Epidemiological trends of Candida species in urine culture—a retrospective study in a tertiary care hospital in Punjab

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Objectives: The presence of Candida species in the urine (Candiduria) is a typical clinical observation, especially in hospitalized patients. It is more common in immunocompromised persons, in bone marrow transplant units (BMTU) patients, and in those who are in intensive care units (ICUs). Urinary tract infections (UTIs) can be caused by any Candida species. Now, non-albicans Candida species proved in many locations around the world. Urinary tract contamination, poor antibiotic usage, lengthy hospital stay, extremes of age, diabetes mellitus, female gender, and immunosuppressive medication are all risk factors for candiduria. Candiduria represents colonization in the majority of adult patients in critical care settings, and antifungal medication is not necessary. The presence of yeast in the urine, on the other hand, can indicate a widespread disease. Candiduria often indicates widespread candidiasis in severely unwell newborns and is followed by blocking fungal ball development in the urinary tract.

Methods: A retrospective study was conducted at Christian Medical College and Hospital, Ludhiana from March 1, 2020 to March 31, 2022. The acquired urine samples were promptly processed in the microbiological laboratory using a semi-quantitative culture technique in accordance with normal protocol. All of the yeast isolates were processed further on Czarnik-Manoor agar (CMA) for further specification.

Results: Out of the 9729 urine samples received, there was culture growth for Candida species in 711 (7.29%) samples. Amongst the patients who had candiduria, 186 (15.22%) patients were immunocompromised. Out of 711 Candida isolates, 122 (16.90%) were Candida albicans and 589 (76.12%) were non-albicans Candida. Further specification of non-albicans Candida indicated the prevalence of C. glabrata, C. tropicalis, C. lusitaniae, C. parapsilosis, and C. krusei at 98 (13.77%), 78 (10.92%), 78 (10.92%) and 46 (6.49%) respectively.

Conclusion: The most prevalent healthcare-associated infection is nosocomial UTI. Candida species is becoming a more common cause of nosocomial urinary tract infections. C. albicans was the most common species isolated from the urinary system for many years. Now, non-albicans Candida species have emerged as a result of the introduction and widespread usage of antifungals. These non-albicans species may be more difficult to remove than C. albicans because they are more adapted to the kidney and collecting system. With controlling underlying diabetes, daily assessment of need of urinary catheterization, early removal of catheter, surgical removal of obstruction of the urinary tract and timely de-escalation of antibiotics can prevent candiduria in most of the cases. Thus, we can avoid antifungal therapy which may contribute to the resistance.

Panthaud’s Oculoglandular Syndrome as an atypical manifestation of sporotrichosis in Brazil

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Objectives: Inform the general practitioner about the possibilities of atypical manifestations secondary to sporotrichosis, such as ocular manifestations, correlated to the classic finding of contiguous lymphomatous ulcers.

Methods: This is a single-center, cross-sectional, retrospective study with patients evaluated and seen from June 2018 to April 2022 at the Myology Outpatient Clinic of Hospital Universitário Oswaldo Cruz, University of Pernambuco. All patients were evaluated by the same infectious disease physician throughout the course, from diagnosis to outpatient discharge.

Scrapings and cultures were collected by the institution’s specialized mycology team. Biopsies were sent to the University Pathology Service (USP).

Results: During the 4-year period, 231 patients started their treatment for sporotrichosis following clinical, laboratory, and histopathological criteria. Of those, 9 (3.84%) had Panthaud’s Oculoglandular Syndrome, amastigomycosis cutaneous associated with eyelid preauricular or submandibular lymphadenitis (Fig. 1). Of the 9 reported cases, 8 presented manifestations only in the conjunctiva (98%), and 1 case also presented pulpal involvement (12%). Since most patients had a late diagnosis due to the difficulty in carrying out the specific investigation of the agent by a non-specialized team, the diagnosis by scraping and culture was compromised by early treatment with antifungals, especially itraconazole. It is becoming common in the Northeast of Brazil that the association of sick cats with typical manifestations of sporotrichosis is the main epidemiological factor since our case series for infections caused by soil manipulation is low. Therefore, 55% (10) had a clinical-epidemiological diagnosis of sporotrichosis, with an excellent clinical response to itraconazole 200 mg/day, as well as the 4 patients with diagnoses confirmed by culture (Fig. 2). The antifungal was taken after lash since a fatty dermal ulcer with improved medication absorption. All patients were instructed not to use medications with known interactions, especially proton pump inhibitors and alcohol use.

