University of Sawa
College of Medical Health Technologies
Fourth class
First lecture
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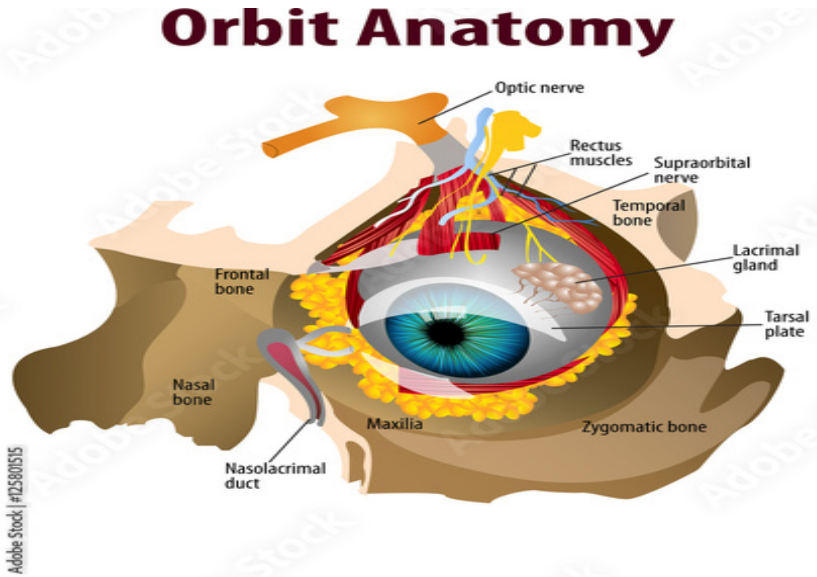
Eye Disease: Orbital Infection

Orbital infection

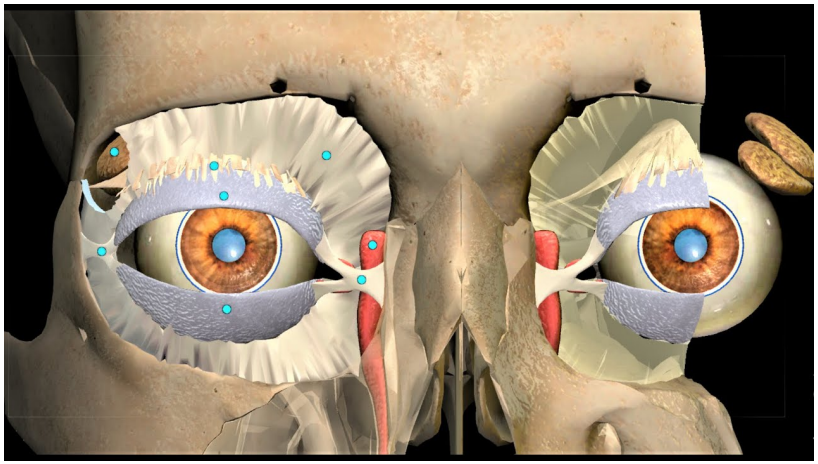
Anatomy of the Orbit

- Pyramid shape (base forward, apex backward)
- Roof: Frontal bone, sphenoid
- Floor: Maxilla, zygomatic (relation with maxillary sinus)
- Medial wall: Ethmoid (lamina papyracea, infection spread)
- Lateral wall: Zygomatic, sphenoid (thick, strong)



