Case Report

Fungal sinusitis in immunocompetent patient: a case report

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ABSTRACT

We present a case of fungal sinusitis which occur in an immunocompetent patient and responded well with sinus clearance under clinic settings. Early diagnosis is essential in order to avoid high morbidity and mortality associated with the destructive disease and to initiate treatment before irreversible condition arise. . It is necessary to distinguish the invasive disease from the non-invasive as the treatment and prognosis are different in each. (Rawal Med J 2013;38: 206-208).

Key words: Fungal sinusitis, immunocompetent patient, aspergillosis.

INTRODUCTION

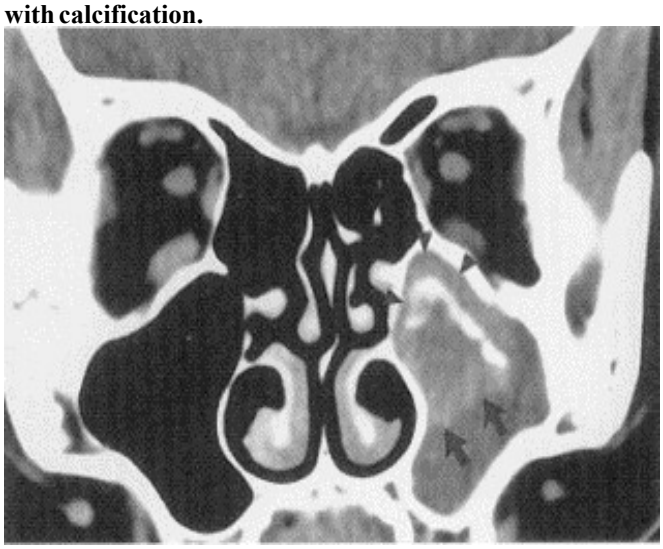
Fungal infections of the paranasal sinus are increasingly recognized entity both in normal and immunocompromised individuals. Aspergillosis and Mucormycosis being the commonest of all the fungal infections involving maxillary sinus manifests as two distinct entities, a non-invasive and invasive infection. This case report present a case of fungal sinusitis which occur in an immunocompetent patient and responded well with sinus clearance under clinic settings.

CASE PRESENTATION

A 44-years-old Indonesian lady presented to ENT department of National Malaysian University Hospital (UKM Medical Center) with the complaint of progressive left nasal blockage associated with foul smelly yellowish nasal discharge. It started about 6 month ago with an episode of fever and upper gum infection of 1 week duration which subsided after a course of antibiotic prescribed by a general practitioner in Indonesia.

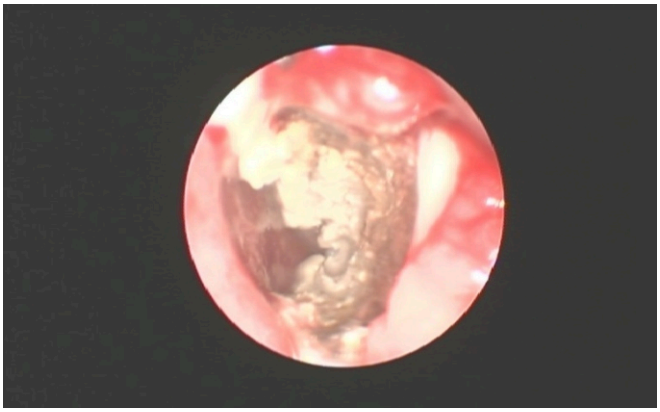
On further history, she denied any symptoms that related to chronic rhinosinusitis and it's complication such as meningitis and visual disturbances. She was immunocompetent and not diabetic. She sought treatment in Private Hospital at Pulau Pinang and CT scan of the brain and paranasal sinus showed left maxillary sinus lesion with focal calcification and thinning of medial maxillary wall and floor of orbit (Fig 1). Biopsy was not taken and she was referred for further management.

Figure 1: CT scan PNS showing left maxillary sinus lesion with calcification.



On examination, patient was alert, medium built and not cachexic. There was no obvious swelling at facial area and no cervical lymphadenopathy. Rigid nasal endoscopic examination showed widening of left maxillary sinus opening which was fully occupied with yellowish and blackish debris (Fig 2). The sinus content was suctioned out and revealed about 20 ml yellowish and blackish debris with fluid. It was sent for histopathological examination, fungal and bacterial culture and sensitivity.

Figure 2: Fungus occupying left maxillary antrum.



The left maxillary sinus was irrigated with Gentamycin wash until all the content was washed out leaving inflamed but intact sinus mucosa. She was started on IV Augmentin and Flagyl for 1 week. Patient was referred to maxillofacial team as the sinusitis was suggestive of dental origin. OPG showed apical fibrosis of left upper molar probably due to previous infection. No dental extraction was needed. On daily nasal endoscopic examination, the sinus mucosa inflammation subsided and patient discharged symptom free after 1 week.

Review the fungal and bacterial culture and sensitivity after 2 week showed no growth and the bacterial culture show mixed growth of 4 types of microorganism. However, the histopathological examination revealed the presence of several clusters of fungal composed of abundant homogenous, septate hyphae and numerous budding yeast. On follow up, she showed tremendous improvement and need not to go for endoscopic sinus surgery under general anaesthesia.

DISCUSSION

Fungi has been increasingly recognized as important pathogens in severe acute and chronic sinusitis in immunocompromised hosts. They have been detected in more than 90% of nasal lavages in immunocompetent patients with rhinosinusitis.[1] The role of fungi is well established in a few subtypes of rhinosinusitis, such as acute invasive fungal rhinosinusitis, allergic fungal rhinosinusitis, and fungal balls.[2] With regard to the immunologic status of the patients, allergic fungal sinusitis appears in atopic patients, while saprophytic and fungal balls appear in immunocompetent patients.[3]

Historically, the organisms most frequently encountered in this disease are Mucor, Aspergillus and Rhizopus. Aspergillosis of the paranasal sinuses is infrequent and usually involves the species Aspergillus fumigatus and Aspergillus flavus. The maxillary sinus is the most commonly affected sinus.[4] An acute invasive fungal infection of the sinonasal cavities is a potentially life threatening, systemic infectious disease requiring more urgent attention and treatment by an otolaryngologisthead and neck surgeon, but it is difficult to diagnose and treat.[5]

Treatment must be quickly provided, and requires aggressive surgical debridement and intravenous antifungal therapy, such as Amphotericin B.[6] Acute invasive fungal sinusitis can be successfully treated with a combination of endonasal surgical debridement.[7] An endonasal approach is more suitable for patients diagnosed in the early stages of the disease. Open surgery should be preferred in the presence of palatinal, intraorbital extension, or intracerebral involvement.[8] Reversing the underlying disease process and immunosuppression is as important as surgical and antifungal treatments.[9]

The prognosis is poor without a correction of the underlying predisposing immunocompromised state. Significant complications of invasive fungal infection may occur after medical remission.[6] Patients should be followed long-term, until a resolution of crusting and remucosalization of the sinuses and the cessation of bony sequestration.[5]

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Conflict of Interest: None declared
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Rec. Date: Feb 06, 2013 Accept Date: Mar 03, 2013

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