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Research Article

MUCORMYCOSIS OF ORAL MUCOSA: A RARE CASE REPORT

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ABSTRACT

Mucormycosis is an emerging angioinvasive infection caused by the ubiquitous filamentous fungi of the Mucorales order of the class of Zygomycetes. Mucormycosis has emerged as the third most common invasive mycosis in order of importance after candidiasis and aspergillosis in patients with hematological and allogeneic stem cell transplantation. Mucormycosis also remains a threat in patients with diabetes mellitus in the Western world. Furthermore, this disease is increasingly recognized in recently developed countries, such as India, mainly in patients with uncontrolled diabetes or trauma. Epidemiological data on this type of mycosis are scant. Therefore, our ability to determine the burden of disease is limited. Based on anatomic localization, mucormycosis can be classified as one of 6 forms: (1) rhinocerebral, (2) pulmonary, (3) cutaneous, (4) gastrointestinal, (5) disseminated, and (6) uncommon presentations. The underlying conditions can influence clinical presentation and outcome.here we are presenting a rare case report suspected of mucormycosis.

Keywords:mucormycosis, fungal infection.

INTRODUCTION

Mucormycosis is a fungal infection commonly affecting structures in the head and neck, such as the air sinuses, orbits, and the brain. Common predisposing factors include diabetes mellitus and immunosuppression.Early diagnosis and prompt treatment can significantly reduce the mortality and morbidity of this lethal fungal infection[1]. We report a case of palatal perforation by rhino-maxillary mucormycosis in an immunocompromised patient.It is one of the most rapidly progressing and lethal form of fungal infection in humans which usually begins in the nose and paranasal sinuses. The fungus causing the infection invades the arteries s, forms thrombi within the blood vessels that reduce blood supply and cause necrosis of hard and soft tissues.

CASE REPORT

A 60 year male patient reported to OPD of Jaipur Dental College, Jaipur for evaluation of pain in the right maxillary posterior region since 1 week. Pain was severe in nature, aggravated chewing food and subsided after medication. The patient also complained of nasal congestion and headache. There was no history of fever, purulent discharge, paraesthesia or foul odor.Patient had complained of same kind of pain 2 months back which subsided after medication from a local chemist. The patient had undergone extraction of right maxillary second and third molars 6 months earlier due to poor periodontal health where as some of the teeth exfoliated on its own. Patient had persistent pain and discomfort for the last 6 months.On past medical history he gave the history of some stomach operation 3 years back. On general examination blood pressure was 200/110 mm of hg. Intraoral oral examination showed denuded mucosa with the exposure of the bone on the right side of the hard palate extending from the mesial aspect of the canine to the maxillary tuberosity and from the mid palatine suture to the attached gingivaof the same side covering the alveolar ridge. Well defined with irregular margins,.Approximately 3.5× 3 cm in size. Pale yellow in colour with slough and surface

texture appears to be rough and grainy whereas surrounding mucosa appears to be normal. On palpation all the inspector findings were confirmed and the lesion was non tender and nonscrapable, firm to hard in consistency with raised borders and without any discharge.

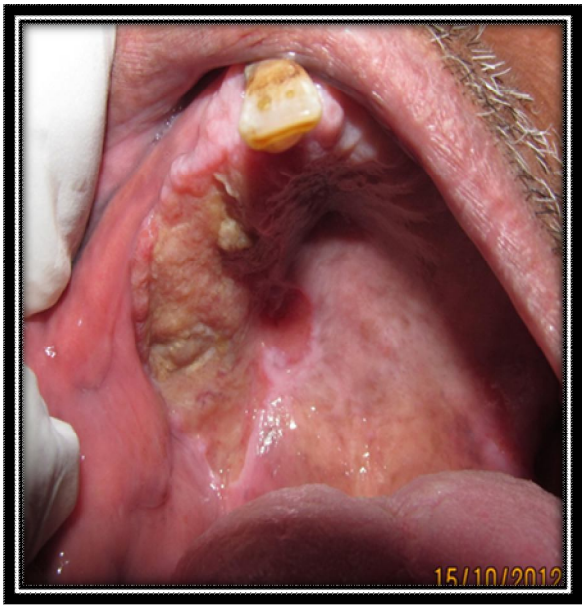

Fig. 1

An OPG and Maxillary occlusal radiograph was advised followed by random blood sugar and smear of the lesion. OPG and occlusal radiograph of the patient shows bone erosions of the right side of the maxilla CT scan was not performed due to financial constrains. Biochemical investigations were within normal limits.