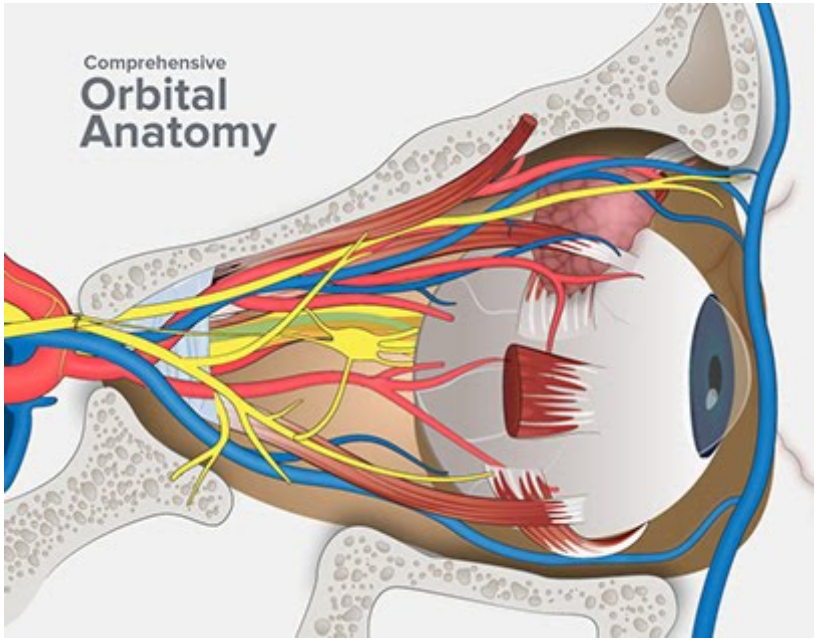
Orbital Septum

- • Fibrous sheet from orbital rim to tarsal plates
- • Acts as barrier
- - Anterior infection → Preseptal cellulitis
- - Posterior infection → Orbital cellulitis (dangerous)



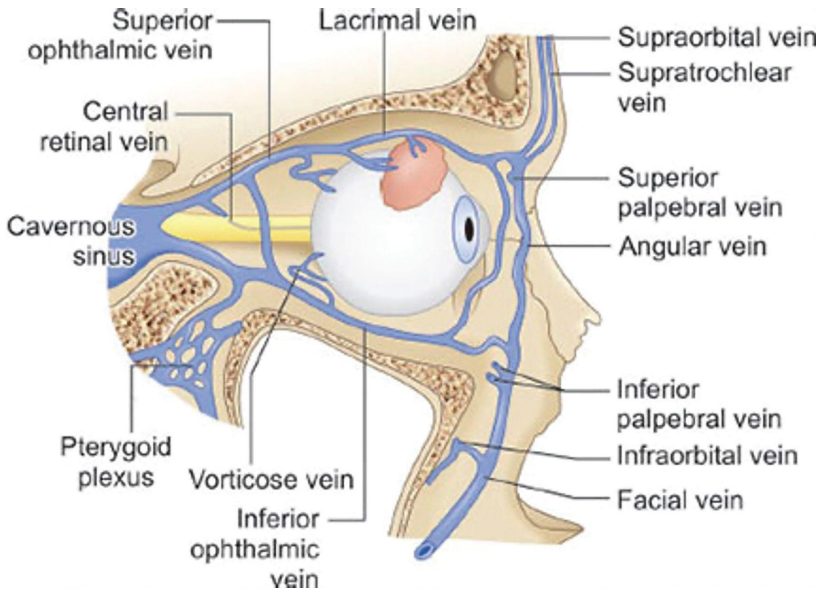
Contents of Orbit

- Eyeball
- Extraocular muscles
- Nerves: Optic, oculomotor, trochlear, abducens, trigeminal (V1)
- Vessels: Ophthalmic artery & veins
- Fat and connective tissue



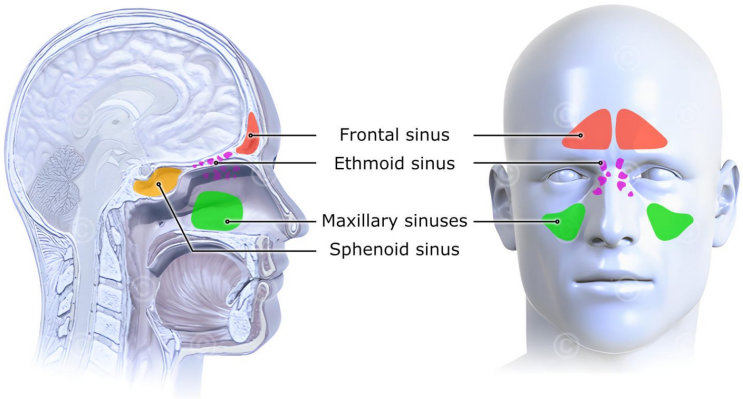
Venous Drainage of Orbit

- • Superior & inferior ophthalmic veins → cavernous sinus
- • Veins are valveless → facial/eyelid infections spread to brain
- • Risk: Cavernous sinus thrombosis



