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Chronic nonspecific osteomyelitis- Our experience.

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INTRODUCTION

Osteomyelitis also known as infection of the bone is an acute or chronic inflammatory process involving bone and the marrow to infection with pyogenic organisms such as bacteria, fungi and mycobacterium. Archaeological findings have shown animal fossils with evidence of bone infection making it a very old disease[1]. Prior to the introduction of Penicillin by Dr. Alexander Fleming, the management of osteomyelitis was generally surgical where the patient had to go extensive debridement, saucerization and would packing post which the treated area was left to heal via secondary intention[2]. This usually led to high mortality due to sepsis but due to the introduction of a wide range of antibiotics, mortality rates including those caused by staphylococcal osteomyelitis have improved significantly. The Lew – Waldvogel classification system divides osteomyelitis into two categories: Hematogenous and Secondary to a focus of infection. The latter has been further classified into with vascular insufficiency and without vascular insufficiency. Both hematogenous and secondary have been further sub divided into acute, subacute and chronic based on the time of disease onset.

The primary cause of osteomyelitis specifically in the jaws is usually infection caused by odontogenic micro-organisms or as complications of extractions, surgery, trauma. It may also arise due to improper treatment of a fracture / irradiation of the maxilla or mandible. Middle aged personnel, more commonly male typically present with osteomyelitis, with increasing incidence in patients who have poor oral hygiene and are alcohol / tobacco abusers. Various authors advocate that osteomyelitis must be present for a certain duration of time usually a month before it can be termed as 'chronic' as this will suggest that the disease is refractory to host defences or initial oral antibiotic therapy which was seen in this case. Several reports also state that osteomyelitis can be successfully managed with a combination of antimicrobial therapy along with surgery. The main goal of surgery was to remove all infected / necrotic tissue however if done improperly will lead to persistence of the condition[3].

CASE REPORT

A 50-year male reported to department of oral and maxillofacial surgery with a chief complaint of swelling, pain and pus discharge from right cheek for2-3 months (Figure 1).

Pain was mild, continuous and radiating in nature. Patient on further enquiry, revealed he had 1 episode of fever 3 months back followed by diagnosis of elevated RBSL after 15 days of fever episode. Patient did not opt for covid checkup/ any treatment for fever and increased BSL. Habit history reveled that patient chews tobacco 3-4 times in a day from past 30 years.

Clinical examination revealed that patient was having swelling on right zygomatic region extending till lower eyelid along with draining sinus over malar prominence with localized increase in surface temperature (Figure 1). Mild tenderness was present with both right and left maxillary sinus region on palpation. No change in vision and orbital pain/ tenderness was noted.

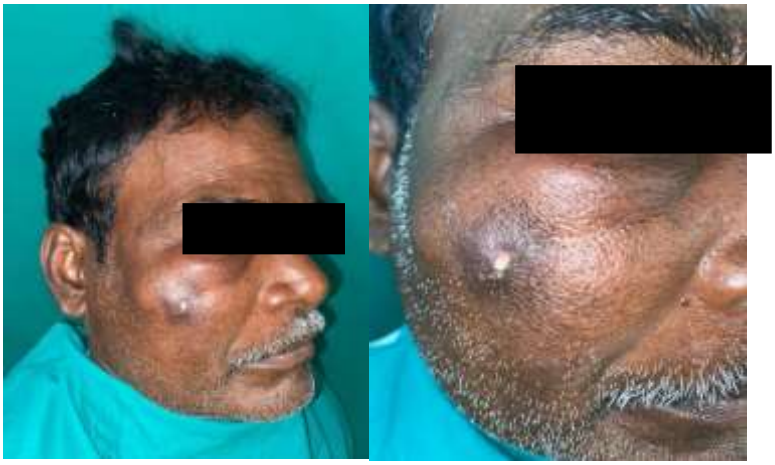

Figure 1 – Extraoral photograph of patient presenting swelling and pus discharge respectively.

