



Acute rhinosinusitis

by

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Current concepts in rhinosinusitis

- ☺ its one of the most common conditions facing otolaryngologist
- ☺ the term rhinosinusitis is preferred because sinusitis is almost always accompanied by inflammation of the contiguous nasal mucosa.
- ☺ recent classification according to the duration in to
 - acute ----- < 4 weeks
 - subacute ----- 4-12 weeks
 - chronic ----- > 12 weeks

Acute rhinosinusitis (ARS)

Definition

- ☺ up to 4 weeks of purulent nasal discharge (ant. Or post) accompanied by
 - nasal obstruction , congestion , stuffiness or blockage or
 - facial pain , pressure and fullness or
 - both

© these are major symptoms don't forget the minor one like fever , headache , halitosis , fatigue , dental pain , cough and referred otalgia.



Pathophysiology

- ❑ Most cases of acute rhinosinusitis are caused by viral upper respiratory infections.
- ❑ the most common viruses are rhinoviruses , adenoviruses , influenza and para- influenza viruses
- ❑ the most common bacterial organisms are *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis*
- ❑ Sinus mucosa edema, sinus ostia obstruction, and decreased mucociliary activity result in secretions stagnate and providing a favorable environment for bacterial growth.



Predisposing factors

Dental infections and procedures

Iatrogenic causes: sinus surgery, nasogastric tubes, nasal packing, mechanical ventilation

Immunodeficiency: human immunodeficiency virus infection, immunoglobulin deficiencies

Impaired ciliary motility: smoking, cystic fibrosis, Kartagener syndrome, immotile cilia syndrome

Mechanical obstruction: deviated nasal septum, nasal polyps, hypertrophic middle turbinates, tumor, trauma, foreign body, Wegener granulomatosis



Mucosal edema: preceding viral upper respiratory infection, allergic rhinitis, vasomotor rhinitis



Diagnosis

clinical signs and symptoms

- ▶ in the 1st 3 to 4 days of illness we can't differentiate between viral and bacterial cause.
- ▶ double sickening refer to initial improvement followed by worsening of symptoms between 5-10 days and its consistent with bacterial cause

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- acute viral RS (common cold) occur when the symptoms lasting less than 10 days without worsening.
 - acute bacterial RS occur when the symptoms lasting more than 10 days with out improvement or sever symptoms in the 1st 3 or 4 days or when there is initial improvement followed by deterioration.