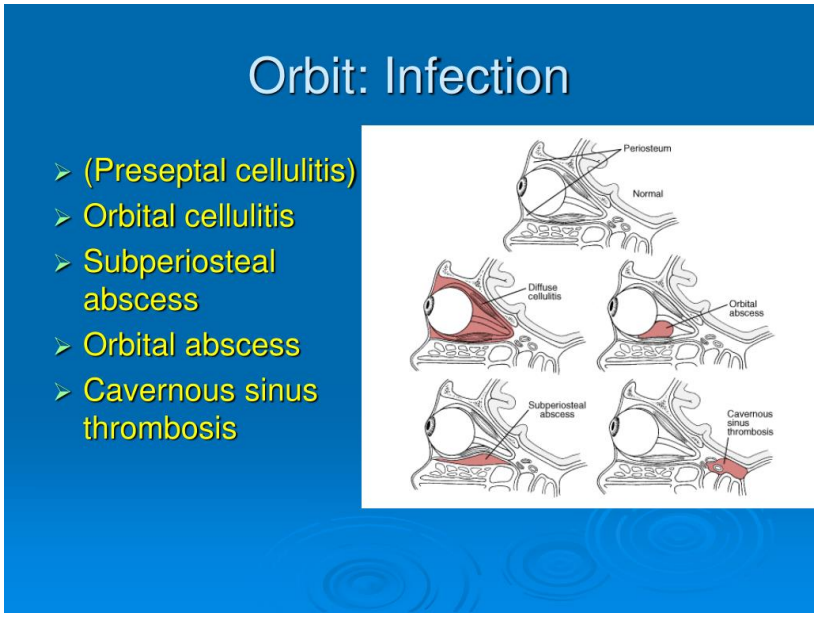
Paranasal Sinus Relations

- Ethmoid sinus: medial wall (common source of infection)
- Maxillary sinus: inferior relation
- Frontal sinus: roof of orbit
- Sphenoid sinus: near optic canal & cavernous sinus



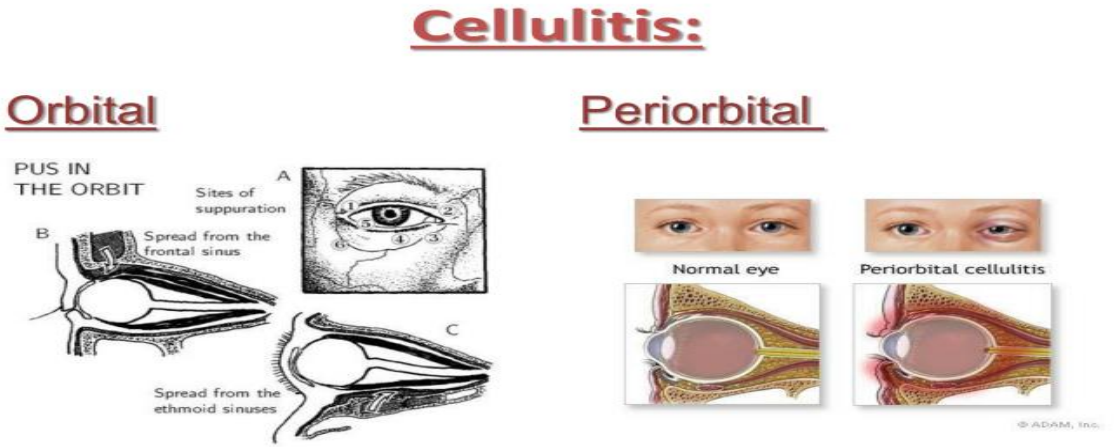
Pathways of Orbital Infection

- Skin/eyelid → preseptal cellulitis
- Ethmoid sinusitis → orbital cellulitis
- Venous spread → cavernous sinus thrombosis



