

Osteomyelitis of Maxilla Mimicking Mucormycosis: A Clinical Puzzle

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Abstract

Diseases with pathognomonic signs are easy to diagnose clinically. Challenging is those situations when the disease entity resembles the other disease. Same is our case wherein the clinical features of the osteomyelitis coexist with that of mucormycosis leading to dilemma. Since the occurrence of the disease is rare, it is often misdiagnosed. Incorrect diagnosis changes the treatment plan which ultimately affects life expectancy. This case also encompasses the role of radiological advancement which is cone-beam computed tomography in our case. This case is complete in the sense that entire procedure, beginning from diagnosis till treatment has been mentioned. The importance of diagnosis is justified when the patient gets the maximum benefit out of it. Post-operative rehabilitation is equally important for the patient to continue the normal lifestyle which is very well provided in this case to the patient.

Key words: Moth eaten appearance, Mucormycosis, Necrosis, Osteomyelitis

INTRODUCTION

Osteomyelitis of jaw refers to the inflammatory condition of bone and bone marrow.^[1] Osteomyelitis of maxilla is rare due to its high vascularity and porosity of the bone. It has peculiar features which are mandibular involvement, pus discharge, recent history of extraction, etc. It is seen to involve patients with hampered immunity such as patients with long-term history of use of corticosteroid, and uncontrolled diabetes mellitus.^[2] This case is unique in the sense that maxilla was involved commonly than mandible and all these features imitated clinical features of mucormycosis which led to a diagnostic challenge for us to come to any specific conclusion based on clinical examination.

CASE REPORT

A 65-year-old male reported with the complaint of difficulty in having food and water since 1 month. He

also complained about the nasal regurgitation and nasal twang to his voice which he has been observing since 1 year. The patient gives history of multiple extractions of teeth around 1 year back. There was history of pus discharge preceding and succeeding the extraction. No abnormality is detected extraorally except with lower vertical dimension. The patient was a known diabetic but was not taking medication due to ignorance. On intraoral examination, a hollow bone defect roughly oval in shape measuring 3 cm × 2 cm in diameter is seen on the right side of maxilla [Figure 1]. It extends 1cm away from midline present on the right side of maxilla. The defect is seen to be filled by necrotic slough and bony fragment. There is loss of epithelium over the defects. Adjacent mucosa appears to be blanched and slightly swollen. Apart from the defect, there is an ulcer measuring approximately 1 cm × 1 cm in diameter present on the left buccal mucosa with yellowish base and keratotic border which is seen to be associated with the root piece of 24. Based on the clinical presentation, differential diagnosis chronic suppurative osteomyelitis with maxilla and mucormycosis was also considered due to the involvement of maxilla and the compromised immunity of the patient. For investigation initially, an occlusal radiograph was taken to know about the expansion of the defect [Figure 2]. It revealed fragments of destructed bone most commonly resembling moth eaten appearance. Extending the

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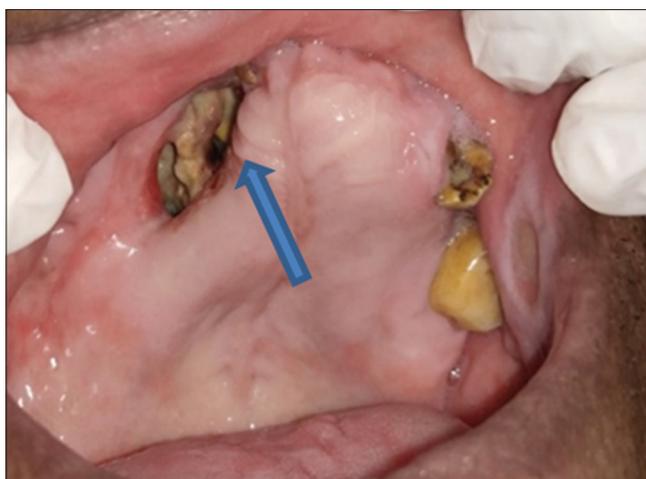


