

# INFECTED TOOTH FOLLICLE IN MAXILLA OF A NEONATE



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## BACKGROUND

- Infection of dental follicle of primary tooth in a neonate is an extremely rare event.
- This may happen owing to infantile maxillary osteomyelitis or vice versa.
- The condition was first described by **Rees in 1847**.
- Most of the reported cases had occurred during the preantibiotic era.
- With the advent of antibiotics, infantile osteomyelitis of the maxilla and the subperiosteal orbital abscess have become rare clinical entities.
- However, they still may occur in neglected, or more commonly, in untreated patients.
- As per 'PUBMED' search, none has been reported past 1995.
- **Macbeth (1952)** classified its aetiology as traumatic, rhinogenic and odontogenic.
- Here we present the case of infantile maxillary osteomyelitis involving a deciduous tooth germ.

## THE CASE

- A 20 days old male child reported with pus discharge from upper right lateral region of mouth noted for one day

### The History

- Abscess in nipple of mother's right breast detected on 3rd day of life and child was subsequently fed from the other side.
- Fever on 10th day of life
- Pus discharge from upper right side of gum in canine region on 20th day of life.

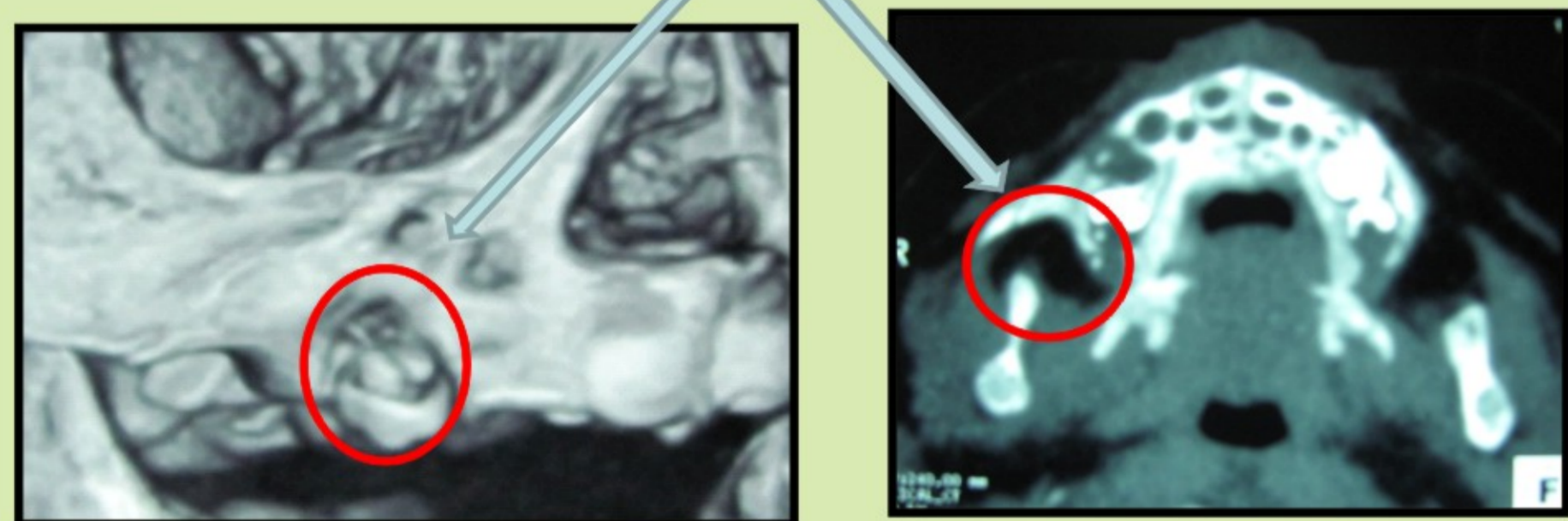
### Clinical Examination

- Extraoral Findings: Nothing significant
- Intraoral Findings : Soft, fluctuant pus pocket with draining sinus present w.r.t. alveolus of 54