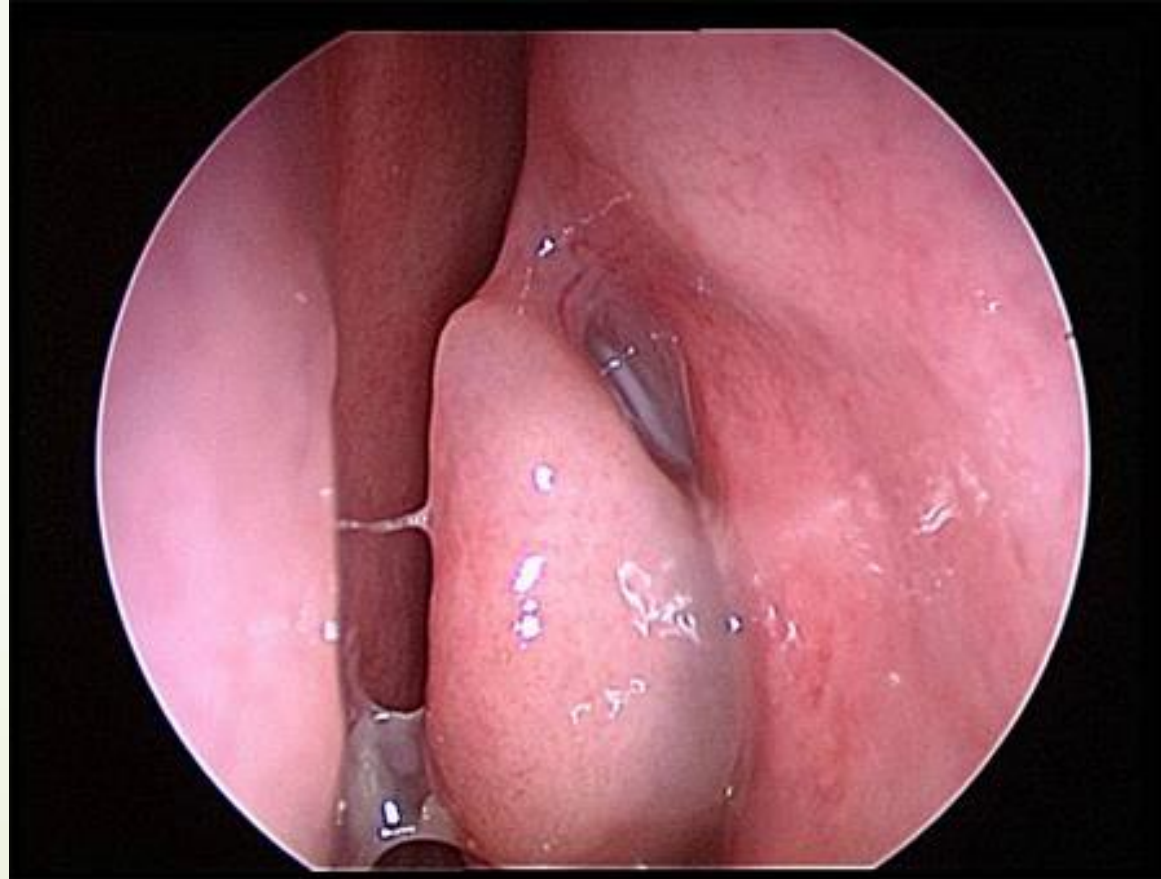
Radiology

Radiological study indicated only in presence or suspicion of complication and CT scan of nose and paranasal sinuses without contrast is the investigation of choice.

Laboratory

CRP may be useful in avoiding AB abuse as low or normal CRP associated with a low likelihood of bacterial infection







Treatment

1. bed rest with adequate fluid intake
2. symptomatic treatment like antipyretic , analgesic , steam inhalation , saline nasal irrigation and herbal preparations.
3. Short term decongestant less than 5 days (topical or systemic)
4. topical nasal steroids (drops or spary)
5. **AB** only in bacterial RS where
 - First-line antibiotic: Augmentin
 - First-line antibiotic in penicillin allergic patients: fluoroquinolone (levofloxacin and moxifloxacin) or doxycycline

Complications of ARS

Table 5. Complications of Acute Sinusitis

Bony

Osteomyelitis

Pott's puffy tumor

Intracranial

Cavernous sinus thrombosis

Epidural abscess

Intracranial abscess

Meningitis

Subdural abscess

Superior sagittal sinus
thrombosis

Orbital

Cavernous sinus thrombosis

Inflammatory edema and
erythema (preseptal
cellulitis)