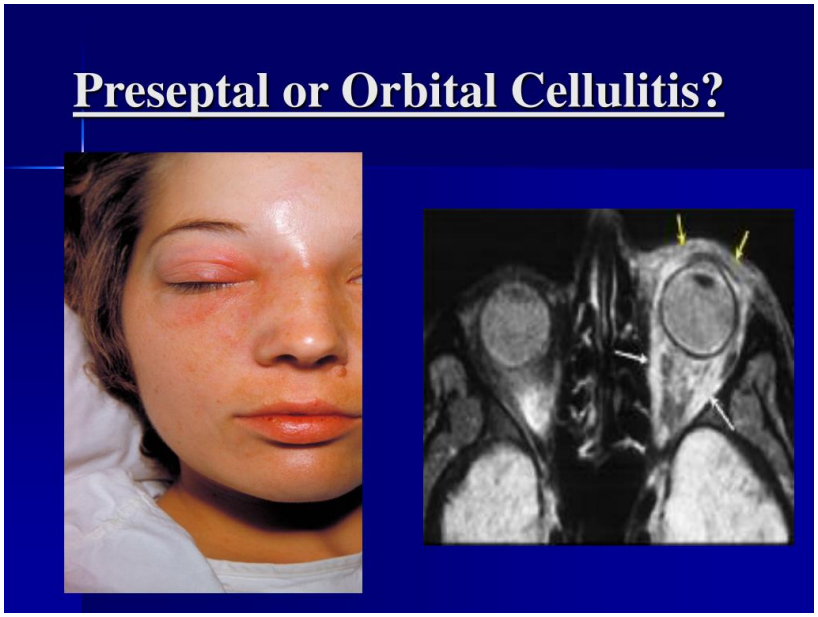
Preseptal Cellulitis

- Infection anterior to septum
- Causes: stye, trauma, insect bite, sinusitis
- Signs: red swollen eyelid, full painless movements, no proptosis
- Treatment: oral antibiotics, warm compress



Orbital Cellulitis

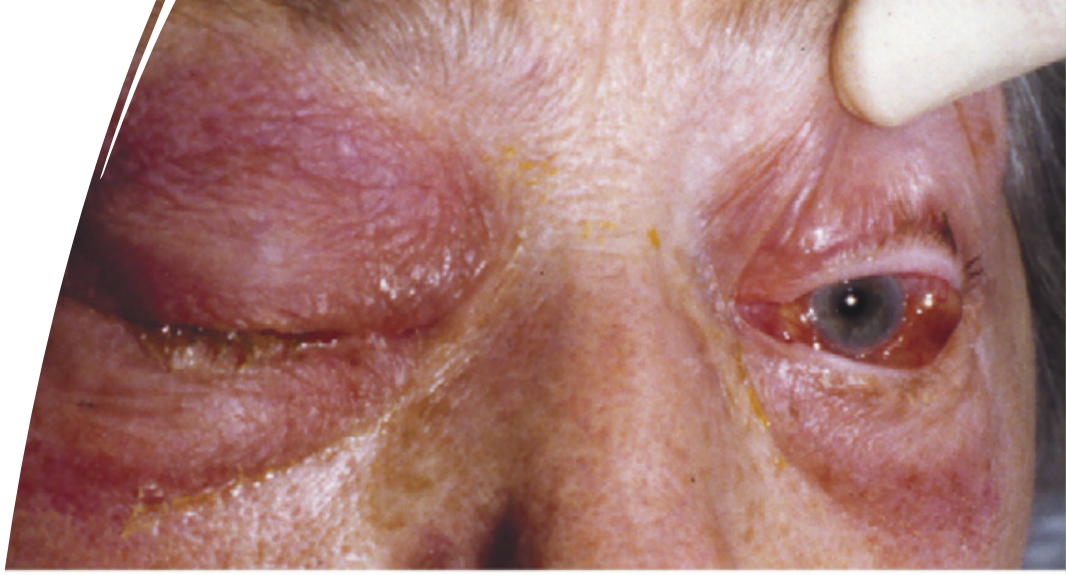
- Infection posterior to septum, usually ethmoid sinus origin
- Signs: painful proptosis, restricted movements, vision loss, fever
- Complications: cavernous sinus thrombosis, abscess, meningitis
- Treatment: hospital admission, IV antibiotics, surgical drainage if needed

