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A Case Report of Chronic sinusitis with oroantralfistula due to *Pseudalleschriaboydii*

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Abstract: A 70 year old female camewith complains of persistent nasal discharge since 4 days & spontaneous fall of tooth 4 days back. Patient was a known case of Rheumatoid arthritis since 30 years being on steroidal injections. Patient had left unilateral hypertrophied thick & congested inferior turbinate. Deviating nasal septum to right. Oro-antral fistula was seen.Lactophenol cotton-blue mount showed septate hyphae with acute angle branching &single celled conidia.Patient was effectively treated with voriconazole.

I. INTRODUCTION

Aspergillusfumigatus is the most common species implicated in paranasal sinus infection, with other species being rarely reported [1]. *Pseudallescheriaboydii*, a ubiquitous saprophytic fungus,is an emerging pathogen found worldwide. The fungus enters into body via respiratory route or by penetrating injury [2].It is an uncommon but highly infectious organism in granulocytopenic patients .It produces a picture similar to *Aspergillus spp*. with invasion of blood vessels,respiratory tract etc.

1.1 It is known to be normally resistant to commonly available antifungal drugs,so prompt diagnosis & treatment is very important in these cases. To our knowledge, there has been few case reports involving isolated frontal or ethmoidal sinus & only one reported case of *P. boydii* infection involving the frontal,maxillary and ethmoidalsinuses where the fungal species failed to grow on culture[3].

1.2 We are reporting a very unique case of chronic sinusitis involving maxillary,sphenoid &ethmoidal sinus along with oro-antral fistula,where we conclusively proved *P.boydii*to be the causative organism by culturing it.

II. CASE REPORT

A 70 year old female came with –complains of persistent nasal discharge since 4 days& spontaneous fall of tooth 4 days back

2.1 Patient was apparently alright 6 months back.To start with she underwent upper left first molar tooth extraction. Following extraction she had complains ofunilateral left sided running nose &unilateral headacheon the same side since then.Four days back she had a spontaneous loss of left second molar tooth & persistent nasal discharge.

2.2 Patient was a known case of Rheumatoid arthritis since 30 years being on medications including steroidal injections. Patient had sinus tachycardia for which she was on sorbitrate.

2.3 There was no H/O trauma, foreign body insertion, earache, ear discharge, convulsions.There was no H/O DM/Asthma/TB or any drug allergy.

2.4 On General examination – patient had sinus tachycardia on ECG & she was on sorbitrate.

Systemic examination was not contributory.

2.5 On local examination – It showed leftunilateral hypertrophied thick & congested inferior turbinate. Deviatingnasal septum to right. Oro-antral fistula was seen.

2.6 CT scan of paranasal sinuses showed – e/o non enhancing mucosal thickening in left maxillary & sphenoid sinus. Opacification of ethmoidal air cells, bone defect at the base of maxillary sinus; e/o bone destruction at ethmoidal septa, e/o obliterated left maxillary ostium.

III. LABORATORY INVESTIGATION

3.1 Haematological examinations showed no abnormality. The surgically removed mass from the left maxillary sinus was sent to microbiology laboratory. The mass was cultured on Sabouraud' s dextrose agar (SDA) at 25 ˚C & 37 ˚C . Remaining sample was

used for making10% KOH preparation which showed presence of septate hyphae. On fourth day, fungal growth appeared on 25˚c slope. The texture was wooly to cottony. Obverse side showed aerial hyphae initially white and later becoming dark gray or brown coloured colonies. Reverse side was black.

3.2 Lactophenol cotton-blue mount showed septate hyphae with acute angle branching.Oval single celled conidia borne singly from tips of long conidiophores, were present(Fig).

IV. Treatment

Post- operatively, patient was started on I.V Amoxicillin- Clavulanic acid combination 500mg/100mg 8 hourly for initial 3 days post-operatively but patient did not respond to the treatment& there was persistent nasal discharge. After the growth of P.boydii on SDA we advised clinicians to start Voriconazole .Accordingly Voriconazole 200mg BD X 7dayswas administered to the patient. Patient showed a great clinical improvement with complete stoppage of nasal discharge.Finally, the patient was discharged after the complete course of voriconazole treatment.

V. Discussion

*P.boydii*most commonly involves maxillary sinus.The age group affected is usually between 20 and 40 years ofage. The occurrence is more frequent in men than in women(3:1 to 5:1) [4]. Invasive infections have also been reported in patients receivingTreatment with corticosteroids and immunosuppressive therapy for organ transplantation, leukaemia, lymphoma, systemic lupus erythematosus or Crohn' s disease [4].Sometimes when the sample does not have viable hyphae in it, even though the KOH preparation shows hyphae there is no growth on the culture. In such cases even though it is theoretically said that it should be considered positive for fungus. The culture for isolates like P.boydii carries significance as the species is known to be resistant to Amphotericin B .Some literature says Miconazole is the drug of choice for *P.boydii* infection treatment,[4]) .There are also some references as voriconazole being used for the treatment of P.boydii effectively [5].In our case also.we found Voriconazole to be effective in treating this fungal infection successfully.

5.1 To conclude, P. boydiican produce potentially lethal complications in patients who are immune compromised .Hence early surgical intervention followed by antifungal therapy is very effective in treating the patient.

VI. Conflict of Interest

None

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