Odontogenic Diseases of the Maxillary Sinus

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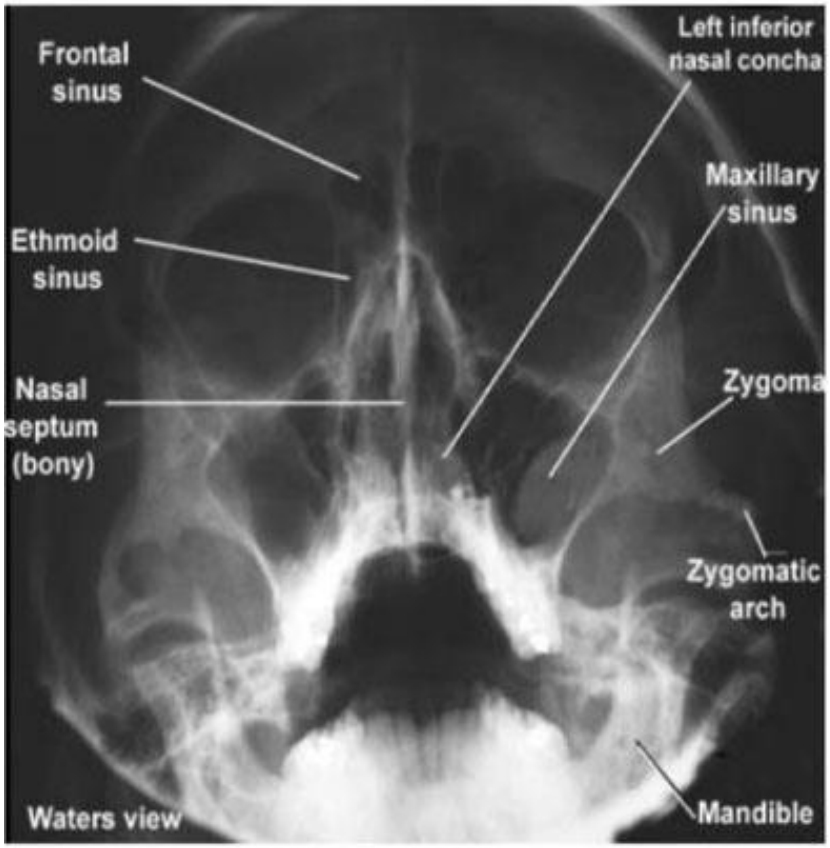
- The maxillary sinuses are air-containing spaces that occupy maxillary bones bilaterally.
- At age 12 or 13 years, the sinus will have expanded to the point at which its floor will be on the same horizontal level as the floor of the nasal cavity.
- The volume of the sinus is approximately 15-20 mL.

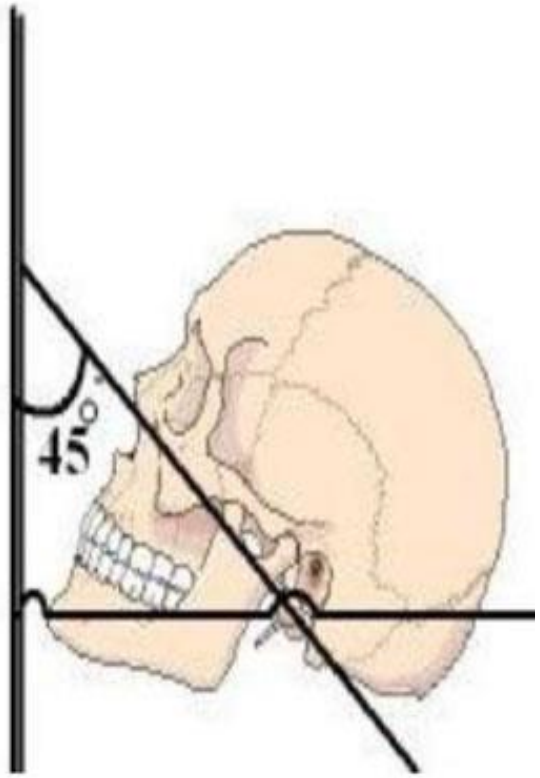
Clinical Examination of the Maxillary Sinus

- Visual examination.
- Nasal discharge.
- Tapping of the lateral walls of the sinus externally.
- Patients with maxillary sinusitis frequently complain of dental pain to percussion of several maxillary posterior teeth.
- Transillumination of the maxillary sinuses.

Radiographic Examination of the Maxillary Sinus

- Waters view





- Computed tomography and cone beam computed tomography.
- Panoramic radiograph .


ISOLATED MAXILLARY SINUS DISEASE:
DIAGNOSIS AND TREATMENT



Nonodontogenic Infections of the Maxillary Sinus

- whether caused by infection or allergy, the condition is termed sinusitis.

- Inflammation of most or all of the paranasal sinuses simultaneously is known as pansinusitis.

- Acute maxillary sinusitis may occur at any age mainly due to infection.

