents a promising alternative to traditional diagnostic methods. To detect *S. brasiliensis*, it is necessary to identify peptidorhamnomannan (PRM), provided by the BiDiagnostic laboratory, as a diagnostic marker, since this species expresses additional rhamnose residues that differentiate it from other species.

Methods: A glassy carbon electrode was activated by chronoamperometry at a constant potential of 1.2 V. Subsequently, 10 μL of an antibody suspension was added to the electrode surface by drop-casting and dried at room temperature until a thin film was observed. The same process was repeated with a 0.5% casein suspension to block remaining binding sites. The prepared electrode was rinsed with 5 mL of ultrapure water to remove unbound casein and excess physically adsorbed material. After construction, the immunosensor was stored under refrigeration (2–8°C) until assay measurements. Statistical analysis was performed using Action Stat software.

Results: Cyclic voltammetry and electrochemical impedance spectroscopy demonstrated binding of PRM to anti-PRM IgY antibodies, with a linear ($r^2 = 0.9983$) and selective response for PRM.

Conclusion: We developed a label-free impedimetric immunosensor based on immobilization of anti-PRM IgY antibodies for detection of PRM from *Sporothrix brasiliensis*, aiming at future diagnostic applications.

Keywords: Sporotrichosis, *Sporothrix*, Diagnosis.

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INCIDENCE AND PROGNOSIS OF CANDIDEMIA: IMPACT ON CHILDREN, HEMATOLOGIC PATIENTS, AND CRITICALLY ILL PATIENTS, WITH A FOCUS ON THE POST-PANDEMIC PERIOD

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Candidemia is the leading invasive fungal infection in hospitals and is associated with high mortality. Changes in the profile of species and affected patient populations have occurred in recent years, intensified by the COVID-19 pandemic, which significantly increased its incidence. However, there are limited data on the post-pandemic scenario.

Objective: To analyze candidemia regarding the temporal distribution of species and its impact on clinical outcomes in children, hematologic patients, and intensive care patients, emphasizing changes observed in the post-pandemic period.

Methods: Observational study conducted at a referral hospital between 2018 and 2025, which includes a bone marrow transplant unit and a neonatal intensive care unit. Patients were stratified by period: pre-pandemic (2018–2019), pandemic (2020–2021), and post-pandemic (2022–2025).