### Radiographic Examination

Resorption of labial cortex w.r.t. follicle of 54



### Differential Diagnosis

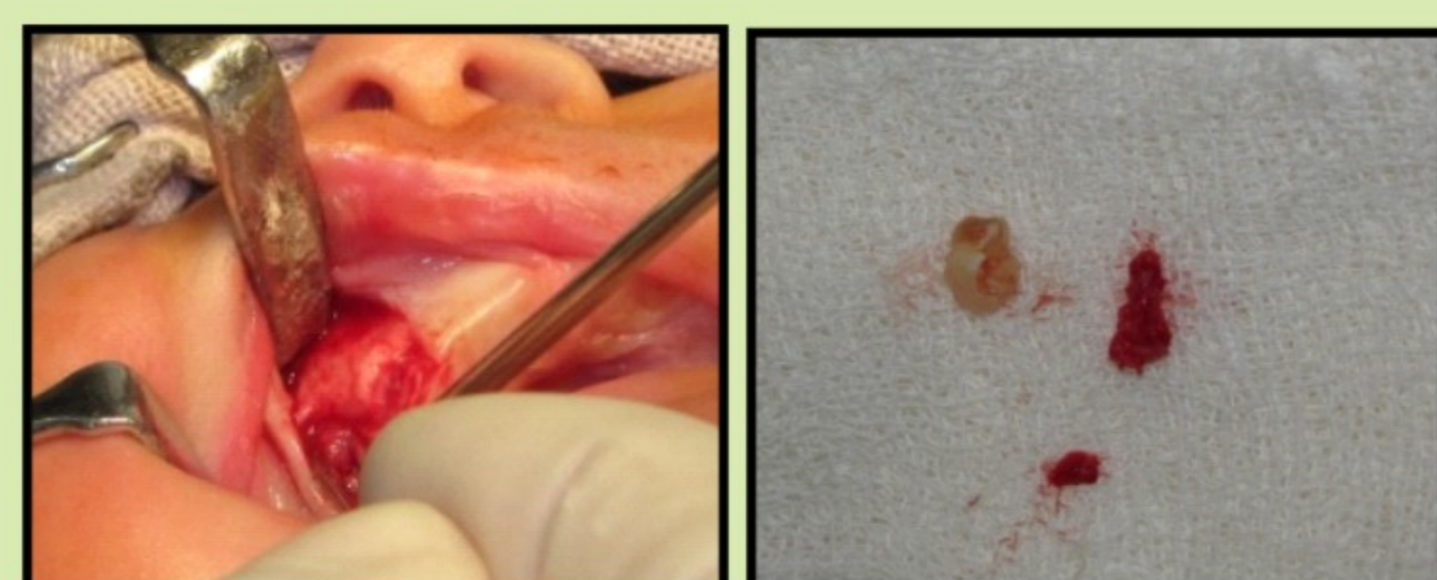
- Focal inflammatory lesion
- Osteomyelitis
- Infected tooth bud
- Tubercular osteomyelitis
- Fungal infection

### Medical Management

- Pus Culture sensitivity showed growth of *Staph aureus* (MSSA)- **Positive**, Fungus- **Negative**, Anaerobes- **Negative**
- Started on Inj Ciprofloxacin and Inj Amikacin as per sensitivity report for 14 days.
- No resolution of pus discharge seen.
- Quantitative rise in serial CRP seen
- Raised TLC/DLC
- Surgical exploration was planned.