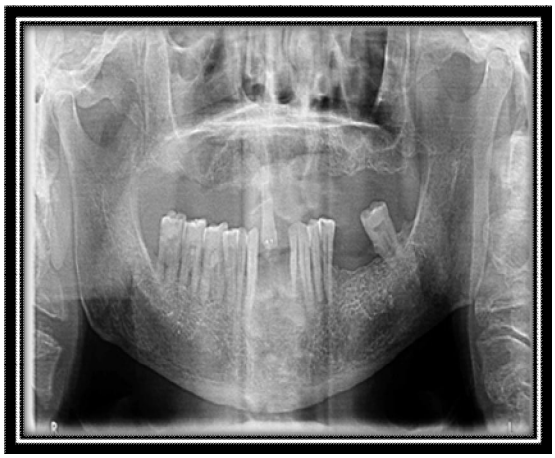

Fig.2

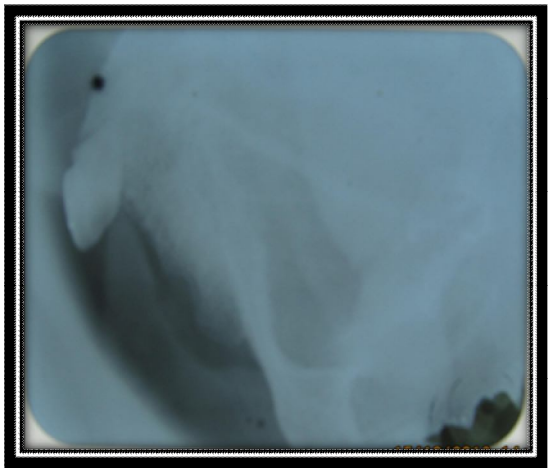

Fig. 3

Hence based on clinical, radiographic levels diagnosis given was Mucormycosis. Differential diagnosis of bisphosphonates induced osteoradionecrosis as the patient gave the history of stomach surgery.

The patient was advised for biopsyof hard tissue specimen along with the adjacent

soft tissue to be excised under local anesthesia and sent forhistopathological examination but the patient didn't turnup due to personal reasons. Amphotericin-B 0.8mg/kg/day intravenously for two weeks to be administered . It should be slowly infused over 4-6 hours and blood urea and creatininelevels were monitored as the drug can cause renal toxicity. Aanobturator shouldmade for the patient.

DISCUSSION

Mucormycosis is a rare but emerging fungal infection with a high mortality rate. Most of the existing epidemiological studies of mucormycosis are retrospective and limited. The literature contains few prospective, population-wide studies of it.[3]Usually occur in immunocompromised patients. . The predisposing factors for mucormycosis are uncontrolled diabetes (particularly in patients having ketoacidosis), malignancies such as lymphomas and leukemia's, renal failure, organ transplant, long term corticosteroid and immunosuppressive therapy, cirrhosis, burns, protein energy malnutrition and AIDS. Our patient had very high blood pressure as well as there was a vague history of surgery 3 months back which is a well known predisposing factor for mucormycosis.[2]

Usually mucormycosis occurs as a pulmonary, gastrointestinal, disseminated or

rhinocerebralinfection. In our patient, infection was only localized to the maxilla and it underwent necrosis without any other symptoms. Disseminated involvement of mucormycosisis observed in diabetics with ketoacidosis, which favors rapid proliferation of fungus and its invasion into the orbit and cerebrum.Mucormycosis is aggressive and potentially fatal in diabetic patients because of impaired host defense mechanism and increased availability of micronutrients such as iron.[4] The general health of this patient was good and he did not developed ketoacidosis which facilitates spread of infection to other organ systems. Therefore, in this case the patient had a localized rhino-maxillary form of the disease which is a subdivision of well documented rhinocerebralmucormycosis. However the infection may spread to involve the cranium, orbit and other organs. Therefore, a team of specialists including a dentist, ophthalmologist, neurosurgeon and maxillofacial surgeon are required for management of such patients.[5]

Recent reports have suggested that jaw necrosis can also occur in patients on bisphosphonate therapy.Our patient did not report any such drug intake so it was ruled out.Three principles in the patient management should be followed. Firstly, control of diabetes for which the patient was advised insulin therapy and dietary restrictions. Secondly, removal of the necrotic bone, which acted as a nidus of infection and prevented action of systemically, administered antifungal drugs (due to thrombosis of blood vessels).Lastly, amphotericin B is to be administered parenterally as it is the drug of choice in treatment of mucormycotic infection. Mucormycosis was long regarded as a fatal infection with poor prognosis. However with early medical and surgical management survival rates are now thought to exceed 80%. In conclusion, an immunocompromised or immunosuppressed patient having bone necrosis following tooth extraction should alert a clinician of possible mucormycotic infection.

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