Intraorally, mobility was present with all teeth from 16-26 along with inflammation of gingival tissue. Generalized attrition of all teeth was present. Palatal mucosa was soft with yellowish discoloration and compressible in nature suggestive of? pus accumulation. Moderate number of stains and calculus was present with normal mouth opening (Figure 2).

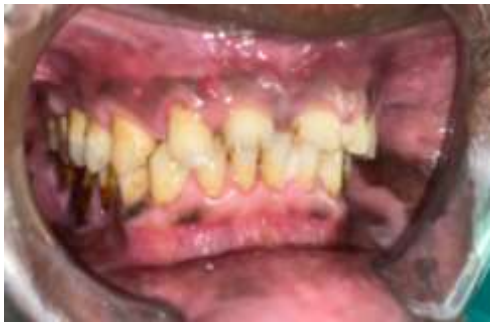

Figure 2 – Intraoral photograph of patient.

Provisional diagnosis made was Mucormycosis with a consideration of chronic suppurative osteomyelitis, Infected odontogenic keratocyst, Infected dentigerous cyst as differential entities. On aspiration no fluid was present which confirmed it as solid lesion. For confirmation of Mucormycosis KOH mount was done which showed negative result. For better assessment of extent of lesion CT contrast was advised, which showed radiolucency extending from distal of 17 distal of 27 involving complete palate, anterior aspect of right and left maxillary bone below the level of anterior nasal spine and both maxillary sinuses showed radiolucency.

Preoperative prophylaxis included Augmentin 1.2gm, Metronidazole 100ml, Diclofenac AQ 75mg and Pantoprazole 40 mg for 3 days. After 3 days, reduction in swelling and healing of extraoral sinus opening was noted.

Considering large extent of the lesion, inferior maxillectomy was planned. Crevicular incision was taken from distal of 17 extending till distal of 27, flap was raised exposing pterygomaxillary buttress and infraorbital rim of both sides. Infraorbital nerve and vessels were identified and preserved. Palatal mucosa was elevated from hard palate by sacrificing nasopalatine and greater palatine vessels. (Figure 3)

All teeth were extracted from 16 till 26 by sequence of serial extraction method. Antrostomy was done on both right and left side to expose infected sinuses (Figure 4). With the curette, entire infected mucosal lining of sinus was removed and through irrigation was done using normal saline and metronidazole. On both sides osteotomy was done using chisel and mallet distal to first molars after confirmation of vitality and periodontal status of second maxillary molars. For separating maxilla horizontal osteotomy was done at the level of anterior nasal spine and specimen was taken out dividing into small segments which was sent for further histopathological examination along with removed sinus lining (Figure 5).

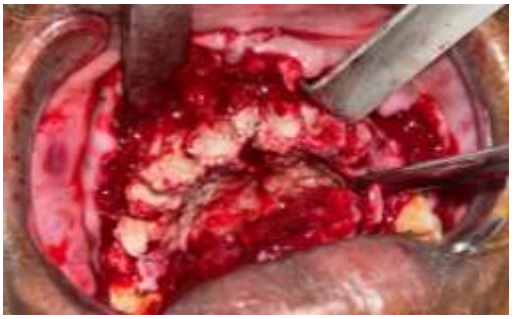

Figure 3 - Surgical site showing exposed necrotic bone of palate.

