SAWA UNIVERSITY

CONGENITAL LACRIMAL DISEASE: NASOLACRIMAL DUCT OBSTRUCTION

جامعة ساوة

كلية التقنيات الصحية والطبية

قسم تقنيات البصريات

المرحلة الرابعة

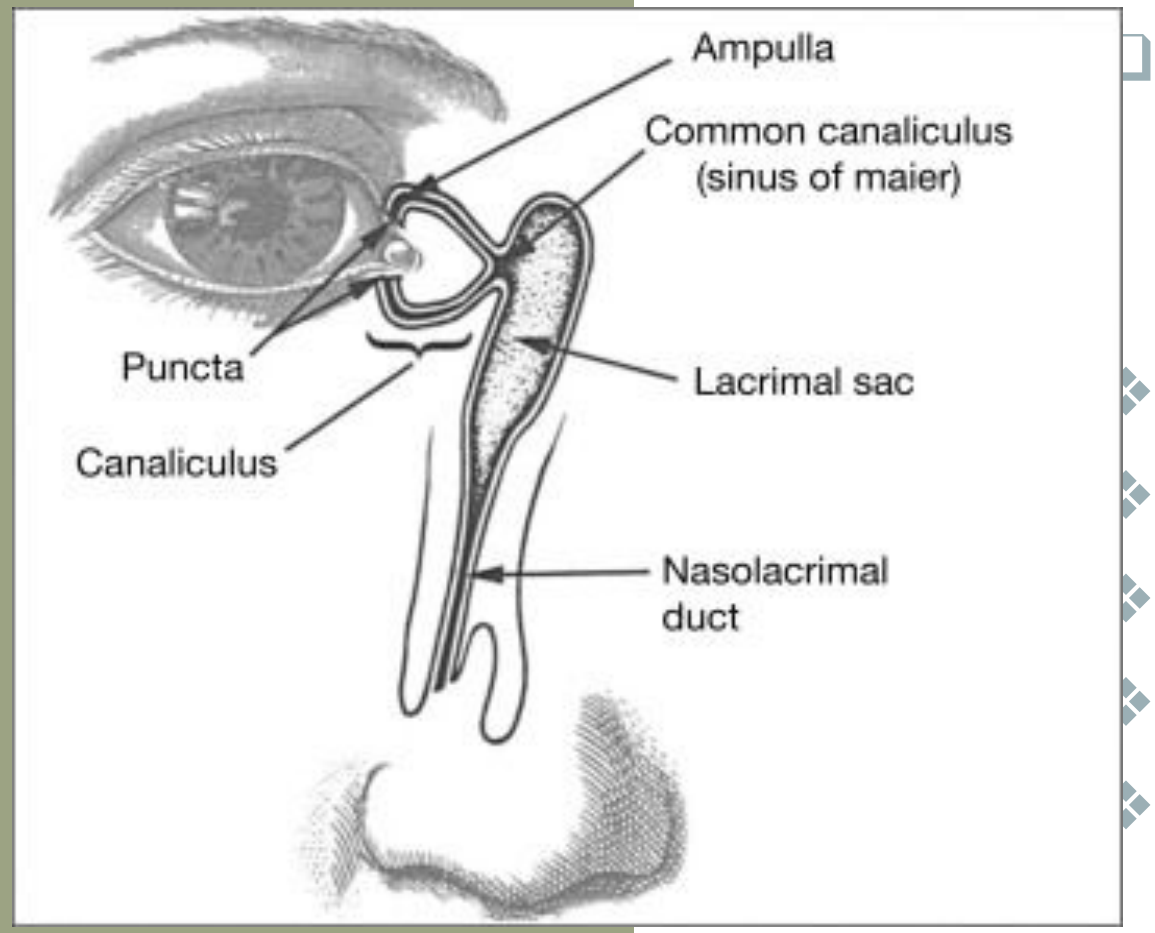
الفصل الأول

طب عيون أطفال

اسم المحاضر: د. منار شعبان قاسم

رقم المحاضرة: 7

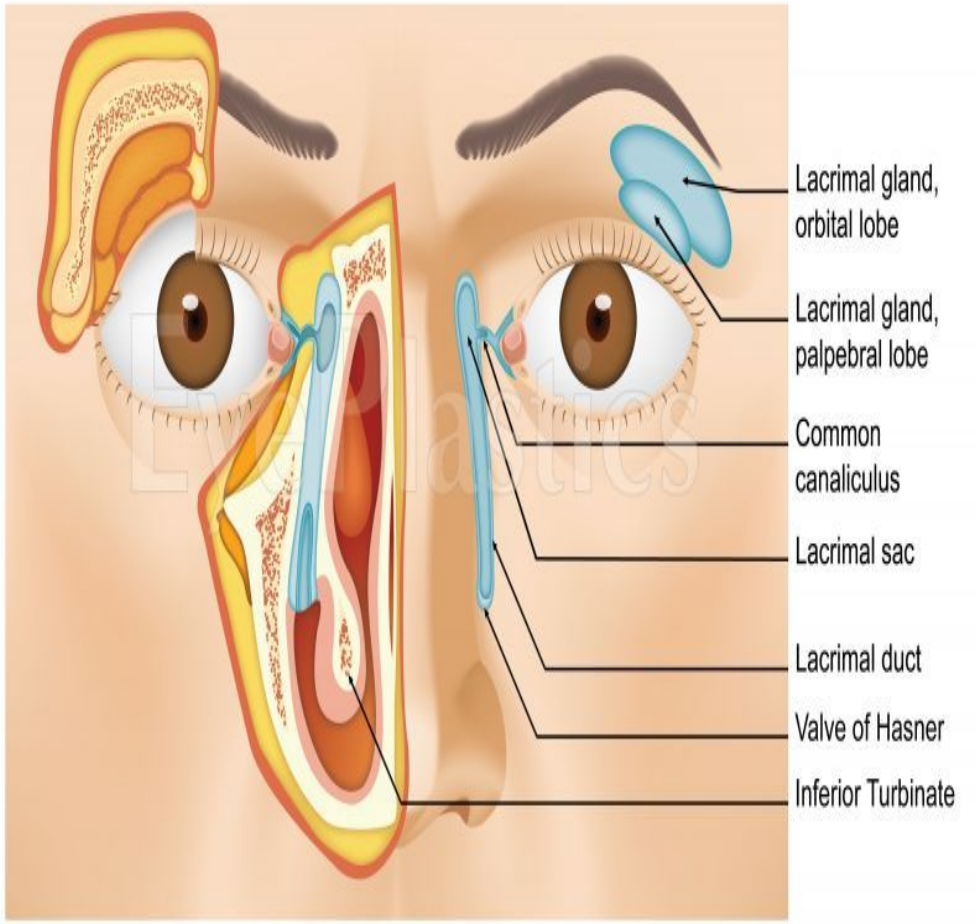
