



Uveitis and Ocular Hypertension

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Financial Disclosures

I have no relevant financial relationships to disclose



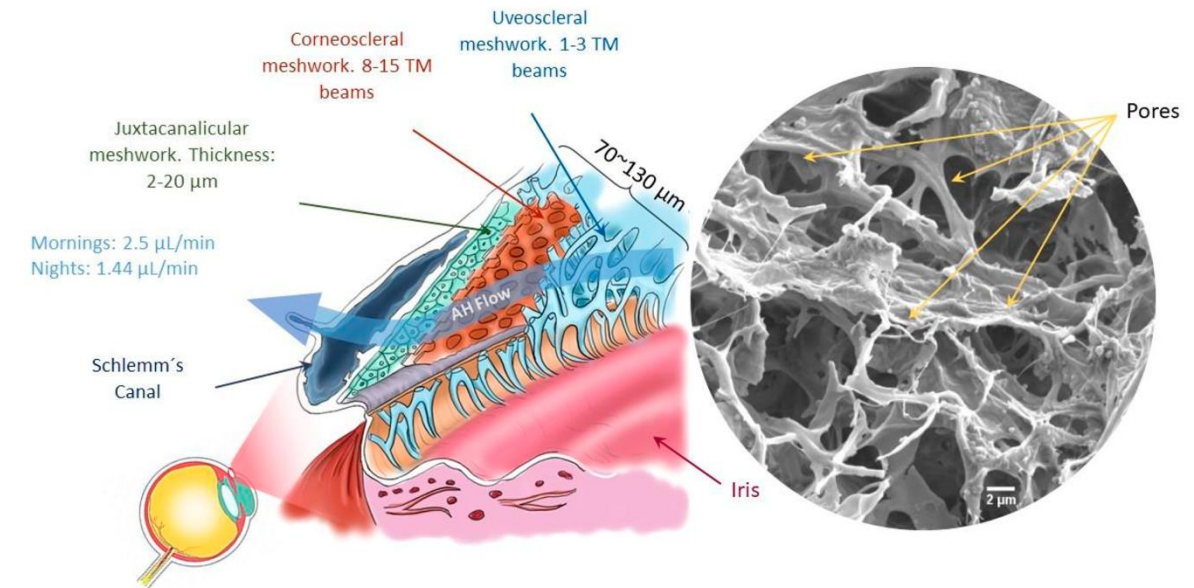
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At the end of this talk, participants should be able to...

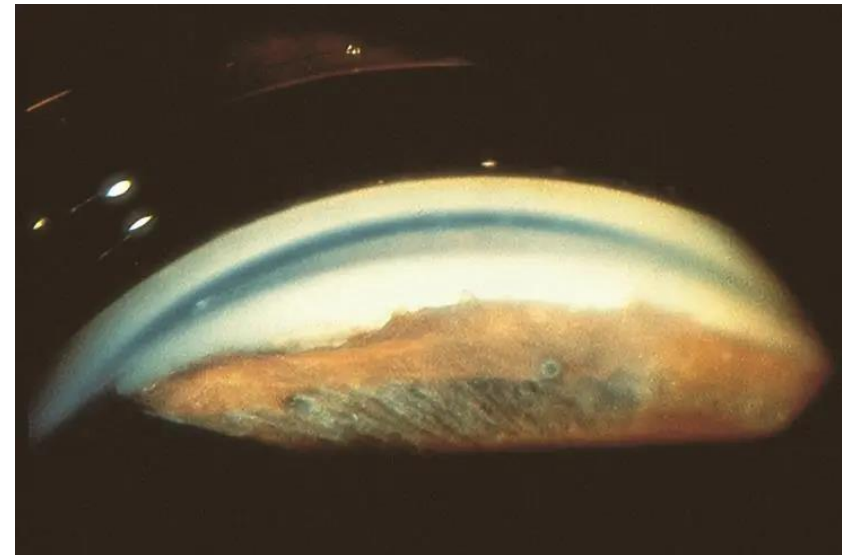
1. Identify general mechanisms by which ocular inflammation can cause high eye pressure
2. Have a basic understanding of specific uveitides associated with ocular hypertension
3. Appreciate the role of all eye doctors in co-managing ocular hypertension with uveitis specialists

