



Rhinosinusitis / Sinusitis.

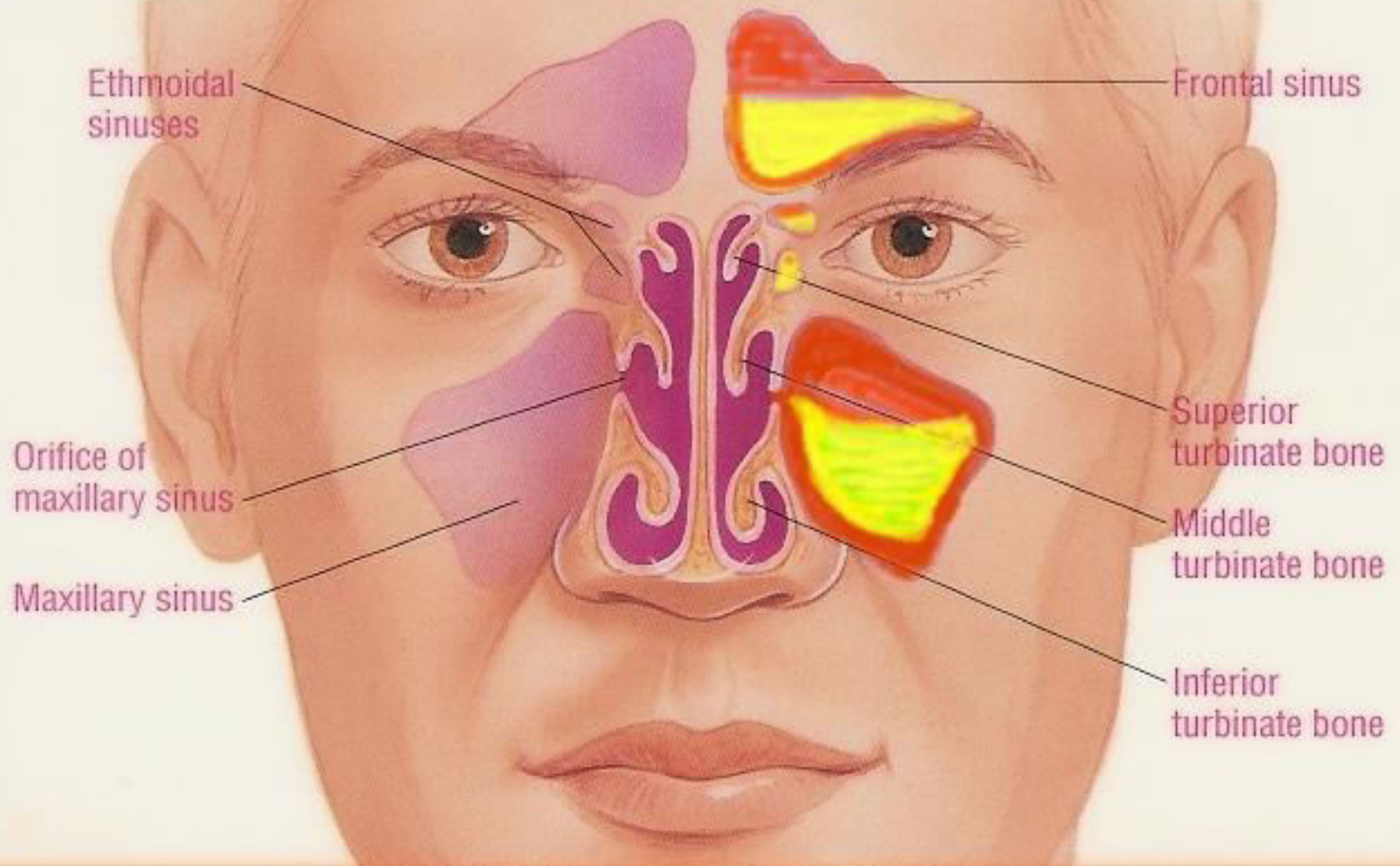
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Inflammation of the mucosal lining of the nose & paranasal sinuses.



Classification



- Traditionally classified as – Acute and Chronic.
- Rhino sinusitis is now classified as-
 - Acute.
 - Sub acute.
 - Chronic.
 - Recurrent acute.

Classifications:



❖ According to number of sinus involved:

- **Single sinusitis**- one sinus is involved
- **Multi sinusitis**- more than one sinuses are involved
- **Pan sinusitis** – all sinuses are involved.

❖ According to drainage:

- **Open sinusitis**- sinus ostium is not blocked.
- **Closed sinusitis**- sinus ostium is blocked.