Conclusion: Human sporotrichosis has become endemic in Latin America in the last two decades, bringing relevant morbidity to those infected. Zoonotic transmission by direct contact with infected sick cats has been gaining ground in Northeast Brazil, creating important epidemiology when typical sporotrichosis lesions appear following contact with those animals. Lymphomatous sporotrichosis is known to be the most common manifestation, but there is a need for care names working in primary and secondary care to identify atypical manifestations and expand the investigation into the possibility of fungal infec-
tions. The epidemiology of the neighbouring associated with the presence and contact with sick cats with ulcerative lesions must be considered and taken into account.
Successful management of COVID-19-associated mucormycosis in state of pernambuco, northeast brazili: 2 case reports

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Objectives: During the COVID-19 pandemic, several cases of mucormycosis related to SARS-CoV-2 were reported. This association is still poorly-studied due to its recent emergence and makes diagnosis and treatment challenging. Usually, patients who are affected by this infection are immunocompromised by corticosteroid treatment and uncontrolled diabetes mellitus, being mucormycosis a life-threatening opportunistic invasive fungal infection caused by mucormycetes, which reaches a mortality rate of about 50%, even with treatment. Thus, this association requires as much information as possible about the pathogenesis and treatment.

Methods: Here, we report two cases with conclusive diagnosis and positive evolution to mucormycosis associated with COVID-19 after corticosteroid therapy.

Results: The first case was a 48-year-old woman, hypertensive and diabetic, who was affected by SARS-CoV-2, with intense ocular pain and paralysis of extrinsic ocular muscles of the right eye and eyelid. The patient underwent CT scan of the sinuses with contrast, which showed signs on maxillary. The patient was admitted to intravenous with orbital decompression and the material from the surgery was sent for fungal investigation, which 20% KOH direct exam showed hyaline, sparse-to-sparse, broad, ribbon-like hyphae with irregular angle branching. Rhinocerebral mucormycosis was diagnosed in the facial sinuses, and resolution of infection was obtained with liposomal amphotericin B. The second case was a 58-year-old woman, obesity degree 5, asthenic and history of COVID-19, with history of abscesses in oral maxilla and palate, with drainage of brown secretion after 30 days of COVID-19 resolution. After medical discharge, the patient was evaluated by an oral and maxillofacial surgeon to solve an aesthetic problem, when the material was collected for biopsy of the maxillary lesion. Histopathological exam showed aspheric thick-walled hyphae presenting right angle bifurcation, suggestive of Mucorales (mucormycosis). The patient was readmitted to the hospital for mucormycosis treatment based on isavuconazole (200 mg, q8h) as attack dose on Day 1 and 2, and 3 toward q24h, and treatment evolved positively with no need for surgical intervention. We conclude that the extensive use of steroids associated with diabetes is the main factor for the appearance of mucormycosis after COVID-19, but with a conclusive diagnosis and correct treatment, this infection can have a good evolution, resulting in an improvement in the patient’s clinical condition, reducing the risk of death for this infection.

Conclusions: Isavuconazole appears to be a drug with a safe profile and with curative potential for mucormycosis. The possibility of oral use from the third day at its maintenance dose (200 mg/day) with intravenous use in the first 48 h at a dose of 200 mg every 8 h. Diabetic patients are more prone to infection, but patients infected with SARS-CoV-2 using corticosteroids have shown to be a risk group for this fungus.