HPI

• 46 year old presents to denver health eye clinic for urgent eval.

• Complains of 3 days of red eye on right

• No previous episodes

• mild pain, no fbs

• Has spent all weekend writing a chapter, thinks his eyes are dry.
HPI

• Vision unchanged, but not great. He states that he has had somewhat decreased vision in the right eye for 6-12 months.

• Last saw ophtho (?optom) in India while on vacation who was having trouble getting his glasses prescription right.

• Patient attributes this to possible unequal presbyopia
History

- **PMH**: none
- **PSH**: None
- **Meds**: None
- **Allergies**: NKDA
- **ROS**: None
- **FH**: no significant eye history
- **Social**: no bad habits. Married.

Adolescent medicine physician at TCH, DG, Univ.
Ocular History

• Refractive error

• Abnormally shaped right pupil x about 6 years. Oval in shape. Unknown etiology

• No eye trauma. No previous surgery.
Exam

Vacc

20/50 PH 20/40
20/20

EOM
Full

Alignment
Ortho

Tp

46
11

Pupils

Irreg, 4 to 3; no APD
3 to 2; no APD

8/27/2015
Exam

L/L: Normal both

C/S: 2-3+ injection right
Clear left

Cornea: 2+ edema right
Clear left
Endothelium with beaten bronze appearance

AC: Deep and quiet both

Iris: Right: see photo
Left: normal

Lens: Clear both

Gonio: Right with diffuse PAS, areas of hyperpigmented iris peripherally
Differential Diagnosis
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- Iridocorneal Endothelial Syndrome
- Uveitic Glaucoma
- Iridodialysis
- Posterior polymorphous dystrophy
- Iris nevus, cyst or tumor (iris melanoma)
- Siderosis
- Neovascular glaucoma
- Epithelial down growth
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ICE Iridocorneal Endothelial Syndrome

- Unilateral
- Not heritable
- Increased risk in middle aged women
- Patients 20-50 years old
- Abnormal corneal endothelium proliferation
- Migration across tm and onto iris
- Endothelium has features resembling epithelial cells
- Possible association with HSV or EBV
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ICE  Iridocorneal Endothelial Sydrome

• Often asymptomatic
• Decreased vision
• Occ monocular diplopia due to iris or pupil abnormalities
• Corneal changes with beaten bronze appearance to the endothelium in all three forms
• Glaucoma occurs in 50% of patients with ICE

• Three forms: Iris Nevus Syndrome (Cogan-Reese), Chandler Syndrome, Essential Iris Atrophy
Iris Nevus Syndrome

- Corectopia
- Pigmented iris nodules from the contraction of proliferating endothelial cells
Chandler Syndrome

- Corneal changes with beaten bronze appearance to the endothelium
- Can have corneal edema without increased IOP
- Most common form, about 50%
Essential Iris Atrophy

- Iris stromal loss with corectopia and ectropion uvea

- Iris hole formation may be associated with ischemia of the iris
Histopathology
Essential Iris Atrophy

P: peripheral synechia
IP: total loss of the central iris pigment epithelium

C: cornea
CB: ciliary body;
IR: iris root
L: lens
Pathology

• Corneal endothelium: fine, hammered silver material, similar to the guttae seen in Fuchs’ corneal endothelial dystrophy
  – This appearance comes from the abnormal endothelial cells located posterior to the normal Descemet’s membrane and varies in thickness (normal endothelial cells are a monolayer)
  – The abnormal endothelial cells may have the potential to move
  – Endothelial dysfunction causes the K edema

• High PAS is caused by the contraction of the endothelial cell layer and surrounding tissues

• These membranes can cause progressive angle closure.
TREATMENT

• IOP and corneal edema are treated directly.

• If the IOP level remains uncontrolled despite medical treatment, filtration surgery - tube

• Late surgical failures are due to endothelialization of the fistular opening - may be reopened with a YAG.
Our patient

- Diamox 375 bid
- All IOP lowering gtts maximized
- IOP remained in the 20s with decreased K edema, Va 20/30
- Express placed yesterday…