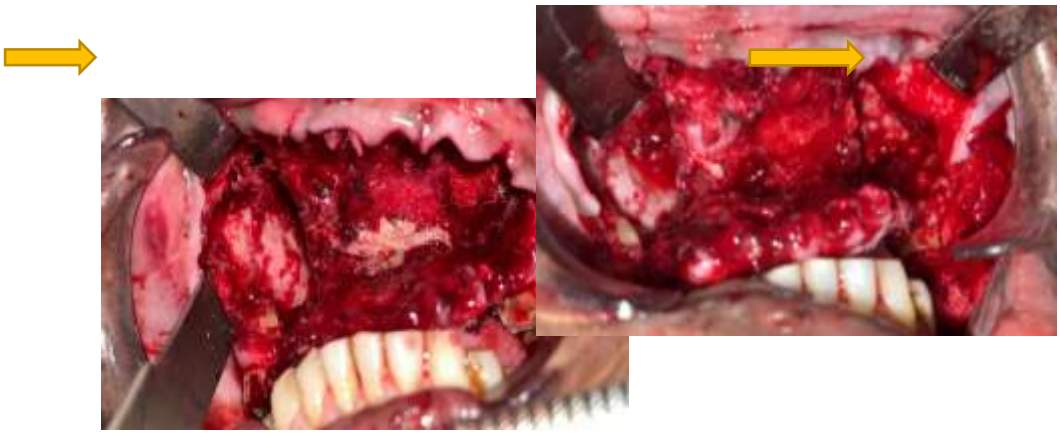

Figure 4 - Surgical site photograph showing right and left antrostomy (yellow arrow) respectively.

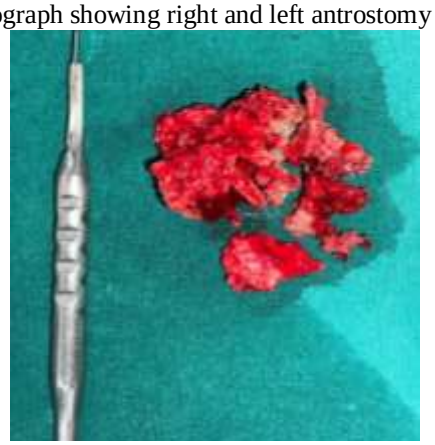

Figure 5 - Specimen sections removed from inferior maxilla.

After through irrigation using betadine and saline solution closure was done using 3-0 vicryl suture. Same preoperative regimen was continued postoperatively for 4 days and then patient was discharged. On the subsequent follow ups, intraoral closure and extraoral skin induration was checked for healing. CT contrast was repeated on 7th postoperative day for confirmation of complete eradication of disease.
On the basis of postoperative histopathological report final diagnosis made was osteomyelitis of maxilla.
After 1 month when complete healing was seen at the operated site, patient was referred to department of prosthodontics. No sign of exposed bone, further spread of infection, pain or swelling was noted in a follow up of 3 months, for further examinations patient is kept on follow up.

DISCUSSION

Osteomyelitis is the inflammatory disease of the bone that usually begins as an infection of medullary cavity, rapidly involves the haversian system and quickly extends to the periosteum of the area. Following inflammation there is necrosis of mineralised and marrow tissue followed by suppuration, resorption, sclerosis and hyperplasia.The primary cause of osteomyelitis is usually microbiologic and results from an odontogenic infection,post extraction complication, inadequate removal of necrosed bone, early termination of antibiotic

therapy, inappropriate selection of antibiotics diagnostic failure,trauma, inadequate treatment of fracture or irradiation to mandible.

Clinical presentation of acute osteomyelitis may present pain, swelling, erythema, lymphadenopathy,fever, paraesthesia of nerves, trismus, malaise, leucocytosis. Radiographic evidence requires 4 to 14 days of occurrence and 30-60% of cortical bone loss is required to be evident in radiograph. OPG, CT, MRI can be done for determination of involvement.

Medical management involves empiric antibiotic treatment, patient specific antibiotic therapy,local drug delivery, improvement of vascularity. Surgically debridement,saucerisation, decortication,resection and reconstruction can be done according to extent.HBOT therapy is widely used nowadays but considering its limitations.

References:

1. Fritz, Joseph M., and Jay r. McDonald. 2008. "Osteomyelitis: approach to diagnosis and treatment" the physician and sportmedicine 36 (1): niphpa116823
2. Oral and Maxillofacial Infection" 2014. Clinical review of oral and maxillofacial surgery, 95-118.
3. Osteomyelitis- StarPearls- NCBI Bookshelf." N.d. Accessed February6, 2022.