

Lacrimal Disorders

Last updated: September 5, 2017

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Tear film provides:

- 1) smooth and transparent **refractive surface**
- 2) essential **moisture**
- 3) **oxygen** to epithelial cells
- 4) **protective proteins** (e.g. IgA, complement, lysozyme)

Health of ocular surface is entirely dependent upon *quantity & quality of tear film* (both can be altered by contact lenses!).

- normal eye has 6 µL tears with turnover 1.2 µL/min.

DACRYOSTENOSIS

- *stricture of nasolacrimal duct.*

Congenital dacryostenosis - epiphora of one eye in infant (at age > 3 wk)

Acquired dacryostenosis:

- 1) chronic lacrimal sac infection
- 2) severe or chronic conjunctivitis.
- 3) deviated septum, hypertrophic rhinitis, mucosal polyps, hypertrophied inferior turbinate, fracture of facial bones.

CLINICAL FEATURES

- prolonged blockage → dacryocystitis.
- pressure on lacrimal sac → copious mucus / pus reflux from punctum.

TREATMENT

Congenital dacryostenosis - **resolves spontaneously** by age 6 mo.

- *milking lacrimal sac* (with firm fingertip massage) + *antibiotic ointment* may speed resolution.
- if resolution is not spontaneous → *punctum should be dilated* (under brief general anesthesia) and *lacrimal drainage system probed*.

Acquired dacryostenosis - dilate punctum under local anesthetic → **isotonic saline irrigation** through nasolacrimal system with fine blunt canaliculus needle (fluorescein drop in saline makes obstruction in nose easily detectable).

- if this technique fails → **lacrimal probing** with increasing size.
- complete obstruction → **surgical opening**.