Obstruction of trabecular meshwork

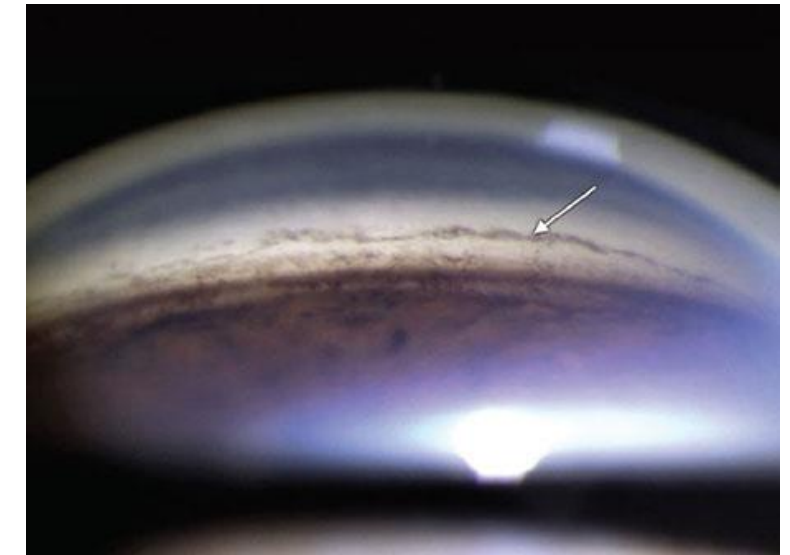
- Inflammatory cells, debris, and scar tissue can obstruct aqueous humor outflow and raise eye pressure



