

Complications of Laser Treatments: Now What?

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Administrative

- Financial disclosures: Telasight, inc., Allergan, inc.

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Case 1

- 67 yo AA male
- CC: 4 months Glaucoma follow up
- Medical Hx: HTN, DM 2, COPD, RA
- Ocular Hx: Glaucoma
- Ocular Meds: latanoprost qhs OU and simbrinza bid OU

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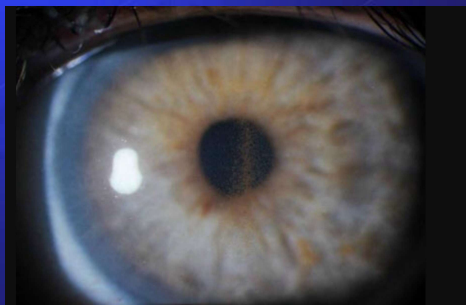
Case 1

- VA OD:20/20 OS:20/20
- EOM: Full
- CF OD: Full OS: nasal constriction
- IOP OD: 16 OS: 24
- Pachs OD: 553 OS: 546

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Case 1

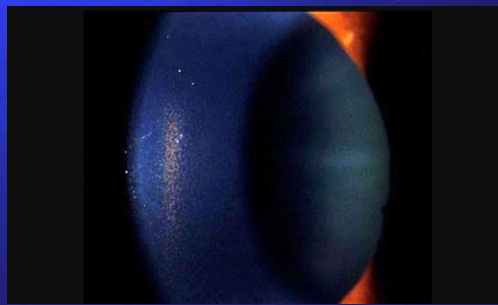
- Slit Lamp: See photo



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Case 1

- Slit Lamp: See photo



6

Case 1

- Slit Lamp: See photo



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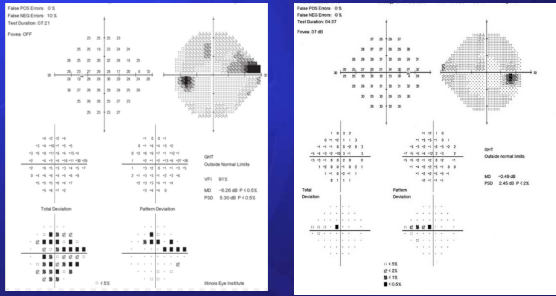
Case 1

- DFE: retina flat OU
- CD OD: 0.6 OS: 0.75
- Next test?
- Next step?

8

Case 1

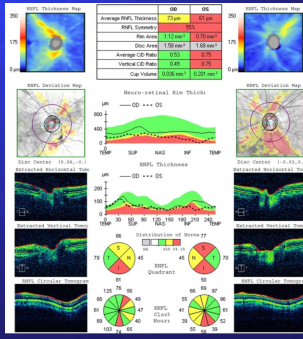
- Visual field:



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Case 1

- OCT:



	OD	OS
Average RFL Thickness	72 µm	61 µm
RFL Thickness	62-82 µm	52-81 µm
Mac Area	1.11 mm ²	0.70 mm ²
Disc Area	1.50 mm ²	1.00 mm ²
Average CD Ratio	0.50	0.75
Vertical CD Ratio	0.48	0.75
Cap Volume	0.02 mm ³	0.20 mm ³

10

Case 1

- Unknown untreated max IOP
- Target?

11

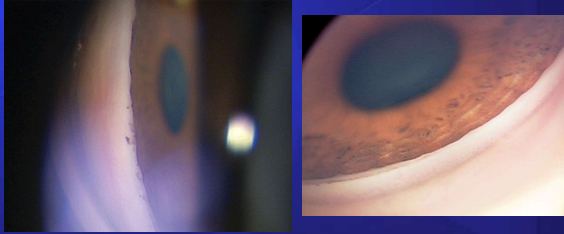
Case 1

- Set target at mid teens OU
- Next test?
- Treatment?