- Chronic maxillary sinusitis is usually a result of bacterial or fungal infections that are low-grade and recurrent, obstructive nasal disease, or allergy.
- The causative bacteria are primarily aerobic, and a few are anaerobes.
- The important aerobes are Streptococcus pneumoniae, Haemophilus influenzae, and Branhamella catarrhalis.
- Anaerobes include Streptococcus viridans, Staphylococcus aureus, Enterobacteriaceae, and Fusobacterium.

Odontogenic Infections of the Maxillary Sinus

- Odontogenic sources account for approximately 10% to 12% of all maxillary sinusitis cases.

- In rare cases, these infections become life threatening and can include orbital cellulitis, cavernous sinus thrombosis, and death.

- Sources of odontogenic infections that involve the maxillary sinus include acute and chronic periapical diseases and periodontal diseases.

Clinical manifestations of maxillary sinusitis:

- Acute maxillary sinusitis usually resolves within 2 weeks with an initial presentation of fever, malaise, facial swelling, and pain when bending forward.

- Chronic maxillary sinusitis usually lasts more than 4 weeks with symptoms of postnasal drainage, halitosis, and diminished sense of taste and smell.

Treatment of sinusitis:

- 1. Augmentin 875 mg twice daily, Clindamycin 300 mg 4 times daily, or Cefixime 400 mg once daily for at least 10 days, depending on the resistance pattern.
- 2. Culture and sensitive tests should be performed if purulent discharge is noticed.
- Nasal decongestant, antihistamines, and steroids to improve clinical symptoms.

- Antral cysts
- Pseudocysts, mucoceles, and retention cysts are accumulations of fluid underneath or surrounded by sinus epithelium.
- These lesions are of no clinical consequence, require no treatment, and often disappear over time.

Complications of Oral Surgery Involving the Maxillary Sinus

- The most common dental complications of oral surgical procedures that subsequently involve the maxillary sinus include:

- the displacement of teeth, roots, or instrument fragments into the sinus or the creation of a communication between the oral cavity and the sinus during surgery of the posterior maxilla.

Treatment of OAC/OAF is based on the following:

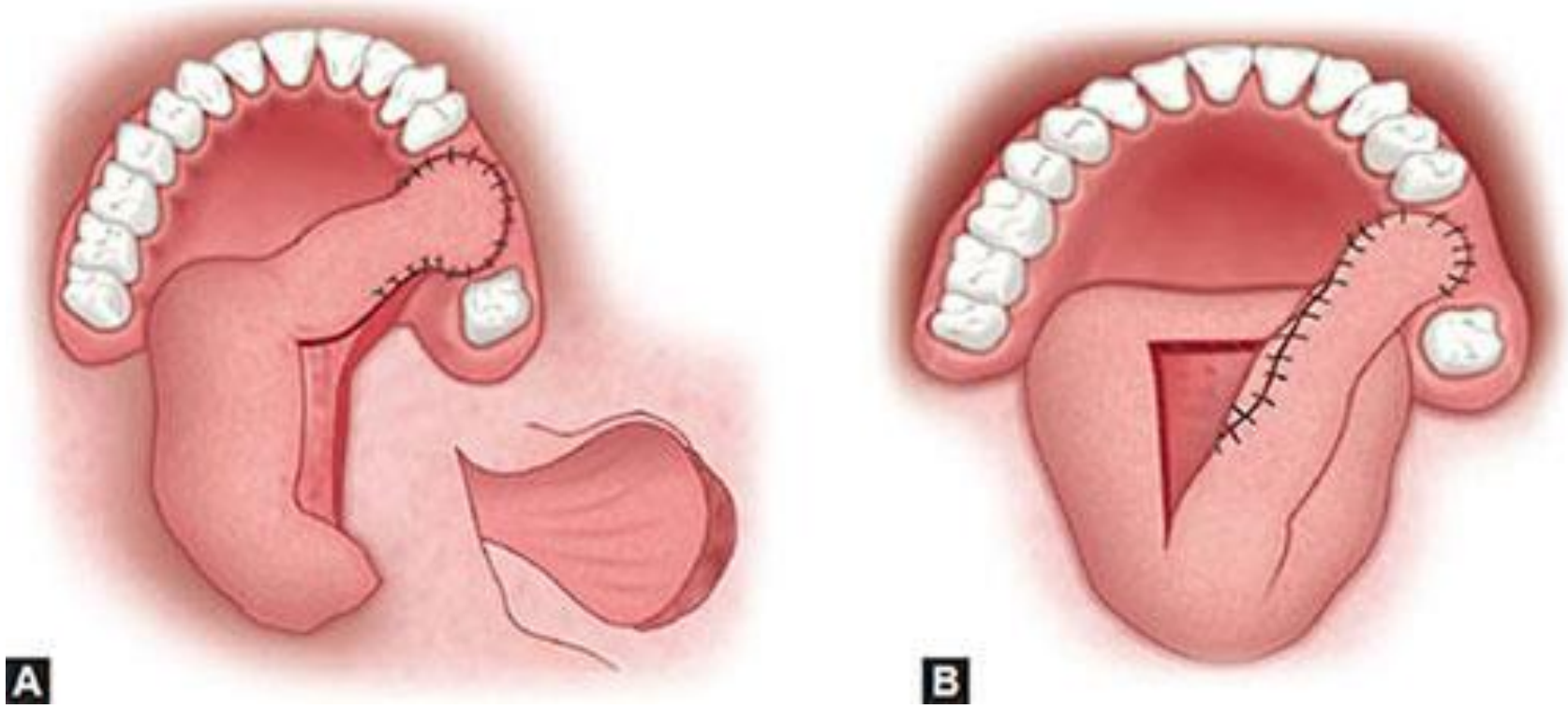
1. Size of the defect
2. Time of diagnosis
3. Presence of sinus infection
4. Amount of tissue available for repair.