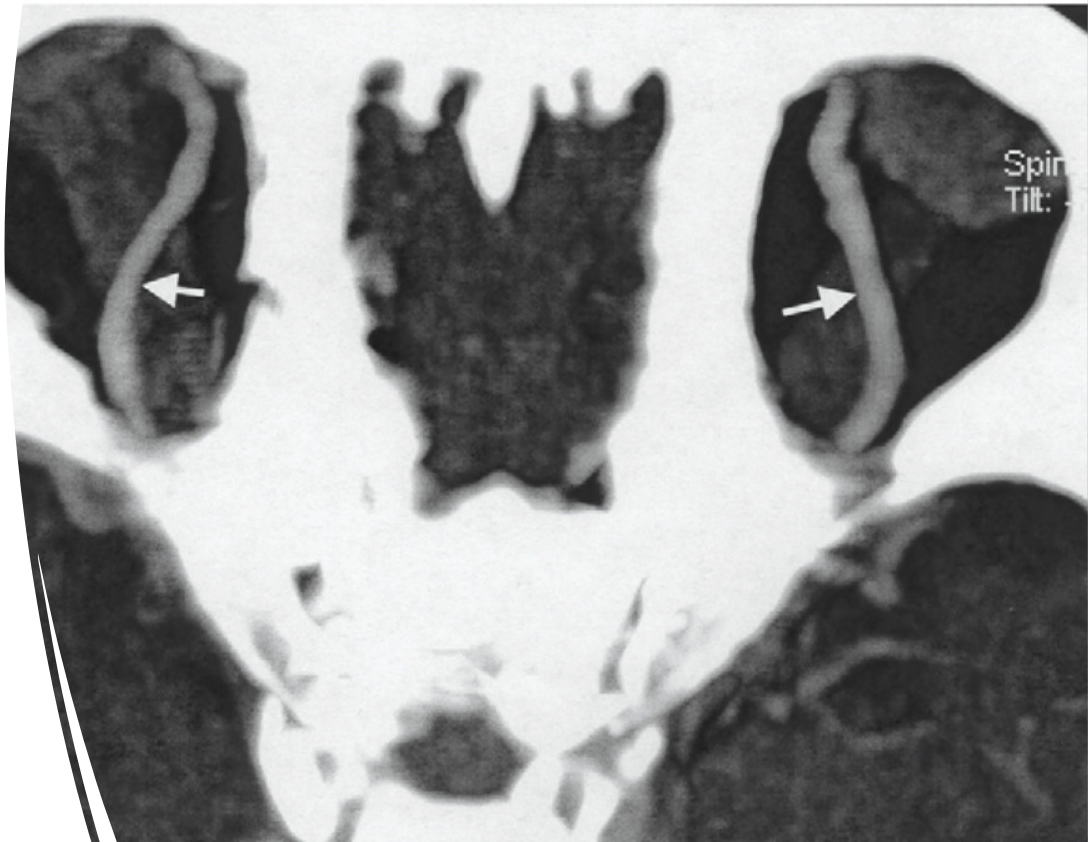


Cavernous Sinus Thrombosis

•• Fatal complication of orbital infection

•• Bilateral lid swelling, proptosis, ophthalmoplegia, cranial nerve palsies





MCQs on Orbital Infections

- Q1: Most common cause of orbital cellulitis?
- Ans: Ethmoid sinus infection

- Q2: Feature suggesting orbital cellulitis?
- Ans: Painful restricted eye movements

- Q3: Most dangerous complication?
- Ans: Cavernous sinus thrombosis

- Q4: Key difference from preseptal cellulitis?
- Ans: Proptosis & ophthalmoplegia

MCQs on Orbital Anatomy

Q5: Orbit shape? → Pyramid with apex backward

Q6: Thinnest wall? → Medial wall (lamina papyracea)

Q7: Barrier for infections? → Orbital septum

Q8: Venous spread to cavernous sinus? → Superior ophthalmic vein

Definitions

- Preseptal cellulitis: Infection anterior to septum
- Orbital cellulitis: Infection posterior to septum, vision risk
- Orbital septum: Fibrous barrier from rim to eyelids
- Lamina papyracea: Thin medial wall allowing sinus spread