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Oral Manifestations of Mucormycosis In Post-Covid 19 Diabetic Individual – A Case Report

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Abstract

The current COVID-19 pandemic has created yet another healthcare issue, with the emergence of a fungal disease that has resulted in a higher fatality rate. COVID-19 patients are predisposed to fungal infections such as mucormycosis, which has been reported in patients who are currently battling and those who have recently recovered, particularly those who are medically compromised. There has been a recent increase in the incidence of rhinomaxillary mucormycosis, which has now become an emerging problem. Trauma, poorly controlled diabetes, inappropriate corticosteroid usage, extended neutropenia, hemopoietic malignancies, hematopoietic stem cell transplant, organ transplant, and prolonged stays in the critical care unit all contribute to the increase of mucormycosis in COVID-19 patients. This case report mainly emphasizes oral manifestations of a post-COVID-19 diabetic patient who reported to the Department of Dental surgery, Andhra Medical College, Visakhapatnam, India.

Keywords: Mucormycosis, Diabetes, COVID-19, Fungal infections.

Introduction

The oral manifestations of mucormycosis in COVID-19 individuals include variable degrees of mucosal coloring, swelling, ulcerations, superficial necrotic regions in the palate, and buccal mucosa, sinus tract opening into the oral cavity, bone exposure, and necrosis with dark eschar formation. Swelling on the buccal mucosa, palate, sinus tract openings into buccal or palatal mucosa, buccal and palatal ulcers may be the initial symptom prompting the patient to the dentist, who may be the first doctor to identify an infection and diagnose mucormycosis. A non-specific swelling or ulcer of the buccal mucosa and palate could be a presenting sign of mucormycosis, and a dental practitioner must be aware of the disease's early signs and symptoms, especially when screening high-risk patients. Early detection of mucormycosis is crucial because treatment should begin as soon as possible to decrease mortality.

Case Report

A 37yr-year-old male patient reported to the Dept of Dental Surgery, Andhra Medical College, Visakhapatnam, Andhra Pradesh. The patient had pain in the left-back tooth region with swelling of the left cheek and eye for 5 days. The patient had a history of being COVID-19 positive 27 days back and was on treatment with corticosteroids since then. The patient is a known diabetic for 3 years and is on treatment with anti-diabetic medications. The patient also gives a history of recent extraction of the left upper posterior tooth due to pain, and mobility. On clinical examination, there is an extraoral swelling of the left cheek extending up to the left orbit, and the left angle of the mandible (Figure 1). Intraoral

examination reveals swelling of the hard palate in the region of 22, 23, 24, 25 and missing 26(Figure 2). Sinus opening with pus drainage was observed in the buccal vestibule in the region of 24, 25(Figure 3). Mobility of the alveolar segment in relation to 23, 24, 25 was observed. A provisional diagnosis of Rhino-Orbital Mucormycosis was considered based on the medical history, and clinical signs observed.

Figure 1: extraoral swelling of the left cheek

Figure 2: Swelling of the palate

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Figure 3: Sinus opening with pus drainage in the buccal vestibule

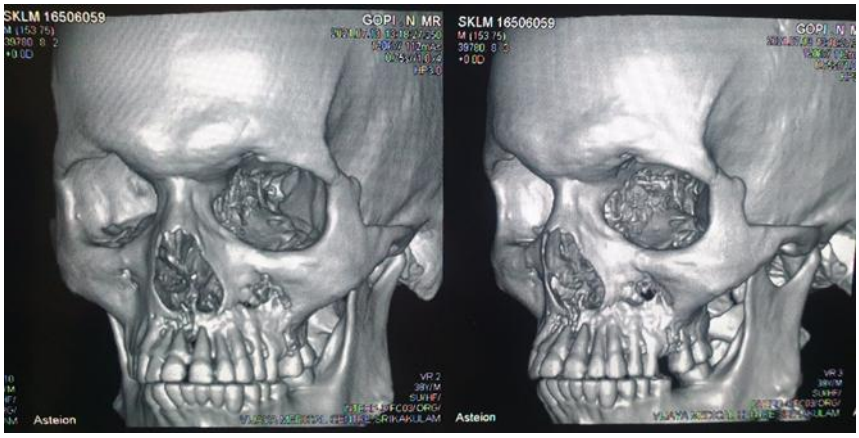

Figure 4: CBCT images showing irregular erosion of walls of the left maxillary sinus

An incisional biopsy was obtained for histopathologic examination, and the patient was advised for Computed cone-beam tomography (CBCT) imaging for the head, and neck.

Results of histopathologic examination were positive for Mucormycosis with angioinvasion. CBCT images revealed irregular erosion of walls of the left maxillary sinus, and inferior orbital wall (Figure 4). A definitive diagnosis of Rhino-Orbital Mucormycosis was reported, and the patient was referred to ENT Surgeon, Ophthalmologist for further evaluation, and treatment.

Discussion

Trauma, poorly controlled diabetes, corticosteroid usage all contribute to the increased risk for mucormycosis in COVID-19 patients. In the present case report, the patient presented with various risk factors such as recent trauma due to extraction of the tooth, previous history of diabetes, and history of being COVID-19 positive which may have contributed to increased risk for Mucormycosis. The initial symptoms presented by the patient were of dental origin. However, Mucormycosis in its primary stage mainly infects the paranasal sinus followed by orbital invasion in its secondary stage. Infection of the paranasal sinus can initially present as swelling, and pain in the maxillary tooth, and palate. Thereby, dentists should have a thorough knowledge of oral manifestations of Mucormycosis to help in early diagnosis and prevent its cerebral spread by rendering early treatment. A thorough history and careful oral examination help in early diagnosis to render early treatment which substantially decreases the mortality rate.

Conclusion

Dentists play an important role in diagnosing Mucormycosis, as it primarily affects the facial tissues, palate, alveolar bone, and mandibular bone in the rhinomaxillary areas. Dental professionals should be aware of signs of mucormycosis. Atypical

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symptoms such as sinus discomfort, facial pain, unforeseen odontalgia in apparently healthy teeth, or patient deterioration following dental therapeutic procedures should alert doctors to seek confirmation of the diagnosis and begin appropriate treatment as soon as possible.

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