12

Case 1

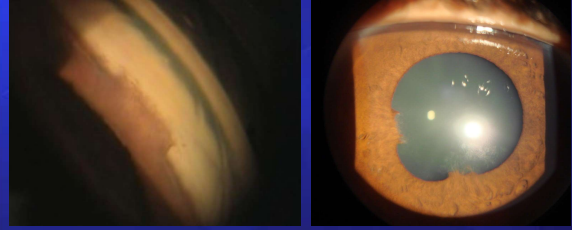
- Gonio: see photo



13

Case 1

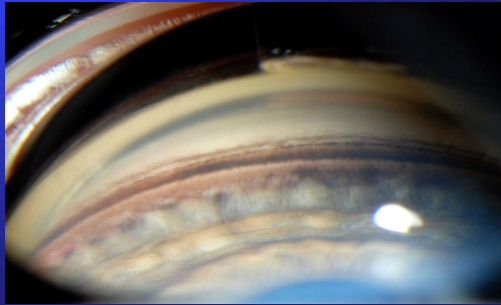
- What if gonio looked like this?



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Case 1

- Ok their gonio really looks like this: see photo



15

Case 1

- Perform SLT OS
- Brimonidine 0.2% pre op
- 105 spots
- 0.8 mj per spot
- Total energy 84 mj
- Diclofenac 0.1% tid x 3 days

16

Case 1

- IOP 1 hour after procedure OS: 36!
- Now what?

17

Case 1

- Give drop of latanoprost and simbrinza
- Recheck in 30 mins
- IOP 30 mins later OS: 39!
- It went up!
- Now what?

18

Case 1

- What is the next thing we need to ask?
- Any allergies?
- "No."
- Give 1000 mg diamox, another drop of latanoprost and simbrinza
- Give Rhopressa (netarsudil 0.02%)
- Also give timolol 0.5% with punctal occlusion (one drop in the office isn't going to cause prolonged breathing problems)
- Recheck IOP in 1 hour

19

Case 1

- IOP in 1 hour OS: 32
- Ok its heading down
- Now what?
- Recheck in 1 day
- IOP at 1 day post op OS: 24
- Great! See you in 6 weeks to see if SLT worked

20

Case 1

- But patient calls 6 days later
- "My eye hurts. It's red, painful, and I can't see out of it. There are a lot of halos around lights."
- Work patient into schedule to be seen that day

21

Case 1

- VA OD:20/20 OS:20/50
- EOM: Full
- CF OD: Full OS: nasal constriction
- IOP OD: 16 OS: 49

22

Case 1

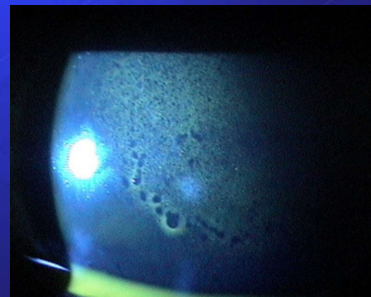
- Slit lamp: see photo



23

Case 1


- Slit lamp: see photo



24

Case 1

- Slit lamp: see photo



25

Case 1

- Now what?
- Corneal edema, uveitis, IOP spike
- Next test?

26

Case 1

- Gonio: see photo



27

Case 1

- Gonio: can't see anything, now what?
- Topical glycerin

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Case 1

- Gonio: now see photo



29

Case 1

- Gonio: now see video



30

Case 1

- Next treatment?
- Everything.
- 1000 mg Diamox, latanoprost, simbrinza, timolol 0.5%, Rhopressa, durazol (would give drops every 5 minutes)
- Recheck IOP in 1 hour
- IOP in 1 hour OS: 47
- Now what?

31

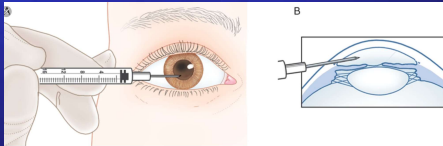
Case 1

- Paracentesis
- Lid speculum, proparacaine, betadine before and after
- Ocuflax qid x 3 days

32

Case 1

- 30g needle, bevel up, tangential to iris, longest track as possible, count to 30
- Rechecked IOP in 30 min
- IOP in 30 mins OS: 10



33

Case 1

- Recheck IOP in 1 day
- IOP in 1 day OS: 15
- Stop diamox, stop timolol
- Taper durazol qid x 1 week, tid x 1 week, bid x 1 week, qd x 1 week
- Continue latanoprost and simbrinza
- Recheck IOP in 1 week

