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Fungal brain abscess in the era of COVID-19: an experience from a tertiary care Neurosciences Institute in South India
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Poster session 2, September 22, 2022, 12:30 PM - 1:30 PM

Introduction: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is ruling the world for more than 2 years since 2020. In 2021, the second wave of COVID-19 arrived at the ‘delta variant’ across the entire world, causing significant morbidity and mortality. The problem of ENT and Otorhinolaryngology is that in the same time it has to deal with patients suffering from the COVID-19 pandemic. In the present study, we aimed to assess the clinical features and outcome of patients with fungal brain abscesses in the era of COVID-19.

Methods: A retrospective study was conducted in the department of Neurosurgery, of a tertiary care Neurosciences Institute in South India. The study included all patients diagnosed with fungal brain abscesses between January 2020 and April 2022. The diagnosis was confirmed by imaging modalities, histopathological examination, and mycological examination.

Results: A total of 159 patients were diagnosed with fungal brain abscesses. Of these, 153 (97%) cases had a fungal etiology, while 6 (4%) were cases of fungal brain abscess. In 2021, these out of 153 (2% cases) had a fungal etiology, while 6 (4%) were cases of fungal brain abscess. In 2021, these out of 153 (2% cases) had a fungal etiology, while 6 (4%) were cases of fungal brain abscess. In 2021, these out of 153 (2% cases) had a fungal etiology, while 6 (4%) were cases of fungal brain abscess. The outcome was assessed by clinical and radiological findings, as well as patient’s response to antifungal therapy. The most common fungal organism isolated was Aspergillus fumigatus, followed by Candida albicans and Cryptococcus neoformans.

Conclusion: Fungal brain abscesses are a rare but important complication of the COVID-19 pandemic. Early recognition and prompt management are crucial to improve patient outcomes.

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Dematiaceous fungi as a rare cause of fungal sinustitis in a tertiary care center
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Objectives: To discuss the occurrence and diagnosis of dematiaceous fungi as a causative organism of fungal sinusitis in patients at a tertiary care center in North India. Since there is limited data on its prevalence, this study was aimed to know the non-Aspergillus causes of fungal sinusitis focusing on the dematiaceous fungi.

Methods: A total of 451 nasal biopsy samples, from the department of pulmonary medicine ward and ICU were received over a period of 5 years, from January 2019 to December 2021. The samples were subjected to conventional mycological diagnostic techniques including direct-epifluorescence and light microscopy, culture on solid media and visual identification of growth in cultures using lactophenol cotton blue mount.

Results: Out of 451 samples, no fungi were isolated from 299 samples (66.29%), Aspergillus spp from 63 samples (14.0%), dematiaceous fungi from 10 samples (2.21%), and other fungi from 79 samples (17.5%). Among the dematiaceous fungi isolated, 7 isolates were identified as Alternaria spp. (7%) and 1 isolate was identified as Curvularia sp. (30%) and described.

Conclusion: Most reported cases of allergy and immune system deficiencies were attributed to Aspergillus spp. However, in the current study, dematiaceous ‘black’ fungi like Alternaria and Curvularia, were also identified as causes of fungal sinustitis in both immunocompromised and immunocompetent individuals, showing an increasing pathogenic spectrum. Hence a high index of clinical suspicion and appropriate laboratory diagnostic assays in initiating appropriate treatment such as surgical debridement, reducing immunosuppression, and antimicrobial treatment with newer azoles.

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Molecular epidemiology of clinical filamentous fungi in Qatar beyond Aspergillus and Fusarium
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Objectives: Due to an increasing number of patients at risk, i.e., with a highly compromised immune system and/or receiving aggressive chemotherapy treatment, invasive fungal infections (IFIs) are increasingly being reported. They are associated with significantly high mortality rates. Aspergillus spp., particularly A. fumigatus, is the major cause of mild-related IFI around the world followed by Fusarium spp., however, other molds are emerging as human pathogens. The aim of this study was to explore the epidemiology and prevalence of the non-Aspergillus and non-Fusarium molds in human clinical samples over 11 years period in Qatar based tertiary hospital using molecular techniques.

Methods: A total of 91 clinical sample positives for molds belonging to 90 patients were recorded in about 11 years (September 2011 to November 2024). The isolates were identified based on morphological characteristics and by the internal transcribed spacer (ITS) gene. To confirm the identifications, a phylogenetic tree based on ITS sequences was constructed.

Results: Most patients were males (72%), 6% were immunocompromised, 12% had IFI, and 7% died within 30 days of diagnosis. The fungal isolates were recovered from a variety of clinical samples, including nails, skin, bone, scalp, nasal cavity, wounds, respiratory samples, body fluids, ear, nose, sinus, abscess, and blood samples. Dematiaceous fungi were the most isolated (53.9%), followed by dermatophytes (32.97%), Mucorales (10.59%), and other hyaline molds (10.59%). Interestingly, no identified dematiaceous fungi were recorded as the most isolated (33.9%), followed by dermatophytes (32.97%), Mucorales (10.59%), and other hyaline molds (10.59%) (Fig. 1). Curvularia was the most isolated genus (22.9%), followed by Dendryphiophyllum (21.3%) and Alternaria were the major cause of IFI (51.1, 45.1%) (Table 1). Superficial mycoses were caused by dermatophytes (64%) and non-dematiaceous (14%). Furthermore, rare fungi that are not commonly known to cause human disease were recovered such as Rhizopusstrepideus, Subulinaulama, and Pseudallescheri.

Conclusion: The current study highlights the epidemiology and spectrum of mold genera, other than Aspergillus and Fusarium, recovered from human clinical samples in Qatar, which can aid in surveillance of uncommon and emerging mycoses other than aspergillus and fusarium.

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COVID-associated invasive pulmonary aspergillosis (CAPA)—a case report
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COVID-associated invasive pulmonary aspergillosis (CAPA) is a severe fungal infection with a high mortality rate. The incidence of CAPA is on the rise possibly due to the prescription of corticosteroids and ticlopidine two repurposed drugs used for treating SARS-CoV-2. Diagnosis is challenging due to the non-specific nature of symptoms. Voriconazole is the mainstay of therapy. We present a case of a 46-year-old male presenting with left hyrdeno pneumatoceles post recovery from COVID-infections, and later succumbed to this complication. Patients developing pulmonary aspergillosis after short-term immunotherapy should be considered in those on systemic steroids and developing pulmonary functions.

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