ANATOMY



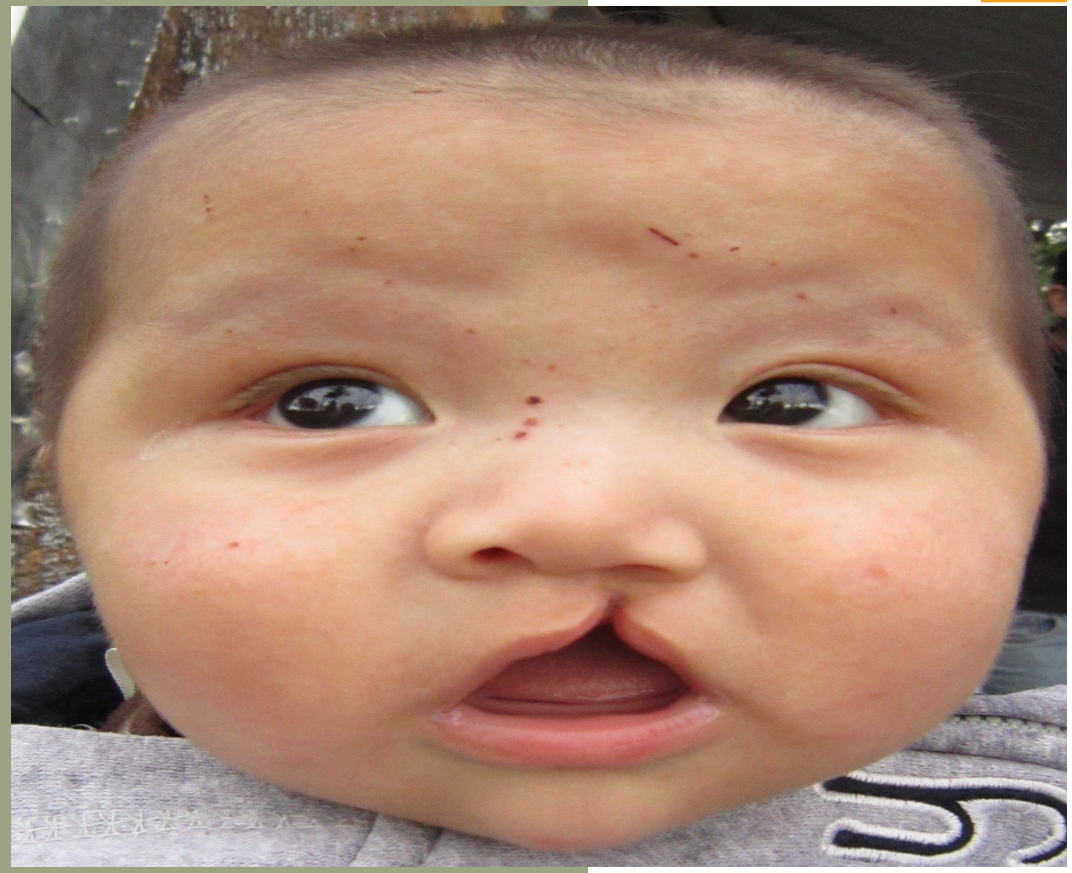
- Under normal conditions, tears are produced by the lacrimal gland and drain into the nose by way of lacrimal drainage structures:
  - puncta
  - Canaliculi
  - common canaliculus
  - lacrimal sac
  - and nasolacrimal duct.