Figure 1: Intraoral bone defect

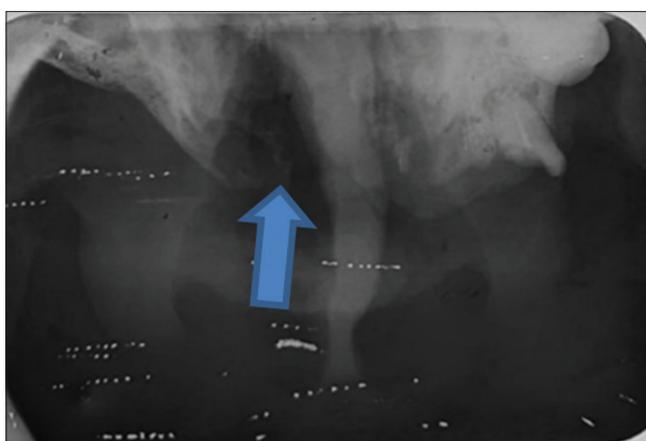


Figure 2: Occlusal radiograph show an ill-defined radiolucency involving maxillary bone extensively, bone appears to be moth-eaten

radiologic investigation further ahead, a cone-beam computed tomography of maxilla was done to know about the actual extent of the lesion [Figure 3a-c]. Based on the above findings, a radiologic diagnosis of chronic osteomyelitis was given. The patient was further referred to the department of oral surgery and sequestrectomy was done. The patient was kept under rigorous antibiotic regime [Figure 4a and b]. Sample sent for histopathological evaluation revealed chronic suppurative osteomyelitis [Figure 5]. Prosthetic rehabilitation was done by giving flexible dentures [Figure 6].

DISCUSSION

Chronic osteomyelitis is a bone disease that is characterized by inflammatory processes of bone and bone marrow.^[3,4] Few most common cause of osteomyelitis includes infection of dental origin, post-extraction complication, improper debridement of socket, and impaired immunity. Classical signs include pain, fever, swelling, pus discharge, and fistula. Radiographs are required to confirm the diagnosis. On radiograph, lesion appears as a radiolucent area with bone destruction and sequestrum formation.^[3]

On histopathological examination, there is presence of chronic inflammatory cells, increased number of osteoblasts, thickened trabeculae, and fibrous bone marrow.^[5] This case highlights the role of various systematic radiological investigations which should be followed while suspecting osteomyelitis. This case is intriguing in the sense that the clinical features of the lesion were same as mucormycosis which is commonly seen in maxilla in patients with poor

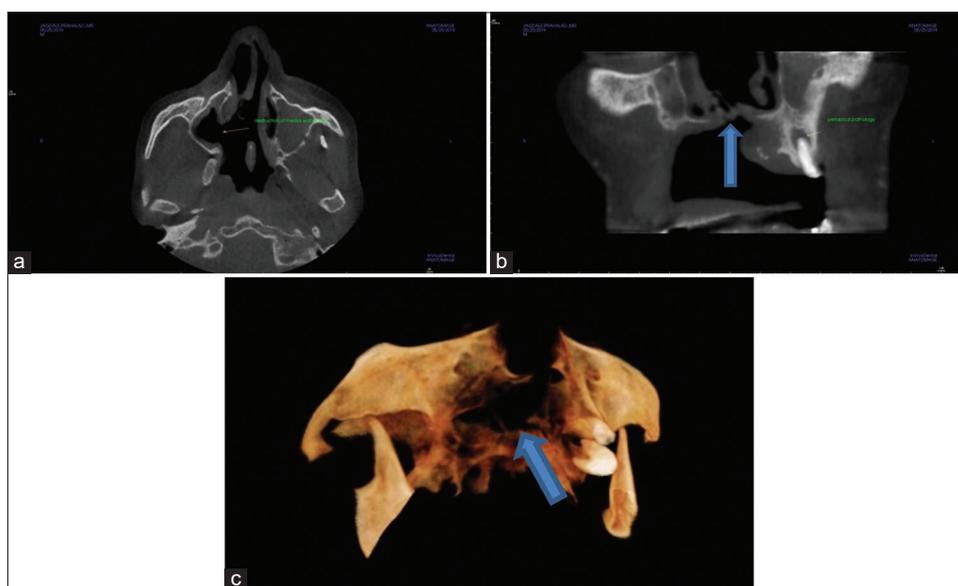


Figure 3: (a) Axial section of cone-beam computed tomography (CBCT) showing invasion of lesion superiorly and posteriorly causing destruction of medial wall of the right maxillary sinus, (b) coronal section of CBCT showing destruction of nasal floor, and (c) volume render in CBCT-showing extensive involvement of maxilla and nasal floor