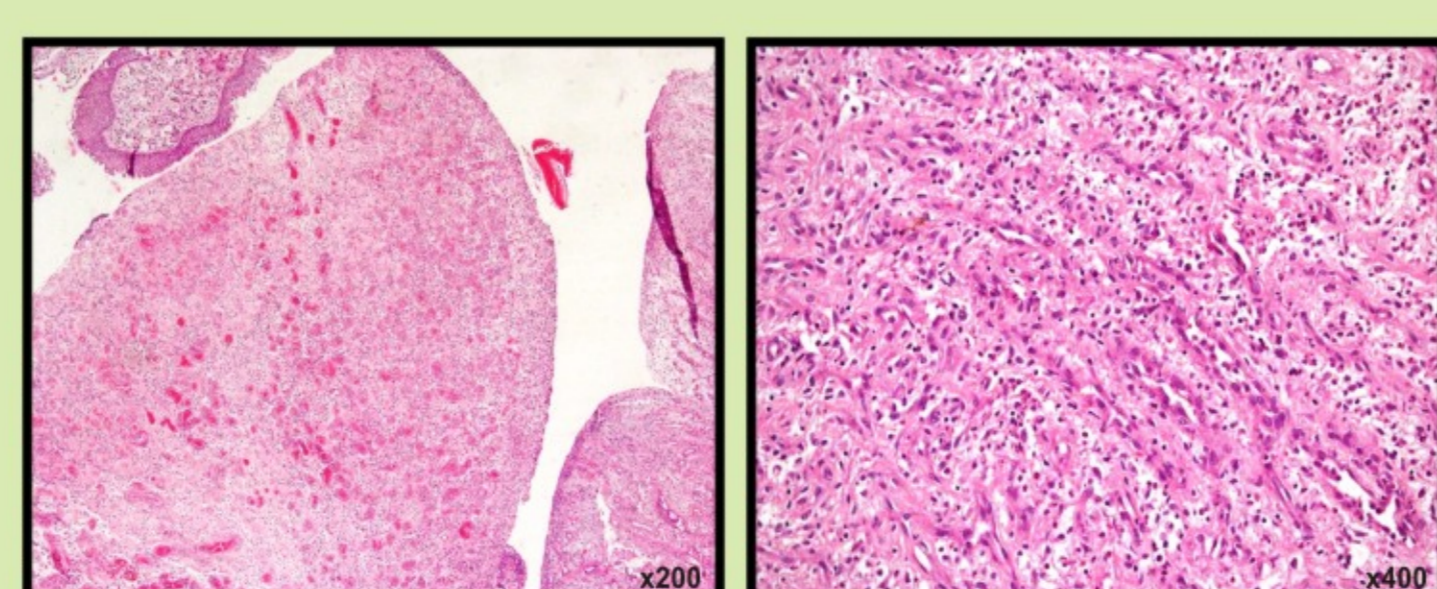
### Surgical Management

- Infected tooth bud removed under GA along with surrounding granulation tissue and curettage was done. The area was debrided and sutured
- Started on Inj Amoxicillin-Clavulanic acid for 1 week postoperatively



### Histo-pathologic Evaluation

Section showed inflammatory granulation tissue comprised of proliferated blood vessels, polymorphs and lymphocytes along with many bony fragments and foreign body material



Findings suggestive of Granulation tissue

### Post-operative Followup

- Resolution of clinical symptoms within 24 hrs
- No fever spike
- Quantitative decrease in serial CRP observed.
- Shifted to breast feed within 24 hrs postoperatively



Follow up at 20 months of age

## DISCUSSION

### Pathogenesis

- Extension of infection from adjacent teeth and soft tissues & unerupted tooth germ being most common primary focus (**Macbeth 1952**)
- Focal trauma of the overlying mucosa of alveolar ridges (**Hitchkin and Naylor 1957; Nade 1983**)
- Local injury to bone (**Lillie 1946**)
- Haematogenous spread from distant sources (**Wilensky 1932**)
- Acute osteomyelitis results from staphylococcal infection of the socket of the unerupted first deciduous molar tooth, and the adjacent part of the anterior surface of the superior maxilla.
- Whether the maxilla is involved before the tooth socket or whether the tooth socket is primarily affected cannot be stated with exactitude (**Asherson, 1939**)

### Variable Presentation: Possible Areas of Spread

Orbital Presentation: Proptosis, Chemosis, Ophthalmoplegia

Nasal Presentation:  
(Unilateral  
Nasal discharge)



Intraoral presentation :  
Swelling/Fluctuation in Canine fossa, Vestibule or Palate  
Sinus formation & purulent discharge

**Cavanagh F 1960**

### Urgency of Treatment

- Owing to limited immunocompetency of neonates, rapid spread of osteomyelitic focus in maxillary bone might occur.
- Proximity of maxilla to vital structures is critical in such cases.
- Promptness of delivery of care will improve the prognosis & limit the further spread.

## CONCLUSIONS

- Prompt diagnosis with clinical, microbiological and radiographic investigations followed by appropriate medical or surgical intervention is urgently needed for this emergent condition to limit the damage to the neighbouring vital structures of maxilla.
- In case a tooth bud is involved, than it should be surgically removed and area should be curetted. Alone medical intervention may not be sufficient in such cases.

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