Concretions (Lithiasis)

- Form by cellular degeneration when products remain trapped in small recesses of conjunctiva and become calcified. Very common

**Signs**

1. Minute hard yellow-white deposits of calcium in the palpebral conjunctiva usually 1-2 mm in size, single or multiple, commonly seen in older patients and seen in patients with chronic conjunctival infections or inflammation (chronic meibomian gland disease)
Treatment
2. None if asymptomatic; symptomatic (overlying epithelium breaks down and exposes the concretion; removal using a needlepoint forceps

Cysts
Inclusion (lymphatic) Retention cysts
General Characteristics
1. Common thin-walled cysts that develop in the accessory lacrimal gland of Krause in fornix
2. Appears as clear fluid to y/w cysts- palpebral, bulbar, or canthal area
Treatment
1. Usually none; if large, they may be excised or punctured with a needle
Pigmented Lesions
- A wide variety of pigmented conjunctival lesions are seen clinically, which are frequently difficult to diagnose and have varying degrees of malignant potential
- Definitions—melanocytes, melanosis, nevus, & melanoma

Congenital Epithelial Melanosis
- Present at birth or shortly after, greater in dark races and may increase with age, especially puberty.
- No or little malignant potential versus acquired conjunctival pigment, will move easily with the conjunctiva versus episcleral or scleral—blue—gray color

Signs
- Flat pigmented brown to black patches usually near limbus or around perforating blood vessels, bilateral
- Juxtalimbal pigmentation may extend into the cornea

Differential Diagnosis
- Conjunctival freckle—tiny area of epithelial pigmentation
- Melanosis around an intrascleral nerve or artery
- Mascara deposits—usually in inferior fornix
- Adrenochrome deposits—associated with topical epinephrine drops

Congenital melanosis oculi—Nevus of ota (also called oculodermal disease)
Classification

- Ocular melanocytosis: only the eye is involved, least common: darker iris & choroid
- Dermal melanocytosis: only involves the skin, 1/3 of cases
- Oculodermal melanocystosis (Nevus of Ota): which involves both the skin & the eyes

Conjunctival Signs

- Multifocal, slate blue grey pigmentation which lies in the episclera
- Cannot be moved over the surface

Nevus of Ota

- Usually female oriental race but may occur in any race
- Unilateral hyperpigmentation of deep facial skin, usually in distribution of the first & second division of 5th nerve
- Associated Features:
  - Ipsilateral iris hyperchromia: common
  - Fundus hyperpigmentation
  - Melanomas
  - Glaucoma-10%
  - Iris mammillations

Nevus

- Is a relatively common, benign, usually unilateral condition
- Most common location is juxtalimbal, plica, & caruncle
- Usually during the first two decades of life (Congenital)-increase pigmentation during puberty
- Classified by what layers are involved:
  1. intraepithelial (junctional)
  2. subepithelial
  3. compound (intraepithelial plus subepithelial)
Signs
1. Smooth, flat to slightly elevated intraepithelial surface lesion with well-demarcated edges, lesion can move freely over sclera
2. Pigmented (brown) (70%) to amelanotic appearance with increase pigmentation during puberty, no change or tend to grow very slowly
   a. Amelanotic tumors are salmon or pink color whereas the heavily pigmented ones are dark brown or almost black, maybe tan
   b. May have multiple, small cysts spaces within tumor

Nevus
- Common pigmented lesion usually noted in early life, asymptomatic except for cosmetic distress
- Higher frequency at limbus, next at the plica/caruncle, rarely seen in palpebral conjunctiva (more suspicious of MM)
- 70% pigmented—increase pigmentation during puberty
- Amelanotic nevus are pink in color
- Nevus tend to have multiple cysts within the tumor
- Management—If suspicious or cosmetic concern refer for excisional biopsy, photodocument