Hypopyon and/or fibrin



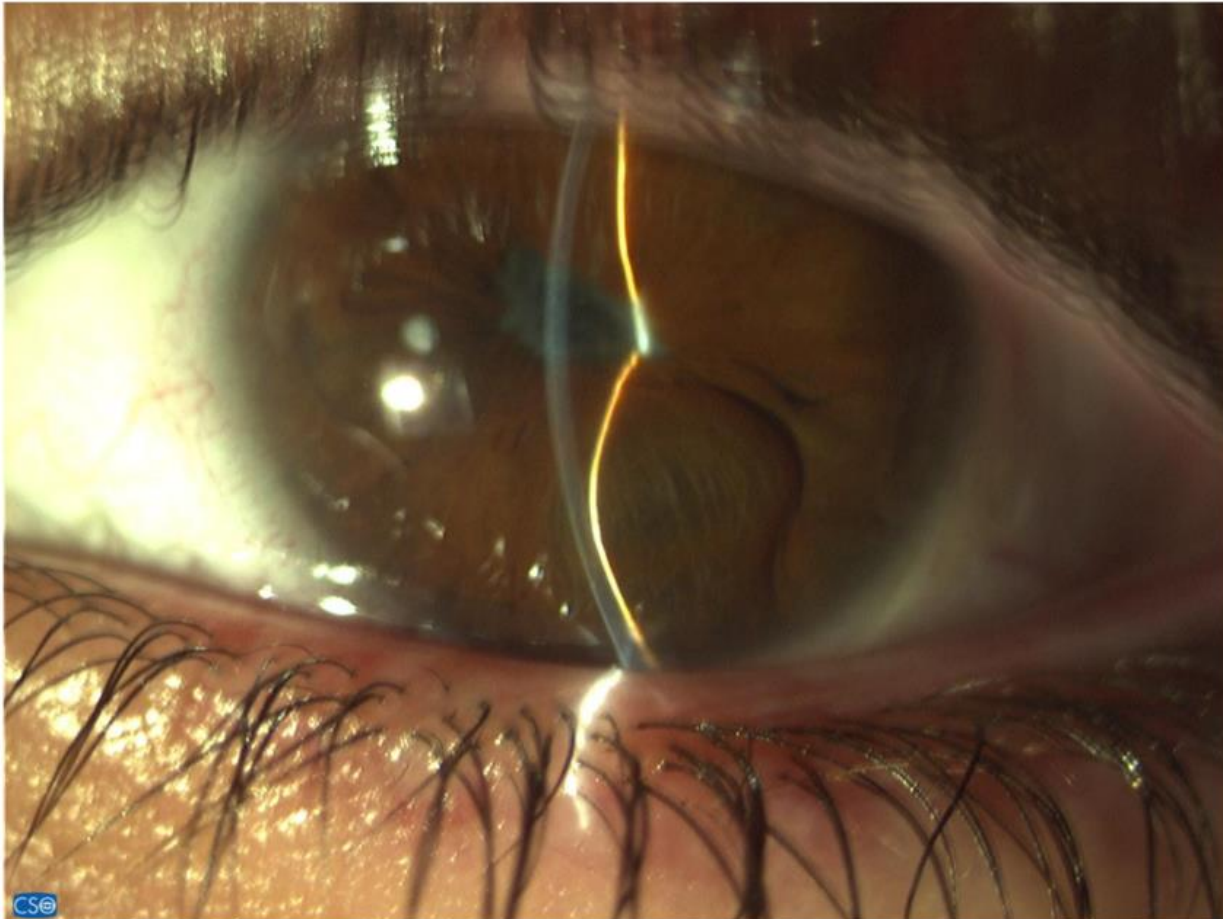
Anterior synechiae/fibrosis



Pigment release/obstruction

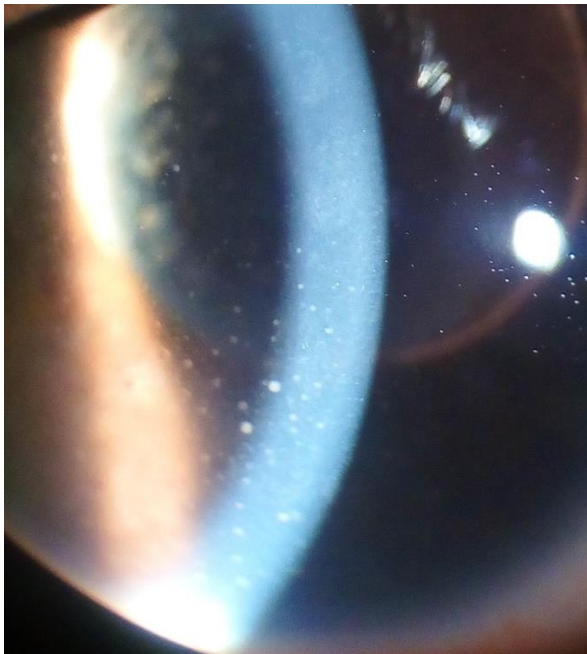
Pupillary block

- Extensive posterior synechiae → pupillary block/iris bombe

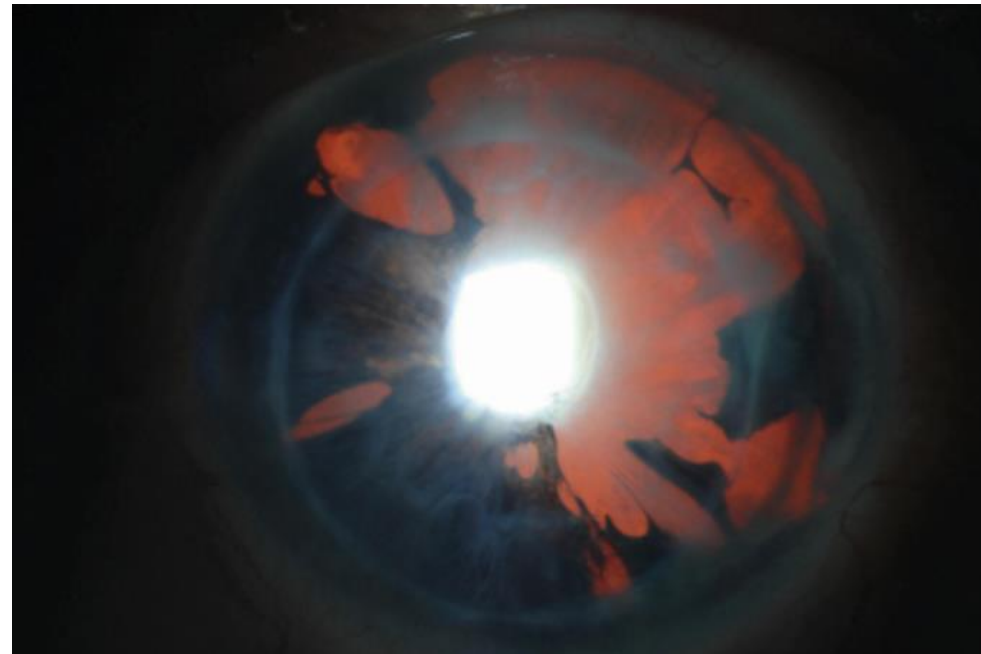


Herpetic uveitis

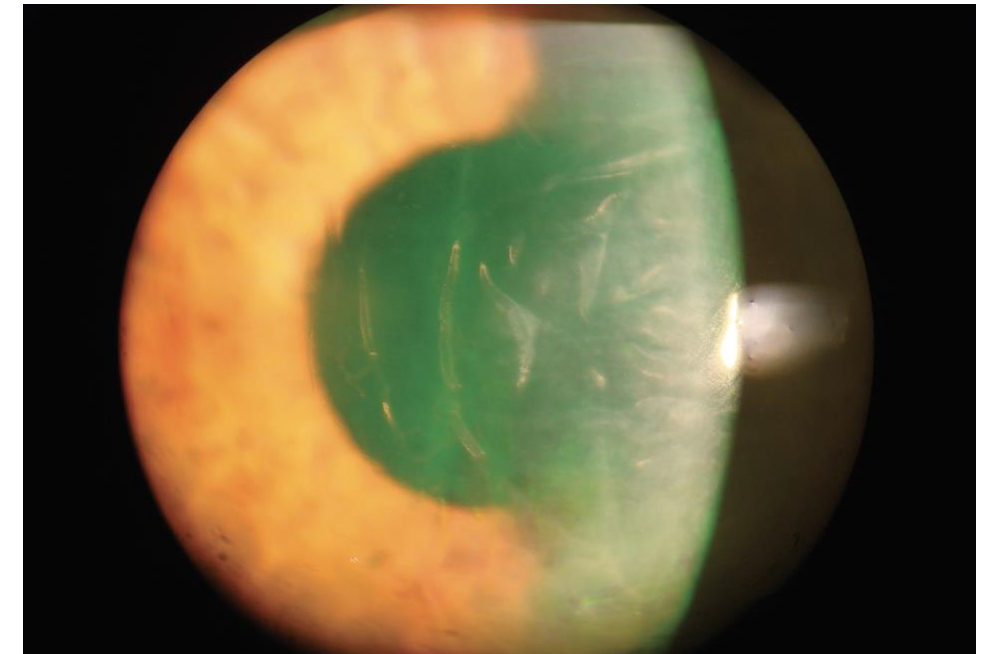
- Reactivated HSV-1 infection from the trigeminal (CN V) nerve
- Very high IOP elevations (50 – 60+ mmHg) due to trabeculitis
- Diagnostic AC tap, PO Valtrex, IOP drops
- IOP usually normalizes w/ resolution of infection/inflammation



AC cell and KPs



Iris transillumination defects



Endotheliitis → corneal edema

Posner-Schlossman syndrome

- Unilateral, recurrent, acute-onset episodes of mild inflammation and severe IOP rise
- Corneal edema from high IOP causes blurry vision
- Must rule out viral uveitis
- Treat acute inflammation and IOP, watch for chronic glaucoma
- Generally no role for immunosuppression