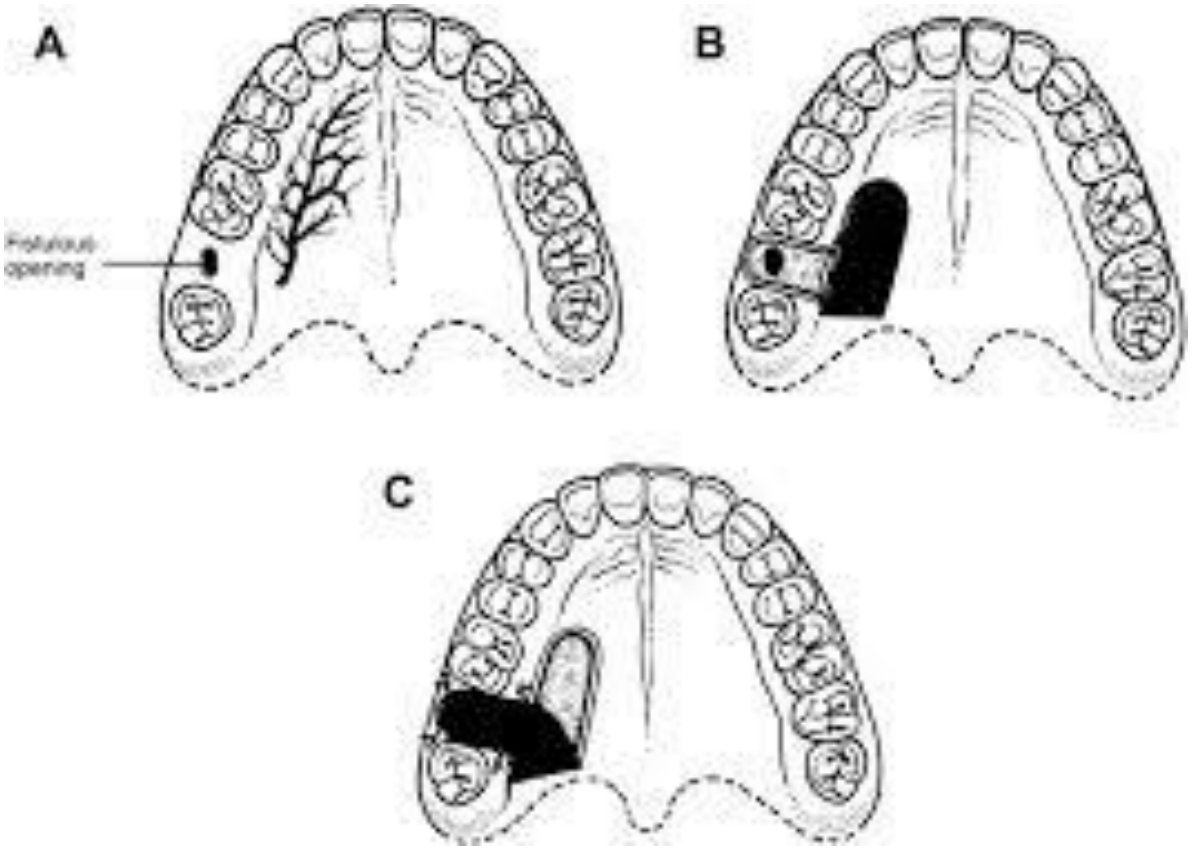
Treatment options for an OAC/OAF

- OAC should be closed within 24 hours.
- Most OACs are able to close spontaneously if the diameter is less than 2 mm .
- When the diameter of the defect is between 2 and 5 mm, a gel foam or collagen plug can be placed and secured with figure-of-8 sutures within the defect.

Treatment of Oroantral Communication/ fistula

- Buccal Advancement Flap (defect size about 5mm).
- Buccal Fat Pad (defect size 4x5 mm) .
- Palatal Flap (defect larger than 10 mm).
- Tongue Flap (defect is larger than 15 mm) .
- Platelet-Rich Fibrin membrane .
- Resorbable Collagen Membrane.
- Titanium mesh or Metal plates.


A
B


A
B
C