Acute sinusitis

Symptoms and Signs of Acute (Bacterial) Sinusitis

Sinus Anatomy

Areas of localized pain

Frontal sinus

Ethmoid air cells

Maxillary sinus

Nasal cavity

Thick nasal discharge from both nostrils that may be worse on one side

Rare but important symptoms may include severe headaches and redness, tenderness, or swelling in or around the eyebrow or eye.

Sinus Anatomy**

Acute Sinusitis

Definition:

Acute
inflammation
of mucosa of the
para nasal
sinuses.





Acute Sinusitis (cont.)

Aetiology:

Acute infective rhinitis- Common cold or influenza.

Swimming or diving.

Dental Infections.

Fractures involving the sinus.

Others- DNS, nasal polyp, tumours of nose.



Aetiology (cont.)

Predisposing factors:

Local causes –

Nasal obstruction due to any causes.

Obstruction of sinus ostium.

Neighbouring infection—Tonsillitis &
adenoiditis.

Nasal allergy

Previous sinus infection.



Aetiology (cont)

Bacteriology:

Pneumococcus.
Streptococcus,
Staphylococcus,
Haemophilus influenzae,

Anaerobic streptococci are associated to sinusitis of dental origin.

Clinical features



- General – malaise, body ache, fever and shivering.
- Local – depends upon the sinus involved.
most important feature is pain.

In maxillary sinusitis- pain is felt in the cheeks below the eyes. May be referred to the teeth. Pain is aggravated on stooping or coughing.

In frontal sinusitis- pain is localized over the forehead. Pain is severe in the morning and gradually subsides towards noon.

Clinical features (cont.)



In ethmoiditis- pain is located over the nasal bridge, inner canthus and behind the eye.

In sphenoidal sinusitis- pain is usually referred to the vertex or occiput.

Besides pain other symptoms are- nasal blockage, mucopurulent nasal discharge.

Sinusitis



Acute sinusitis (cont.)



Sings:

Tenderness on applying pressure over the sinus indicates underlying inflammations.

Anterior rhinoscopy reveals-

- generalized congestion of the nasal mucosa
- localized edematous mucosa of the ostium of the sinus.
- Presence of mucopus in the nose.

Posterior rhinoscopy reveals-

- Presence of mucopus and congestion.

Investigations :



- **X-ray of PNS**
OM view shows-
sinuses appear
hazy and may
show a fluid
level.
- **CT scan** is
diagnostic.



Treatment



Medical treatment:

- Antibiotics
- Analgesics
- Nasal decongestant
- Systemic decongestant

Surgical treatment: if medical treatment fails.

- FESS
- Antral puncture and wash out
- Intra nasal antrostomy

Antral wash out



Chronic sinusitis



Definition :

Chronic inflammation of mucous membrane of the para nasal sinuses.

It usually follows recurrent acute sinusitis.



Chronic Sinusitis: Aetiology



Follow single or repeated attack of acute sinusitis.

Aetiology are same as acute sinusitis.



Organisms responsible for:- Chronic Sinusitis



➤ Usually mixed infection-

❖ Both gram positive and gram negative organisms including anaerobic organisms-

- *Streptococci,*
- *Pneumococci,*
- *Proteus,*
- *Pseudomonas,*
- *E. coli, Moraxella catarrhalis,*
- *Haemophilus influenzae.*

C/F of Chronic Sinusitis :



- Sign and Symptoms are similar to those of acute sinusitis but of lesser degree.

Common features : Chronic Sinusitis



Symptoms:

- Post nasal drip.
- Nasal obstruction.
- Anosmia, hyposmia, cacosmia.
- Constitutional disturbances: fever, malaise, pain, cough are usually mild.
- Epistaxis.

Sings:

Nasal inflammation, pus in middle meatus.

Investigations:



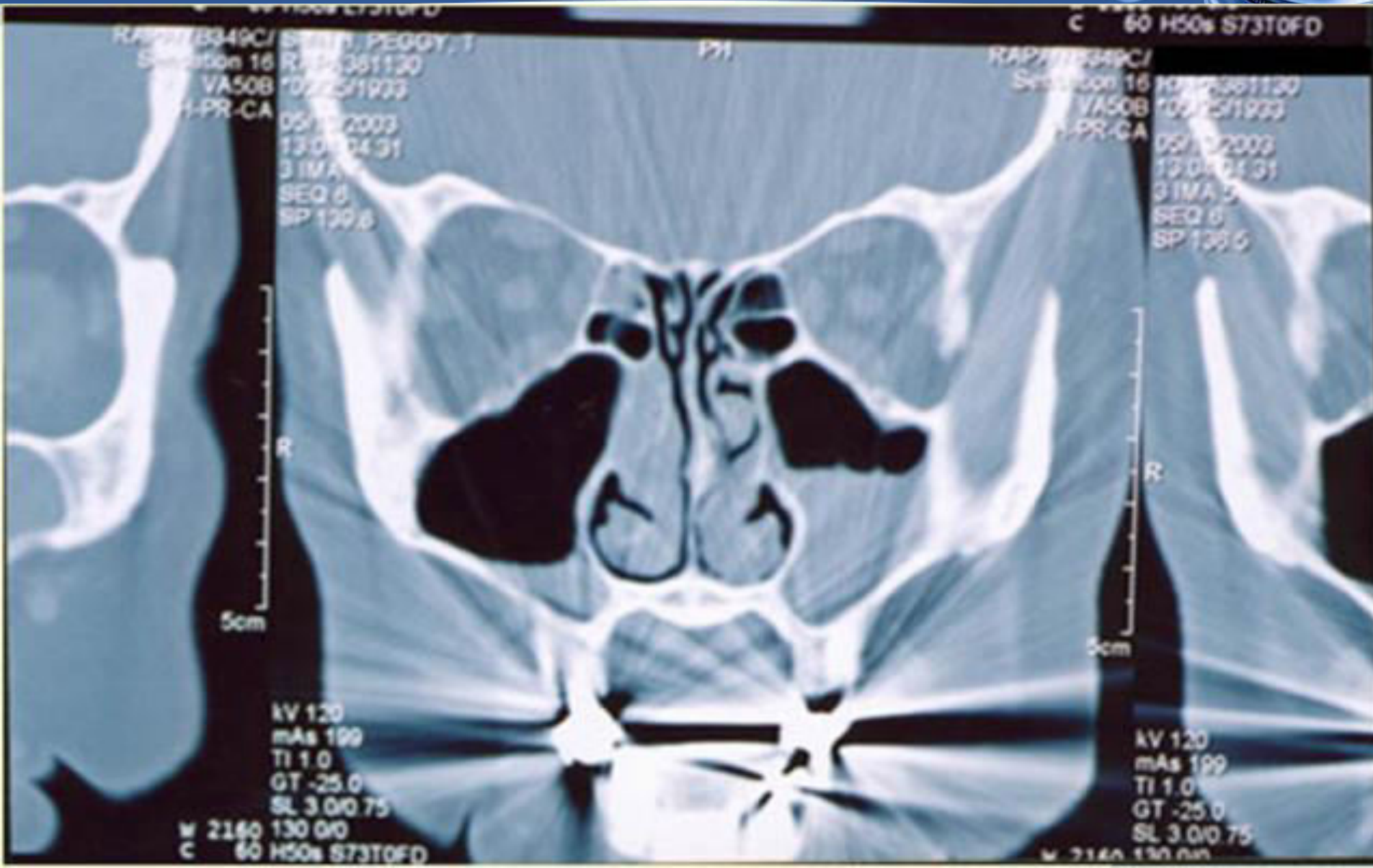
X-ray nose and
Para nasal
sinuses OM
view shows-

**Homogenous
opacity in
affected sinus.**

- CT scan of
PNS-



Coronal C T scan of PNS



Principles of treatment



1. **Treatment of infection-** by broad spectrum systemic antibiotics for 2 weeks.
2. **Establishment of sinus drainage-** by nasal decongestant.
3. **Treatment of pain-** by paracetamol.
4. **Treatment of the cause-**

Treatment : Chronic Sinusitis



A) Medical treatment-

1. Antibiotics.
2. Antihistamines.
3. Nasal decongestant.
4. Correction of predisposing factors.



B) Surgical treatment- (if medical treatment fails.)

1. Antral wash out- if necessary repeatedly done
2. Intra nasal antrostomy.
3. FESS
4. Cald-well Luc operation.

Normal Water's and Towne's Views of the Sinuses



Rhinoscopy



FESS



Complications of sinusitis



- Usually uncommon.
- Common during an acute exacerbation of chronic sinusitis.
- Orbital complications are the commonest and mostly found in children.
- The complications are-

Complications (cont.)



➤ Orbital complications:

Orbital cellulitis.

Orbital abscess.

➤ Osteomyelitis :

Maxilla in children.

Frontal sinus in adult.

➤ Intracranial complications:

Meningitis, encephalitis.

Brain abscess.

Cavernous sinus thrombosis.

Orbital cellulitis



Complications (cont.)



➤ Locoregional complications:

Pharyngitis.

Laryngitis.

Otitis media.

➤ Mucocele of:

Frontal sinus.

Ethmoid, maxilla and sphenoid.

Osteomyelitis and mucocele



Fig-2a: Tuberculous sinusitis.



THANK YOU

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