Fuch's heterochromic iridocyclitis

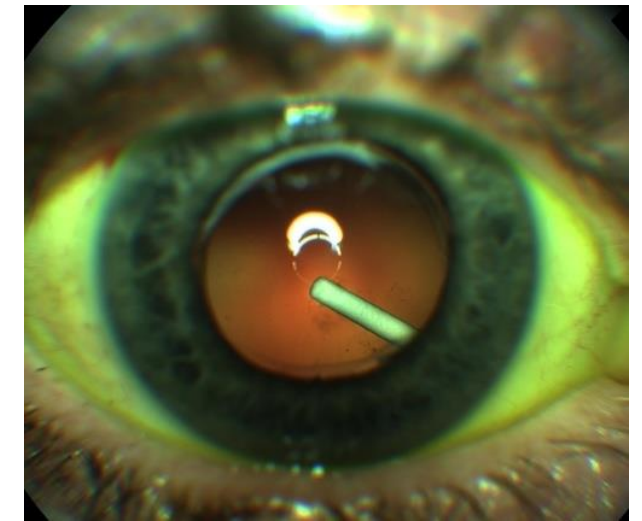
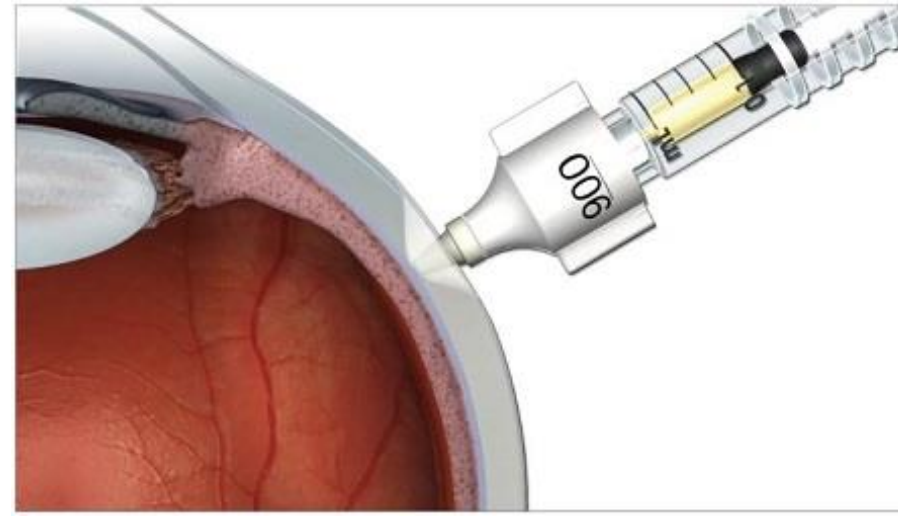
Not to be confused with Fuch's endothelial corneal dystrophy

- Unilateral, unknown etiology, thought to be a/w prior viral infections
- Affected eye is usually lighter in color (loss of iris pigment)
- Can get **open-angle glaucoma** (also mild/fine NVA w/out angle closure)
- **Treat the IOP**; inflammation usually mild and does not respond to treatment



Steroid response ocular hypertension

- Due to TM remodeling → increased outflow resistance
- Usually temporary
- Chronic elevation can lead to permanent changes
- Different steroid potencies = different risks/rates of IOP response
- 30% will have + 6 – 15 mmHg
- 5% will have > + 15 mmHg
- May require topical or oral IOP meds, +/- glaucoma procedures or surgery



- Ocular inflammation, uveitis treatments, and high intraocular pressure are connected in many ways
- Anterior segment colleagues play a crucial role in co-managing the IOP sequelae of many uveitis conditions
- Refer to uveitis specialists for diagnostic procedures, medications, and injection treatments

References

- American Academy of Ophthalmology
- American Society of Retina Specialists Image Bank
- Bikuna-Izagirre M, et al. (2024). “Artificial trabecular meshwork structure combining melt electrowriting and solution electrospinning.” *Polymers* **16**(15).
- Halkiadakis I, et al. (2024). “Update on diagnosis and treatment of uveitic glaucoma.” *J Clin Med* **13**(5).
- Syed ZA, et al. (2021). Herpes simplex virus (HSV) keratitis. In: Das S, Jhanji V (eds) *Infections of the cornea and conjunctiva*. Springer, Singapore.
- University of Iowa EyeRounds.org