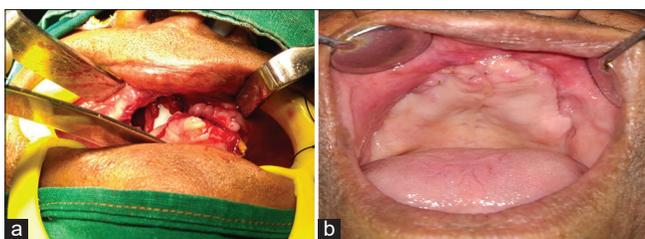


Figure 4: (a) Sequestrectomy and (b) Healed defect

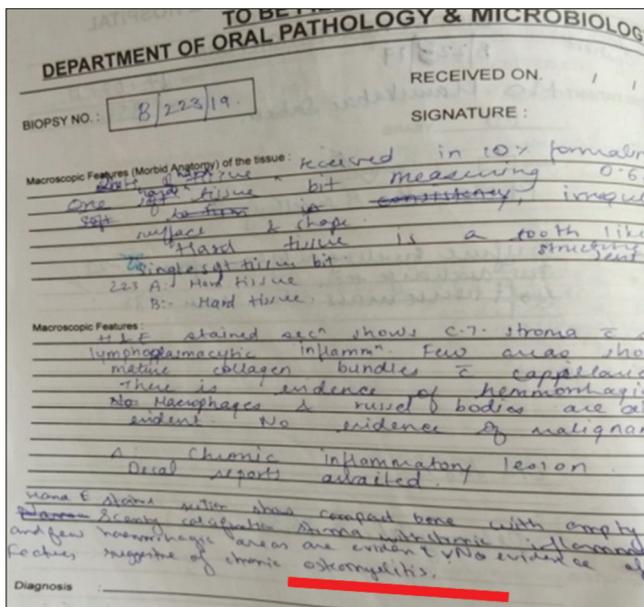


Figure 5: Histopathology report

immunity. The path of entry of microorganism is through nose and mouth. Hence, clinically, it was a difficult to differentiate suppurative osteomyelitis with mucormycosis. It was only after radiological evaluation and histopathology, final diagnosis of chronic suppurative osteomyelitis was given. Therefore, care must be taken before coming to any diagnosis in such cases as it changes the treatment approach.



Figure 6: Flexible denture with maxilla

CONCLUSION

As the osteomyelitis affects individuals which impaired immunity, individuals in extreme ages should be suspected for the disease if they are found have any of the above symptoms. Only identifying disease should not be the primary concern of the physician, equal importance to treatment and post-operative rehabilitation should also be given.

REFERENCES

1. Arani R, Shareef SN, Khanam HM. Mucormycotic osteomyelitis involving the maxilla: A rare case report and review of the literature. *Case Rep Infect Dis* 2019;2019:1-6.
2. Gupta V, Singh I, Goyal S, Kumar M, Singh A, Dwivedi G. Osteomyelitis of maxilla-a rare presentation: Case report and review of literature. *Int J Otorhinolaryngol Head Neck Surg* 2017;3:771-6.
3. Kim SG, Jang HS. Treatment of chronic osteomyelitis in Korea. *Oral Surg Oral Med Oral Pathol Oral Radiol Endodontology* 2001;92:394-8.
4. Bamberger DM. Osteomyelitis: A commonsense approach to antibiotic and surgical treatment. *Postgrad Med* 1993;94:182-4.
5. Van-Merkesteyn JP, Groot RH, Van-den AH, Bakker DJ, Borgmeijer-Hoelen AM. Treatment of chronic suppurative osteomyelitis of the mandible. *Int J Oral Maxillofac Surg* 1997;26:450-4.

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