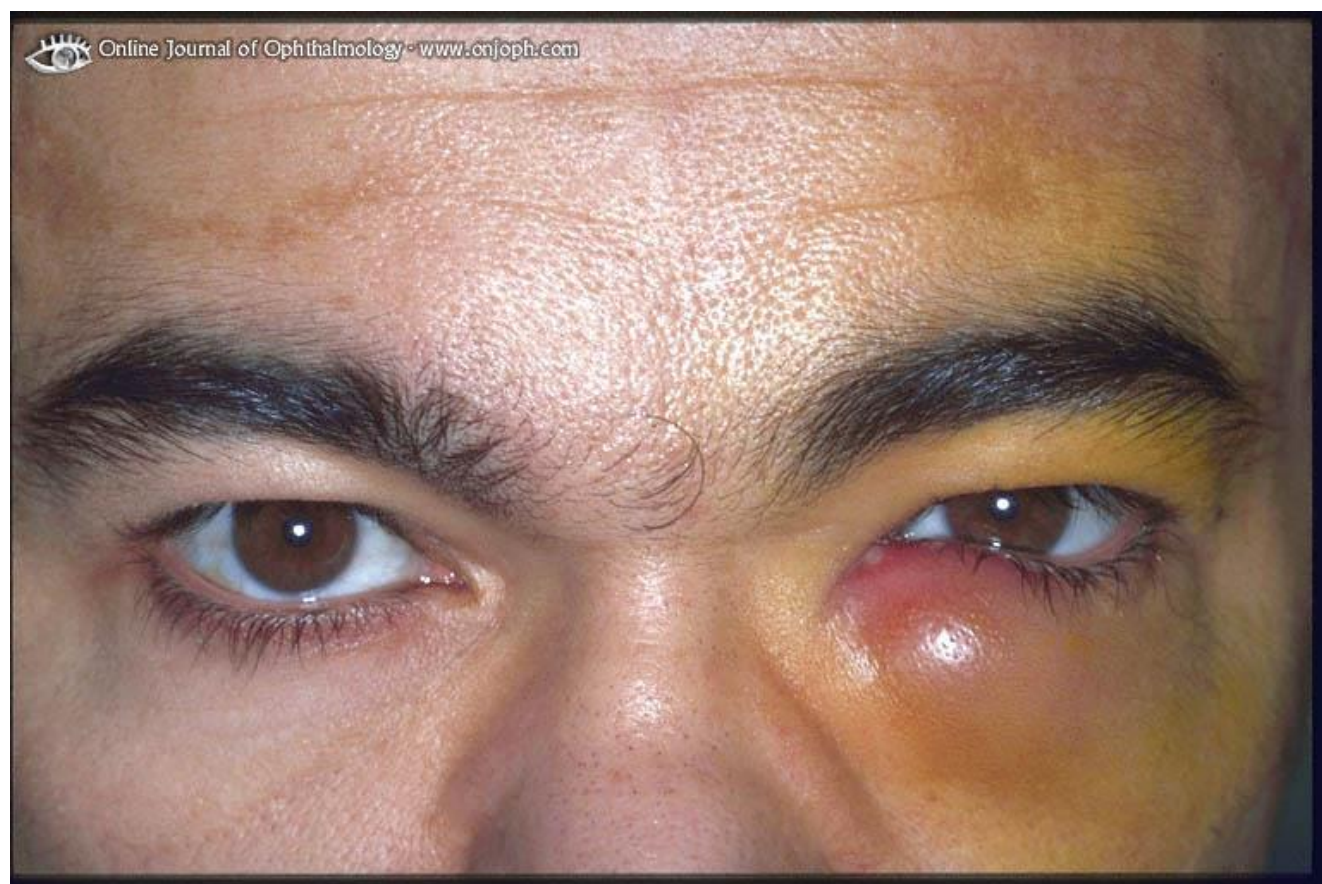
DACRYOCYSTITIS

- *infection of lacrimal sac.*

- usually *secondary to dacryostenosis*.

Acute dacryocystitis - pain, redness, edema about lacrimal sac; epiphora; conjunctivitis; blepharitis; fever; leukocytosis; abscess may form → rupture → draining fistula.

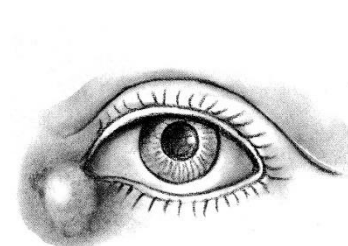
- treatment - frequent **hot compresses**; CEPHALEXIN / CEFAZOLIN for *severe cases*; incision and drainage for *abscess*.



Source of picture: "Online Journal of Ophthalmology" >>

Chronic dacryocystitis - slight sac swelling and tearing may be the only symptoms.

- pus may regurgitate (through punctum) when pressure is applied.
- retained secretions may form large mucocele.
- treatment - **nasolacrimal duct dilation** with probe and **syringing with saline**(under local anesthetic); contributory nasal or sinus abnormalities should be treated.
 if this treatment fails → nasolacrimal intubation, dacryocystorhinostomy, sac removal.

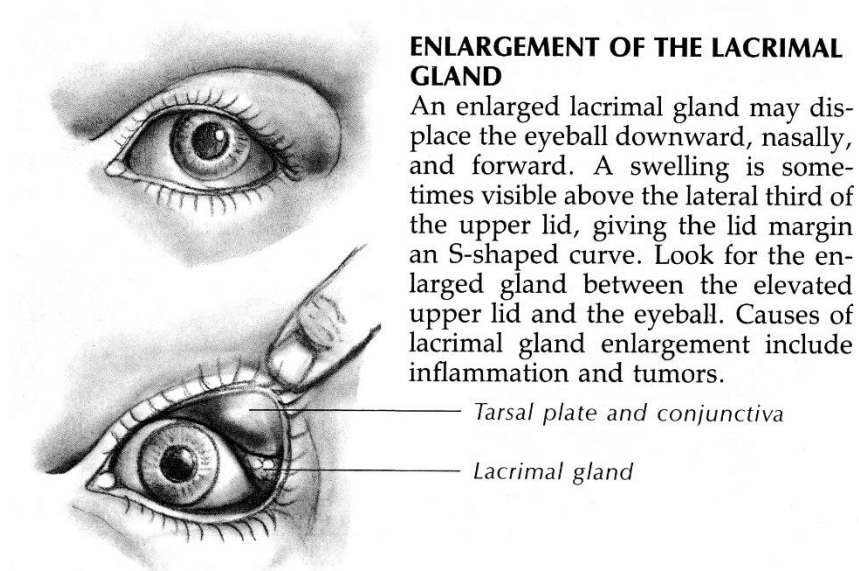


INFLAMMATION OF THE LACRIMAL SAC (DACRYOCYSTITIS)

A swelling between the lower eyelid and nose suggests inflammation of the lacrimal sac. It may be acute or chronic. An *acute* inflammation is painful, red, and tender and may have a surrounding cellulitis. *Chronic* inflammation is associated with obstruction of the nasolacrimal duct. Tearing is prominent and pressure on the sac produces regurgitation of material through the puncta of the eyelids.

DACRYOADENITIS

- pain and swelling on temporal side of upper lid (upper lid appears S-shaped), ptosis:
- **etiology:**
 - acute** – viruses (mumps, influenza, measles), gonococci.
 - chronic** – tumors, sarcoid, tbc.



ENLARGEMENT OF THE LACRIMAL GLAND

An enlarged lacrimal gland may displace the eyeball downward, nasally, and forward. A swelling is sometimes visible above the lateral third of the upper lid, giving the lid margin an S-shaped curve. Look for the enlarged gland between the elevated upper lid and the eyeball. Causes of lacrimal gland enlargement include inflammation and tumors.

Tarsal plate and conjunctiva

Lacrimal gland



Source of picture: "Online Journal of Ophthalmology" >>

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