Anti-granulocyte-macrophage colony-stimulating factor (Anti-GM-CSF) antitoxins—-the underestimated cause of Cryptococcus in non-HIV individuals in Thailand: Case series from a single tertiary care hospital

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Background/Case reports: Cryptococcus is an opportunistic fungal infection in immunocompromised patients. Granulocyte-macrophage colony-stimulating factor (GM-CSF) regulates the functions of phagocytes and other macrophages, which are crucial in cryptococcal control. Anti-granulocyte-macrophage colony-stimulating factor (Anti-GM-CSF) antitoxins have been found to be associated with cryptococcus in non-HIV individuals but this syndrome has never been described in Thai population.

Methods: We report here the case series of patients hospitalized in a tertiary care hospital in Northern Thailand. Results: Three apparently immunocompetent patients, 34, 38, and 65 years old, were presented with neurological manifestations. Brain computed tomography scans and lumbar punctures were performed and the results showed evidence of cryptococcal meningoencephalitis. Two of the patients also had pulmonary cryptococcosis. We performed Anti-GM-CSF antitoxins ELISA assays in the patient’s sera and all of the three serum samples revealed a high titer of Anti-GM-CSF antitoxins. The patients were treated with amphotericin B deoxycholate with or without fluconazole for induction antifungal therapy, followed by fluconazole consolidation treatment. All patients were cured and had favorable outcomes.

Conclusions: Anti-GM-CSF antitoxins syndrome is underdiagnosed in Thai patients and is a new entity of immunocompromise associated with cryptococcal meningoencephalitis and disseminated cryptocosis in Thai patients.

P4030
Fatal secondary fungemia due to Trichosporon asahii encephalomyelitis in a diabetic patient

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Objectives: We describe a fatal case of fungemia caused by Trichosporon asahii in a diabetic patient.

Methods: An 85-year-old moribund obese female with a prior cerebrovascular accident, hypertension, and diabetes mellitus was admitted to a peripheral hospital with type II respiratory failure, metabolic acidosis, and chronic anemia. Three weeks posthospitalization the patient remained febrile, physical examination showed that the patient had paraparesis, nystagmus, subungual onychomycosis, and a diabetic foot ulcer. Blood culture, as well as nasal and urine samples, became positive for Trichosporon asahii.

Results: Trichosporon asahii was isolated from blood, skin, and tissue samples. The isolate showed resistance to fluconazole, caspofungin, amphotericin B, and 5-fluorocytosine. The isolate was susceptible to anidulafungin and micafungin.

Conclusions: It is the first case of fungemia due to Trichosporon asahii in a diabetic patient. This is a rare opportunistic fungal infection and should be considered in the differential diagnosis of fungemia in diabetic patients.

P4031
Scedosporium apiospermum brain abscesses in an immunocompetent host: Rare case from Southern India

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Objective/Introduction: Scedosporium apiospermum is a filamentous fungus that causes a broad spectrum of diseases in an immunocompromised host involving the lungs, skin, bones, eyes, joints, and the central nervous system. It is a rare cause of fungal brain abscess, more so in an immunocompetent individual. Here, we report a case of brain abscess in an immunocompetent host caused by S. apiospermum.

Methods: A 78-year-old retired railway officer from Chennai, presented to our hospital on May 4, 2022, with a 3-month history of weakness, gait instability followed by difficulty in walking, and left hemiparesis. In all 20 days before the presentation, he had an episode of generalized tonic-clonic seizure with worsening of his neurological status resulting in bed-bound status. His medical history included Pemphigus vulgaris for which he was on topical treatment, well-controlled diabetes mellitus, hypertension, and coronary artery disease.

He underwent an MRI brain which revealed a T2 hyperintense intra-axial right parietal lesion with significant perilesional edema. A provisional diagnosis of a central abscess and malignancy was entertained. He was subjected to craniotomy and the surgical findings were consistent with a brain abscess and the pus was evacuated and sent for microbiological analysis. The pus fungal stain was consistent with septate hyphae and the culture grew S. apiospermum. The histopathological findings were also consistent with a brain abscess caused by saprophytic fungi (aspergilllous like fungi).

Results/Treatment: He was started on Intravenous Amphotericin B 3 mg/kg plus IV ID and imipenem-vicrimycin. There was initial clinical improvement with respect to somnolence and neurological status. He subsequently developed headache with worsening somnolence to which he finally succumbed.

Conclusion: Scedosporium apiospermum is an anamorphic form of Pseudoallescheria boydii, a fungus found in soil, contaminated water, and sewage. It is a rare cause of brain abscess in immunocompetent individuals. Near drowning or trauma may be the causative factors for immunocompetent individuals. Our patient was a well-controlled diabetic host with no apparent immunocompromise.

Scedosporium apiospermum is diagnosed on the basis of culture and microbiological examination. Due to the similarities in the clinical and histopathological presentations of Scedosporium with other similar fungi, culture becomes the gold standard tool for diagnosis.

Treatment includes surgical drainage of the abscess along with intravenous voriconazole for at least 8-12 weeks. The prognosis depends upon the immune status, surgical interventions, and medical antifungal therapy.
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Results: Materials Objective: Poster 2021

Introduction: Invasive fungal infection is a leading cause of morbidity and mortality in COVID patients as a secondary infection. Invasive fungal infections are often rapidly life-threatening and require specialist consultation for prompt diagnosis and therapy. The reporting of these invasive fungal infections (Mucormycosis, Pseudallescheria, and Candida) is less than its occurrence.

Objective: This study was undertaken to diagnose invasive fungal infections in COVID patients during the first, second, and third COVID-19 pandemic waves by conventional methods.

Materials and Methods: From March 2020 to December 2020 was considered the first wave pandemic, March 2021 to May 2021 was the second wave pandemic and December 2021 to February 2022 was considered the third wave pandemic era for this region. A total of 82, 146, and 87 samples were collected from patients clinically suspected to have invasive fungal infections during three pandemic waves from Covid indoor patients of RIMS, Ranchi. Among a total 24 were tissue samples, 15 BAL, and 160 were nasal swabs collected from suspected patients. KOH screening of all samples was done followed by culture on SDA media.

Results: A total of 83/297 (27.9%) cases were positive for KOH screening. In all, 93/297 (31.64%) samples showed culture positivity. A majority of growth was for Mucorae (48.2%), Aspergillus species (24.3%), Candida species (15%), and Rhizomucor (13%). Among Mucorales, Rhizopus was identified in 64% followed by Mucor (28%), Aspergillus (7%), and Rhizomucor (3%). Among Aspergillus species, majority were A. fumigatus (48%) followed by A. niger (37%), and A. fumigatus (15%). Maximum positivity for invasive fungal infections was observed during the second wave pandemic (62%) followed by the third wave (27%), and the first wave (11%) respectively.

Discussion: Maximum cases were observed during and after the second wave COVID pandemic era due to onset use of steroids during COVID treatment and cases were decreased during the third wave as compared with second wave timeframe due to the use of COVID vaccine, and many asymptomatic cases not included in quarantine policy.

Conclusion: Early diagnosis and treatment of invasive fungal infections with antifungal therapy and surgical debridement are necessary to reduce mortality and end-organ damage.

P462
Invasive fungal infection during COVID era at tertiary care hospital
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Introduction: Invasive fungal infection is a leading cause of morbidity and mortality in COVID patients as a secondary infection. Invasive fungal infections are often rapidly life-threatening and require specialist consultation for prompt diagnosis and therapy. The reporting of these invasive fungal infections (Mucormycosis, Pseudallescheria, and Candida) is less than its occurrence.

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