34

Case 1

- What if patients IOP was back up to 45 on 1 day IOP check?
- Schedule for tube shunt

35

Case 1

- IOP check in 1 week OS: 20
- Great, you are in the clear. Check back in 6 weeks to see if SLT worked

36

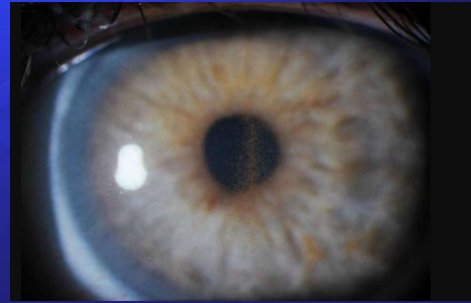
Case 1

- IOP check in 6 weeks OS: 17
- Great!
- "But hey doc, my vision is blurry."
- BCVA OD: 20/20 OS 20/60
- Now what?

37

Case 1

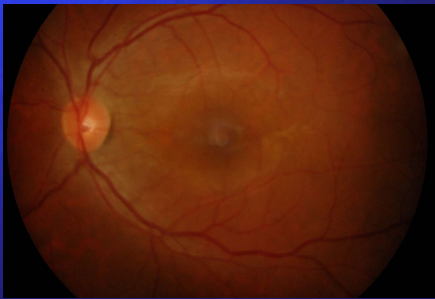
- Slit lamp: see photo



38

Case 1

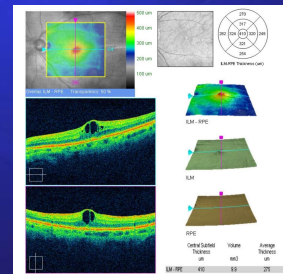
- DFE: see photo



39

Case 1

- Next test?
- OCT: see photo



40

Case 1

- Treatment?
- Durazol q2h x 2 weeks then taper
- Diclofenac 0.1% tid
- Recheck in 2 weeks

41

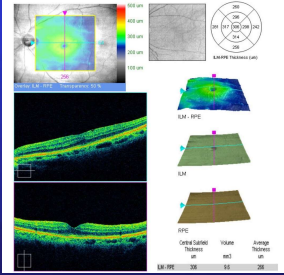
Case 1

- 2 week follow up
- Vision improved
- VA OD: 20/20 OS: 20/25
- IOP OD: 16 OS: 17
- No evidence of steroid response

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Case 1

- Slit lamp: unremarkable
- DFE: unremarkable
- OCT: see photo



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Case 1

- Taper durazol qid x 1 week, tid x 1 week, bid x 1 week, qd x 1 week then stop
- Diclofenac 0.1% tid x 1 month then stop
- Recheck in 1 month
- If CME wasn't improved in 2 weeks with topical anti-inflammatories, send to retina for sub tenons kenalog...or you could do it in Kentucky...

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Case 1

- You survived!
- Now onto the patient in room 2

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Case 2

- 72 yo W Female
- CC: blurred vision OD
- Medical Hx: HTN
- Ocular Hx: PCIOL OU 2007
- Ocular Meds: Artificial tears qd OU

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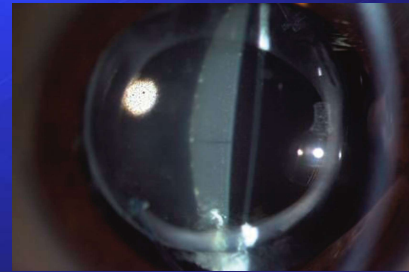
Case 2

- VA OD:20/40 OS:20/25
- Glare OD: 20/60 OS: 20/30
- EOM: Full
- CF OD: Full OS: Full
- IOP OD: 16 OS: 15

47

Case 2

- Slit Lamp: See photo



48

Case 2

- DFE: retina flat OU
- CD OD: 0.5 OS: 0.5
- Diagnosis?
- Treatment?