GENERAL FACTS

- In children the majority of nasolacrimal duct obstruction is congenital
- The blockage occurs most commonly at the distal end of the duct (valve of Hasner)
- Congenital nasolacrimal duct obstruction occurs in up to 11% of normal newborn infants
- There is no sex predilection and no genetic predisposition
- It can be unilateral or bilateral.



RISK FACTORS AND ASSOCIATIONS

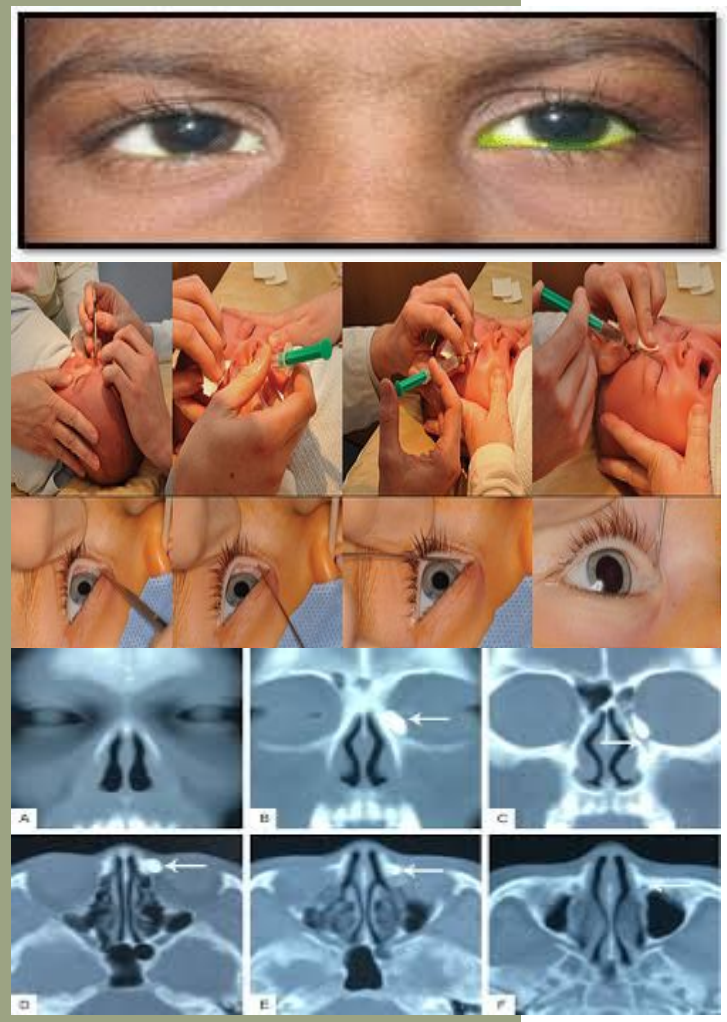


1. Incomplete Canalization of the Valve of Hasner
2. Prematurity
3. Family History: Having a first-degree relative (sibling or parent) with CNLDO
4. Down Syndrome (Trisomy 21)
5. craniosynostosis.
6. any midline facial anomaly
7. Cleft Lip/Palate

