External Eye Abnormalities

External eye abnormalities range from dysfunction of the extraocular muscles, like the condition strabismus, to eyelid abnormalities, eyelid lesions, pupil abnormalities and abnormalities of the cornea and iris. Eyelid abnormalities include exophthalmos, a forward protrusion of the eyeball widening the palpebral fissures, ptosis, a"drooping upper eyelid," ectropion, a sagging lower eyelid, and entropion, the inversion of the eyelid and eyelashes. Eyelid lesions includes blepharitis, an infection of the eyelid resulting from a staphylococcal infection or seborrheic dermatitis, dacryocystitis, inflammation of the lacrimal sinus sac, a hordeolum, also known as a "stye," and a chalazion, a nodule on the eyelid due to inflammation of the meibomian glands. Pupil abnormalities include anisorca, or unequal pupil size when comparing pupils bilaterally, mydriasis, dilation and fixing of pupils, and miosis, constriction and fixing of the pupils. Finally, the abnormalities of the cornea and iris include a pterygium, an overgrowth affecting the bulbar conjunctiva and possibly the cornea, hyphema, blood collected in the anterior chamber, and hypopyon, white blood cells collected in the anterior chamber from an infection.

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Extraocular Muscle Dysfunction

Strabismus

Strawberry-mouse

Strabismus occurs when there is a true disparity of the eye axes, presenting as one or both eyes turning or fixed in a position counter to the patient's gaze. An inward turning of the eye is termed esotropia, and an outward turn is an exotropia. Additional clinical findings are an asymmetric corneal light reflex along with presentation and notable findings during a cover test and during examination of the six cardinal positions of gaze.

Eyelid Abnormalities

Exophthalmos

Extruding-eyes

A patient with exophthalmos has a forward displacement or "protrusion" of the eyeball with widened palpebral fissures. Also, the upper eyelid elevates above the eyeball with a prominence of the white sclera visible on inspection. Often, acquired bilateral exophthalmos is associated with an underlying thyroid disorder, such as thyrotoxicosis or Graves Disease.

Ptosis

Toast-eyes

Ptosis occurs due to neuromuscular weakness of CNIII: the oculomotor cranial nerve, sympathetic nerve damage, or from a congenital defect. It presents as a "drooping upper eyelid," possibly impairing vision.

Ectropion

Egg-drooping-eye

Often associated with the loosening of connective tissue and weakening of associated musculature around the eye in advanced age, ectropion is a presenting loose, lagging lower eyelid with exposed palpebral conjunctiva. The eyelid appears to evert away from the eyeball, and the exposed conjunctiva is at risk for inflammation or trauma. The patient often will report irritation, excessive tearing, or symptoms of keratoconjunctivitis sicca ("dry eye syndrome").

Entropion

Eye-lid In-eye

Entropion is common in older adults and occurs when the lower eyelid inverts ("rolls into") the eye as a result of increased tissue laxity, weakening of periocular eyelid musculature and/or a result of scar tissue contraction. Friction from the inverted eyelashes irritates the cornea, causes a "foreign body" sensation for the patient, and could result in corneal damage if not addressed.

eyelid lesions

Blepharitis

Blue-pharaoh-on-fire

An inflammation of the eyelids, blepharitis presents as thickened, crusted lid margins with a production of red, scaly, and greasy flakes. Common causes are a staphylococcal infection or seborrheic dermatitis, and the patient's symptoms may include irritation, pruritus of the eye and region, a foreign body sensation, lacrimation and/or pain.

Dacryocystitis

Don't-cry-kid-on-fire

Dacryocystitis is inflammation of the lacrimal sinus sac, resulting in blockage of the nasolacrimal duct and localized infection. Symptoms include pain, erythema, and redness below the inner canthus of the medial eye, toward the nose.

Hordeolum (Stye)

Pigsty Hoard

A hordeolum (stye) can appear similar, but is attributed to a staphylococcal infection of the hair follicles causing irritation, redness, and swelling. An infected hordeolum can transmit to the contralateral eye via the hands and can produce a pustule at the hair follicles' base.

Chalazion

Calzone

A chalazion presents as a nodule on the eyelid with underlying inflammation to the meibomian glands. It is typically painless, non-infectious (though can lead to), can obscure vision, and presents deep in the pocket of the eyelid near the palpebral conjunctiva.

Pupil Abnormalities

Anisocoria

Anise-star-man

Anisocoria, or unequal pupil size, exists in about 5% of the general population in its benign presentation, though can also be attributed to central nervous system disease.

Mydriasis

Meter-eyes

Dilated and fixed pupils associated with sympathetic nervous system stimulation. The underlying etiology can be the use of sympathomimetic drug use, use of dilatory eye drops, acute glaucoma, circulatory arrest, trauma, or damage to the CNS.

Miosis

Mice-eyes

Miosis is constricted and fixed pupils. These constricted pupils could arise from the use of pilocarpine eye drops (for glaucoma management), narcotic use and/or brain damage at the level of the pons.

Abnormalities on Cornea and Iris

Pterygium

Surfer's Eye

Pterygium, as known as Surfer's Eye, is a membranous, triangular, opaque wing covering the bulbar conjunctiva with possible overgrowth over the cornea. It occurs from chronic exposure to hot, sandy, and dry climates stimulating the growth of a pinguecula (smaller, benign growth) into a pterygium. It typically invades the medial canthus and could obstruct vision with the progression of the illness.

Hyphema

Hyphen-blood-eye

Hyphema is blood captured in the anterior chamber from trauma, herpes zoster infection or spontaneous hemorrhage. It can be an emergency if there is suspicion for scleral rupture or major intraocular trauma. Often, blood can pool in the front of the iris and may be asymptomatic.

Hypopyon

Hippo with Pus in Eye

Hypopyon is the result of white blood cells captured in the anterior chamber and is associated with infections like iritis and/or inflammation of the anterior chamber. Symptoms include pain, irritation, conjunctivitis, and possible vision changes.