AFFECTIONS OF UVEA

Anatomy and physiology:

- Uvea is the vascular coat of the eye lying beneath the sclera.
- It consists of the uvea and uveal tract.
- It consists of 3 parts: ***Iris,*** the anterior portion; ***Ciliary body,*** the middle part; ***Choroid,*** the third and the posterior most part.
- All the parts of uvea are intimately associated.

Iris

- It is spongy having the connective tissue stroma, muscular fibers and abundance of vessels and nerves.
- It is lined anteriorly by endothelium and posteriorly by a pigmented epithelium.
- Its color is because of amount of melanin pigment. Mostly it is brown or golden yellow.
- Iris has two muscles; ***the sphincter*** which encircles the pupil and has parasympathetic innervation; ***the dilator*** which extends from near the sphincter and has sympathetic innervation.
- Iris regulates the amount of light admitted to the interior through ***pupil.***
- The iris separates the anterior chamber from the posterior chamber of the eye.

Ciliary Body:

- It extends backward from the base of the iris to the anterior part of the choroid.
- It has ***ciliary muscle*** and the ***ciliary processes (70 to 80 in number)*** which are covered by ciliary epithelium.

Choroid:

- It is located between the sclera and the retina.
- It extends from the ciliaris retinae to the opening of the optic nerve.
- It is composed mainly of blood vessels and the pigmented tissue.,

The pupil

- It is circular and regular opening formed by the iris and is larger in dogs in comparison to man.
- It contracts or dilates depending upon the light source, due the sphincter and dilator muscles of the iris, respectively. **Persistent dilatation is an important symptom of glaucoma.**

AFFECTIONS:

1. **Persistent pupillary membrane:**
   - A congenital condition in animals seen as nonvascular strands without inhibiting the normal pupillary response.

- Sometimes these strands are pigmented.
- Normally strands extend from one part of the iris to another and may cross over the pupil. Sometimes the strands may extend from irid to cornea.
- The condition doesn't require any treatment.

2. **Iris Coloboma:** Congenital notching of the iris. No treatment.
3. **Heterochromia:** Congenital two irides of different colors. A rarest condition.
4. **Polycoria:** Congenital condition characterized by presence of two or more pupils with one iris. Normally associated with the iris Coloboma.
5. **Dyscoria:** Defective pupil not related to the iris Coloboma but develops due the anomaly of iris sphincter muscle.
6. **Iris freckles:** Also known as iris nevi and are dark brown to black spots in and on the iris.
7. **Aniridia:** Congenital total absence of iris tissue.
8. **Iris cyst:**
   - Pigmented cysts resemble "cannon balls" may be found loose in the anterior chamber or adhered to the iris.
   - Congenital or acquired.
   - Vision as well as the pupillary response is not affected.
   - Doesn't require any treatment.
9. **Anterior uveitis:**
   - Inflammation of iris and ciliary body and commonly known as ***iridocyclitis.***
   - Condition is mostly associated with some systemic disease like canine distemper, Leptospirosis and hepatitis.
   - Vaccine induced uveitis has been seen following hepatitis vaccination.
   - Anterior uveitis has also been noticed in ***Dirofilariasis (heartworms).***
   - Trauma can also cause uveitis.
   - Secondary uveitis when inflammation of adjacent tissues.

Clinical signs

- Pain, photophobia, blepharospasms and Epiphora.
- The ciliary vessels are congested.
- Faint corneal opacity may be seen.
- Hypopyon may be seen in some cases.
- Iris looks spongy and lusterless.
- The pupil is mostly contracted (miosis).
- Sometimes posterior synechia is observed as complication.

Treatment:

- Determine and eliminate the cause, if possible.
- Topical Atropine 2-4% helps in diminishing the congestion and alleviating the pain by paralyzing the ciliary body. It also helps in preventing the

development of posterior synechia.

- Subconjunctival injection of corticosteroid (Dexamethasone) is one of the best treatments to control the inflammation.
- In addition instill topical antibiotic-corticosteroid combinations 4-5 times daily.
- Systemic analgesics are quite helpful and should be used along with the local treatment.
- Iridectomy is indicated only when there is development of posterior synechia.

10. **Hypopyon:**

- Massive leucocytic infiltration in the anterior chamber (pus in the anterior chamber).
- Mostly associated with iridocyclitis (acute or chronic), corneal ulcers and deep keratitis.

Treatment:

- Paracentasis of the anterior chamber at 6 'O' clock position using No. 11 BP blade for easy removal of the pus from the chamber.
- Subconjunctival injection of antibiotic and corticosteroid combination followed by topical instillation of ophthalmic antibiotic and corticosteroid combinations.
- Systemic antibiotics.

11. **Hyphema:**

- Blood in the anterior chamber**.** Whole of the eye looks red.
- Mostly seen in some trauma.
- Not so common causes are Warfarin poisoning, severe anterior uveitis, glaucoma.

Treatment:

- There is no satisfactory treatment to stop slow bleeding from retinal detachment.
- Treatment of the primary cause is a must (glaucoma, iridocyclitis etc.)
- Paracentasis of the anterior chamber at 6 'O' clock position using No. 11 BP blade for easy removal of the clotted blood from the chamber. Thereafter flush the anterior chamber with 1000 to 1250 units/ml fibrinolysin and NSS.
- Use of topical mydriatics (1% atropine) with antibiotic and corticosteroids combinations is quite helpful in the management of the condition.