SIGNS AND SYMPTOMS

- A history of tearing (epiphora) of one or both eyes is typical with mucous or mucopurulent discharge
- When pressure is applied over the lacrimal sac, there may be reflux of mucoid or mucopurulent material from the punctum
- The globe is usually white (not red)
- The signs and symptoms are usually worse with a concurrent upper respiratory infection.

DIAGNOSTIC PROCEDURES



1. A common procedure is: fluorescein dye disappearance test
   - helpful in confirming the diagnosis
   - A drop of fluorescein is instilled into the eyes
   - The disappearance of dye from the tear film after 5 minutes is observed
   - Retained dye in a thickened tear strip is diagnostic of an obstruction.
2. lacrimal syringing/irrigation: another common procedure
3. Dacryocystography: a radiologic study using contrast for more complex cases

DIFFERENTIAL DIAGNOSIS

1-acquired nasolacrimal duct obstruction

2-acute conjunctivitis (but here there is a pink eye)

3- congenital glaucoma

4- Corneal/Ocular Surface Pathology

5- congenital anomalies of the upper lacrimal drainage system (punctal or canalicular atresia or agenesis)

6-obstruction of the inferior meatus due to nasal structures (structural or functional)

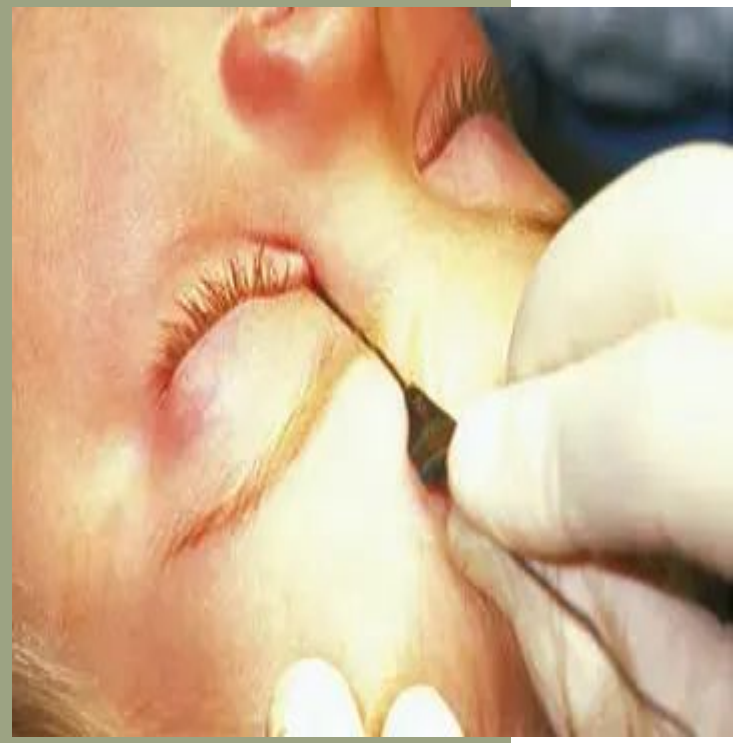
MEDICAL THERAPY

- consists primarily of :

  observation, lacrimal massage after the use of warm compresses, and treatment with topical antibiotics for secondary infection.

- The rate of spontaneous resolution is estimated to be 90% within the first year of life
- The rate of spontaneous resolution is 44-76% between 12 and 24 months
- and may still occur even after 24 months.

SURGERY



- Primary surgical treatment of nasolacrimal duct obstruction consists of nasolacrimal duct probing
  - Probing performed for persistent obstruction at the age of 6-12 months.
  - The success of simple probing declines slightly with the increasing age of the child, generally after 24 to 36 months.
- If probing fails, we need to perform another surgical option like:

1. Nasolacrimal duct stent insertion.
2. Balloon catheter dilation.
3. Dacryocystorhinostomy (DCR).

KEY REFERENCES AND SOURCES

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