

Diseases of the Eye

	Inflammation			Tumors
	Blepharitis	Conjunctivitis	Keratitis	Retinoblastoma
Definition	Inflammation of eyelids	Inflammation of conjunctiva	Inflammation of cornea	Most common ocular tumor in children (<4 years)
Causes	<ul style="list-style-type: none"> -Allergies -Dandruff (seborrheic dermatitis) -Parasitic as lice or mites in eyelashes -Meibomian gland dysfunction (MGD) 	<ul style="list-style-type: none"> -Viral (adenovirus, HSV & zoster) -Bacterial -Allergic 	Infectious	<ul style="list-style-type: none"> -40% of cases are familial; with Rb1 gene mutation; with tendency of bilateral tumors -Tumor occurs when both alleles of RB1 gene are inactive
			Non-infectious	
			<ul style="list-style-type: none"> -Eye disorders: incomplete eyelid closure → Corneal dryness → Keratitis. -Injury & Dry eye syndrome -Exposure to UV rays (photokeratitis) 	
Clinical picture	<ul style="list-style-type: none"> -Redness, Swelling, Itching & Pain -Crust formation (prevents eye opening) 	<ul style="list-style-type: none"> -Redness & Itching -Crust formation & Gritty feeling -Lacrimation & Photophobia 	<ul style="list-style-type: none"> -Redness & Pain -Lacrimation & Photophobia -Blurred vision & Foreign body sensation 	_____
Pathological features	_____	_____	<ul style="list-style-type: none"> -Stromal edema -Corneal ulceration → fibrosis -Rapid Neovascularization -Stromal mixed inflammatory infiltrates (Focal or diffuse). 	N/E
	_____	_____	_____	<ul style="list-style-type: none"> Greyish-white retinal mass with calcifications & yellow necrosis. <li style="text-align: center;">M/E -Embryonal tumor → Small round blue cells with hyperchromatic nuclei, scant cytoplasm (arranged in sheets). -Characteristic rosettes → Tumor cells surround a lumen or neurofibrillary structure (form photoreceptor elements).
Complication	Stye	_____	_____	_____
	Acute suppurative inflammation of sebaceous glands or follicles (boil)			
	Chalazion			
	<ul style="list-style-type: none"> -Granulomatous inflammation of meibomian glands -Slowly growing -M/E: Lipogranuloma (empty spaces + epithelioid + multinucleated giant cells + fibrosis) 			

Diseases of the Ear

Otitis media (OM)

Definition	Inflammation of the middle ear			
Risk factors	<p>-Children in first 2-4 years of life:</p> <ul style="list-style-type: none"> ● Immune system not fully developed ● Eustachian tube is short, horizontal with narrow opening → Easy to block ● Adenoids show infection or hyperplasia <p>-Bottle feeding (in supine position)</p> <p>-Day care (kid-to-kid)</p> <p>-Craniofacial anomalies as cleft palate</p> <p>-Ciliary dysfunction as in exposure to cigarette</p>			
Etiology	<p>-S. pneumoniae - 40-45% -H. influenzae - 30-35%</p> <p>Others: Moraxella catarrhalis, Group A strep, staph, Viral</p>			
Routes	<p>-Via eustachian tube: the most common.</p> <p>-Via external ear: tympanic membrane perforation.</p> <p>-Direct spread: from mastoiditis.</p> <p>-Blood-born: very rare.</p>			
Complications	<p>- Hearing loss;conductive, temporary</p> <p>-Facial nerve Paralysis</p> <p>-Spread of infection: Labyrinthitis, Mastoiditis, meningitis & brain abscess</p>			
Classification	Acute OM	OM with effusion	Chronic suppurative OM	Chronic OM with cholesteatoma
Features	<p>-Opaque, thick Tympanic membrane</p> <p>-Bulging & injected (erythematous)</p> <p>-Loss of anatomic landmarks</p> <p>-Reduced mobility</p> <p>-Purulent effusion</p>	<p>-Effusion with intact tympanic membrane, not associated with acute inflammatory symptoms & signs.</p> <p>-Tympanic membrane:</p> <ul style="list-style-type: none"> ● Translucent or opaque ● Gray/pink ● Reduced mobility ● Effusion (thick mucoid) ± air. 	<p>-Chronic tympanic membrane perforation, fibrosis, calcification</p> <p>-Purulent discharge (mucopurulent otorrhea)</p> <p>-Conductive hearing loss</p>	<p>-Squamous epithelium + keratin + cholesterol clefts + ↑histiocytes in middle ear & mastoid</p> <p>-Osteolytic (osteoclastic inflammation)</p> <p>-Often accompanied by chronic otorrhea</p>

	Otitis externa	Otitis interna	Jugular para-ganglioma
Features	<p>External infection of the skin and subcutis of the external auditory canal</p> <p>Types:</p> <ol style="list-style-type: none"> 1- Acute diffuse otitis externa 2- Circumscribed otitis externa. 3- Chronic otitis externa. 4- Malignant (Necrotizing) otitis externa ≠Tumor 	<p>-Commonly known as labyrinthitis or vestibular neuritis.</p> <p>-Caused mainly by viral infection.</p> <p>-Symptoms include vertigo, dizziness, tinnitus</p>	<p>-Most common benign tumor of the middle ear called Glomus jugular</p> <p>-Arise from parasympathetic ganglia.</p> <p>M/E:</p> <p>-Classic organoid/nested pattern called “zellballen”; with fibrovascular stroma separates the nests</p> <p>-Central cells are rounded/ovoid chief cells with abundant eosinophilic granular cytoplasm.</p> <p>-Spindle cells present at the periphery of the nests</p>

Other tumors
<p>Eye tumors:</p> <p>-Most common malignant tumor of the eyelid is Basal cell carcinoma followed by Sebaceous adenocarcinoma.</p> <p>-The most common primary ocular malignancy in the adults is Uveal Melanoma.</p> <p>-The most common malignant orbital tumor in Children is rhabdomyosarcoma</p> <p>Tumors of external ear: Cerumen-gland tumors</p> <p>Tumors of inner ear: Acoustic neuroma (Discussed before)</p>