Fungal pan-sinusitis in an immunocompetent patient: A case report

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ABSTRACT

Mycotic infections of the paranasal sinuses are on the rise globally. Although they are uncommon cause of sinusitis, it usually occurs in immunocompromised patients. We report a rare case of pansinusitis due to *aspergillus terreus* in an immunocompetent young patient. He had intermittent rhinorrhoea and dull aching sensation on nostrils with visible polypoidal mass in both sides. Diagnosis was made by CT scan of the sinuses and the paranasal sinuses and confirmed by growth of aspergillus on SDA.

Key words: pan sinusitis, aspergillus terreus, immunocompetent patient.

INTRODUCTION

Mycotic infections of the paranasal sinuses are on the rise globally.[1] Aspergillus fungi, especially aspergillus flavus are more common in the Indian subcontinent compared to the western world where dematiaceous are more prevalent.[2,3] Mostly, the fungal infections of paranasal sinuses are benign or non-invasive; however they have a tendency to become invasive in immunocompromised patients.[4] Herewith we are reporting a case of non-invasive aspergillosis causing pansinusitis in an immunocompetent patient.

CASE REPORT

A 32 years hindu male presented with intermediate nasal obstruction for 5 years. He had complete nasal obstruction since last 8 months. Past history revealed no episodes of epistaxis, fever or headache. There was intermittent rhinorrhoea, slight discomfort and dull aching sensation inside nose. He could visualize the mass in both nostrils. He was a non-diabetic, and without any history of chronic steroid use or chemotherapy. On physical examination there was bilateral tenderness over maxillary and frontal sinuses with visible polypoidal mass in both nostrils. Rest of the physical examination was unremarkable and all the vital signs were within normal limit. A complete blood count revealed a total leukocyte count of 7700/cmm, haemoglobin 15 mg/dl and platelet count 226000/cmm. ESR was 10mm/first hour; FBS was 94 mg/dl, post prandial blood sugar (2 hours) was 134mg/dl; HIV status, HbsAg, HCV and VDRL were all negative. CT scan of the paranasal sinuses showed complete opacification of the sphenoid, ethmoidial and maxillary sinuses with hyper dense areas. (Figure 1)

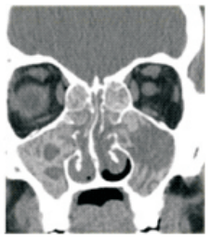

Figure1

The patient underwent lacrimal endoscopic sinus surgery; mass was removed and subjected to pathological and microbiological investigations. Examination of the mass revealed branching septate hyphae- suggestive of Aspergillus. Wet mount examination using 10% KOH showed thin branching septate hyphae with numerous spores. (Figure 2).

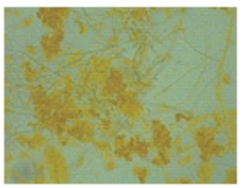

Figure 2

Sample was inoculated in blood agar, chocolate agar, Sabouraud's dextrose agar (SDA), peptone water, thioglycollate broth and Robertson's cooked meat broth (RCM). On second day there was growth of fine white feathery fungal colony on blood agar, chocolate agar and SDA. (Figure 3)

Figure 3

Fungal ball was seen in peptone water, thioglycollate broth and RCM. It was incubated for twenty days at 25°C in BOD. Colonies were velvety, cinnamon brown macroscopically. Reverse was white to brown. Microscopic examination in lactophenol cotton blue showed short conidiophores, and phialides arranged in two rows. Based on above findings it was identified as *Aspergillus terreus.* (Figure 4)

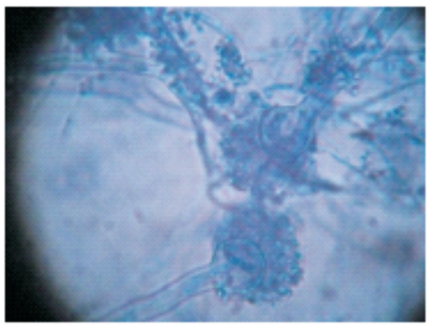

Figure 4

After surgery he was treated with Itraconazole (200mg) twice daily for six weeks. Follow up examination after 6 weeks was normal. He was completely asymptomatic during subsequent follow-up examinations.

DISCUSSION

Aspergillus belongs to ascomycetes class and is a saprophyte. Aspergillus flavus commonly affect paranasal sinuses in humans however, Aspergillus terreus as a cause of pansinusitis is rarely reported.[3] Inhalation of spores is the usual mode of infection; marijuana smoking and dental filling being the common predisposing factors.

Clinically, the disease presents as non-invasive, invasive fulminant, and allergic form.[5] These three forms are continuous spectrum of the natural course of the disease. Non-invasive form presents as refractory sinusitis. Ocular and neurological complications are commonly observed in invasive form. It has been associated with a fatality rate of 16%.[6] Unlike the present case, fungal pan sinusitis commonly occurs in immunosuppressed patients. Early diagnosis with urgent surgical debridement and systemic antifungal therapy is the key to the management of this rhino orbital infection.

A high index of suspicion of undiagnosed sinusitis should be kept in mind and appropriate radiological investigation should be done. Prompt surgical intervention with tissue culture and histology is vital to the clearance of primary infection as well as in guidance of subsequent antimicrobial therapy. It is also worth noting that polymicrobial infection of the sinuses can occur and hence appropriate antibiotics and antifungal treatment need to be instituted.

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