Orbital abscess

Orbital cellulitis

Subperiosteal abscess

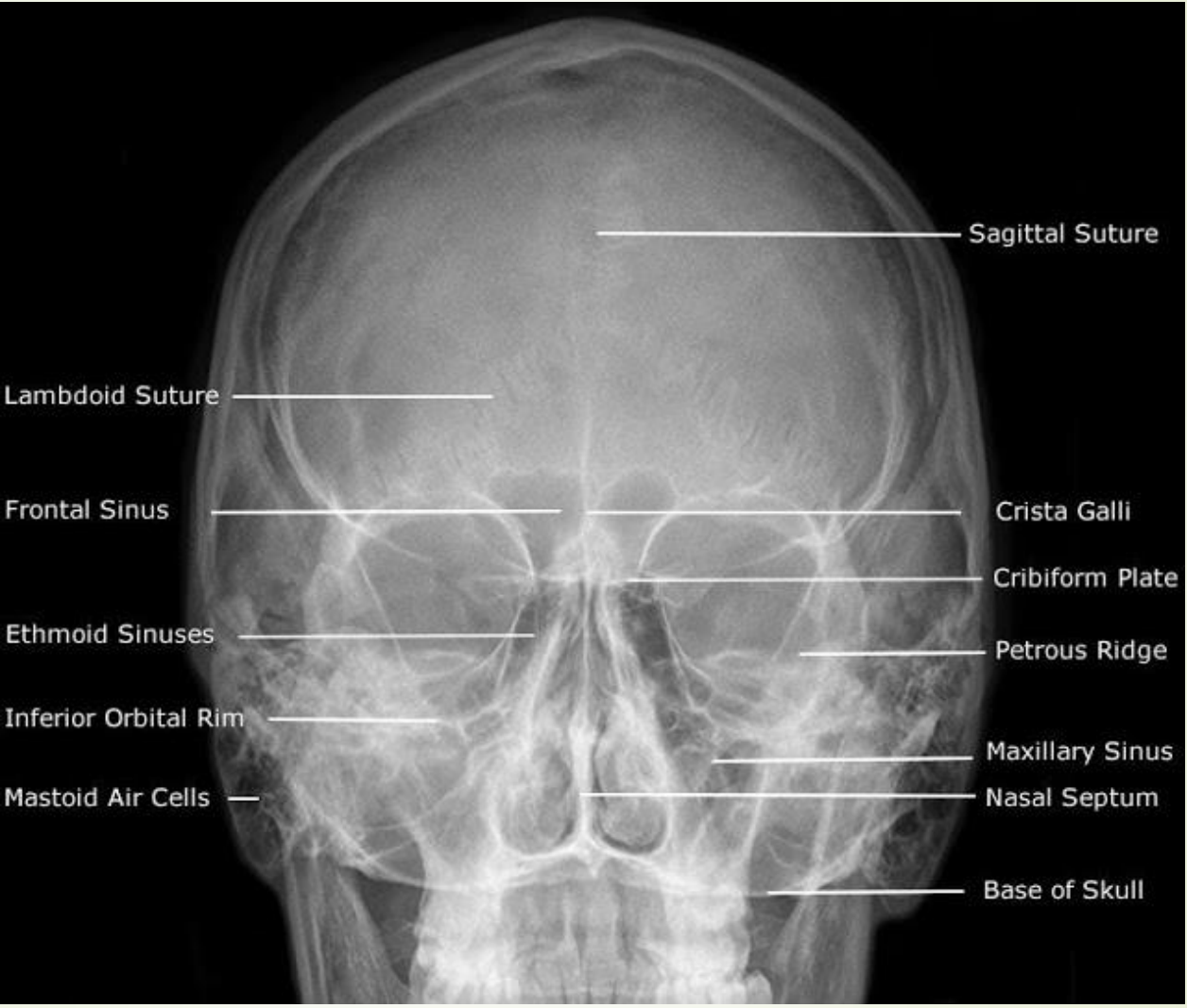
Information from references 7 and 9.





Historical radiological studies

- **occipito-frontal view: for ethmoid and frontal sinuses.**
- **occipito-mental view: for maxillary and sphenoid sinuses.**
- **lateral view: for depth of frontal sinus and for the sphenoid sinus.**
- **submento-vertical view: for the ethmoid.**
- **oblique lateral (right and left): for the ethmoid.**
- **tomography: to show fracture or tumors of the nose and the paranasal sinuses**







Furunculosis

- ❑ it's an acute staph. Infection of hair follicle
- ❑ patient usually presented with facial pain , headache & tender nostril.
- ❑ treatment by anti-staph AB (systemic +/- topical)
- ❑ Complications: cellulites of upper lip and cavernous sinus thrombosis due to retrograde venous drainage





Thank you

References

1. cumming otolaryngology
2. American academy of family physician
3. EPOS 2012