E.N.T.

Dr. Naseer Lecture 7

Acute RhinoSinusitis
Either viral" bacterial or fulminant(invassive) fungal

In acute sinusitis there is hyperemia which lead to edema causing inflammatory cells infiltrate and then glandular hyperactivity which leads to exudate secretion (serous) and then purulent secretion.

Clinical features:

1-Pain over the infected sinus, may refer to another region, stabbing or aching in nature, worse by bending or coughing and it shows a diurnal rhythm.

So maxillary sinusitis may present with pain over cheek, frontoethmoidal sinusitis may present with pain around the eye and the frontal region.

Frontal headache may be severe, usually it starts soon after waking and subsides in the afternoon.

In sphenoid sinusitis (which is rare by its own) (usually accompanies ethmoiditis or pansinusitis) classically there is severe headache retro-orbitally and refers to the vertex.

2-Discharge, when the sinusitis is open, so the discharge is to the nose and postnasal space (PNS).

3-Nasal obstruction (due to mucosal swelling).

4-Constitutional symptoms (fever, malaise, depression).

5-Sense of smell goes.

Examination:

1-Tenderness, when significant it may be a dental abscess or incipient complication. In frontal sinusitis tenderness is over the floor of the sinus near the inner canthus. So tapping over the supraorbital ridge may cause severe pain and is diagnostic for frontal sinusitis.

2-Mucosal swelling and redness (especially in the region of middle meatus).

3-Pus may extrude to middle meatus.

4-Redness and swelling over the cheek and lower lid (antrum) or over the upper lid (frontal sinusitis) should be noted to exclude complications.

Bacteriology:

Mostly after secondary infection after viruses like influenza viruses, rhinoviruses … etc, which cause edema then obstruction and then stasis.
So *Streptococcus pneumoniae* and *Haemophilus influenzae* cause more than 50% of maxillary sinus infections. Also group A *Streptococci*, *Staphylococcus aureus*, *Neisseria*, *Klebsiella*, G –ve bacilli …

Culture and sensitivity:

Usually single infection but in 30% of cases there is mixed infection.

Investigations:

1-Nasal endoscopy:
•To exclude aetiological factors.
•Accurate material for bacteriological examination.
•Recognition of changes that are concealed from anterior rhinoscopy.

2-Radiology:
a-Sinus X-ray (plain X-ray) (in acute rather than in chronic).
b- CT-scan (coronal section).
c-Ultrasound (fluid, cyst, mucosal thickening).

3-Swabs and antral lavage:
From middle meatus is accurate but the optimal material for examination is from the infected sinus.

4-Blood tests:
To detect any underlying disease that predisposes to infection.
•Full blood count.
•Differential WBC count.
•ESR.
•Urea and electrolytes.
•Liver function test.

*It is crucial to test the immunological host defense (serum IgG, IgA and IgM) (we may detect panhypogammaglobulinemia).

Treatment of acute rhinosinusitis (primarily medical):
1-Analgesia (aspirin and codeine preparations).

2-Antibiotics:
In acute we give antibiotics for 10 days.
In chronic we give antibiotics for 2 weeks minimally and may extend for 6 weeks.
•Amoxicillin. } If there is allergy
•Cephalosporins. } to penicillin
•Co-trimoxazole (trimethoprim 80 mg + sulphamethoxazole 400 mg).
•Azithromycin.
If the treatment fails so we do antral lavage for culture and sensitivity.
Sinusitis of dental origin is invariably caused by anaerobic organisms and it is often of mixed flora.
So we use “amoxil + flagyl” or “co-amoxiclav” or “clindamycin”.
In immune compromized patients the cause is usually *Pseudomonas* and opportunistic organisms.

3-Decongestants:
Oxymetazoline or xylometazoline (not more than few weeks).
Potential systemic effects of decongestants include:
•Urinary retention.
•Increased blood pressure.
•Increased ocular pressure.
•Tachycardia and dysrhythmia.

We should avoid decongestants in:
•Symptomatic hyperthyroidism.
•Symptomatic prostatic hypertrophy.
•Narrow angle glaucoma.
•Hypertension.
•Ischemic heart diseases (IHDs).

Indications for surgery:
1-Failure of medical treatment.
2-Severe pain.
3-Incipient complications.