49

Case 2

- Perform Yag Cap OD
- Brimonidine 0.2% pre op
- 51 spots
- 1.9 mj per spot
- Total energy 96.9 mj
- Diclofenac 0.1% tid x 3 days

50

Case 2

- Procedure: See video



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Case 2

- IOP 1 hour after procedure OD: 17

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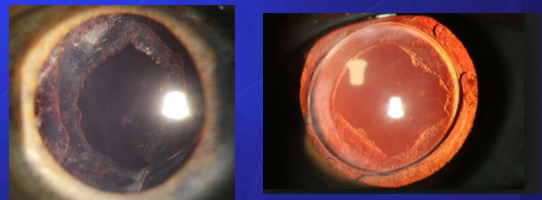
Case 2

- 2 week DFE Post Op
- CC: "My vision improved but now I see a spot?"
- VA OD:20/25 OS:20/25
- EOM: Full
- CF OD: Full OS: Full
- IOP OD: 16 OS: 17

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Case 2

- Slit lamp: see photo



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Case 2

- DFE: see photo



Case 2

- New onset PVD
- Next test?
- Sclera Depression
- Retina flat no breaks or RD
- Follow up?

Case 2

- 1 month DFE
- CC: "Floater improved"
- VA OD:20/25 OS:20/25
- Slit lamp: unremarkable
- DFE: unremarkable

Case 2

- If still symptomatic, give a few more months, then consider PPV
- Any tear found, send to retina for laser retinoplexy
- Now onto the patient in room 3

Case 3

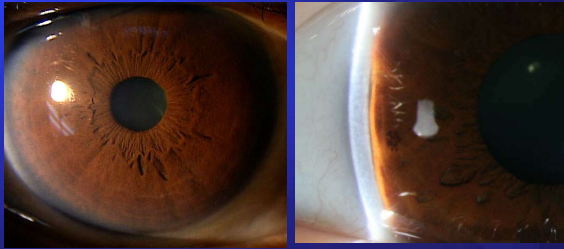
- 40 yo H Female
- CC: "intermittent headaches"
- Medical Hx: None
- Ocular Hx: None
- Ocular Meds: None

Case 3

- VA OD:20/20 OS:20/20
- MRx OD: +2.50 OS: +3.00
- EOM: Full
- CF OD: Full OS: Full
- IOP OD: 21 OS: 21

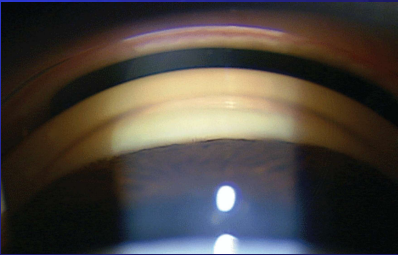
Case 3

- Slit lamp: see photo



Case 3

- Next Test?
- Gonio: see photo
- Next step?



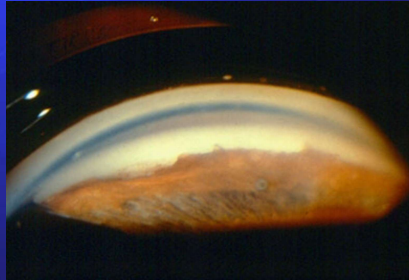
Case 3

- Gonio: indentation
- Diagnosis?
- Treatment?




Case 3

- Gonio: but what if it looked like this?



Case 3

- If you don't know where you are, use the corneal wedge



Case 3

- Perform prophylactic LPI OS
- Brimonidine 0.2% pre op
- 19 spots
- 5.2 mj per spot
- Total energy 119.6 mj
- Pred 1% qid x 1 week

Case 3

- IOP 1 hour after procedure OS: 24

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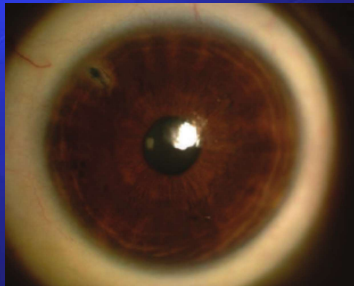
Case 3

- Other eye performed in 1 week without complication
- 2 week follow up (not post op)
- CC: "My headaches are gone! But i've had a few flashes of light in my left eye"
- VA OD:20/20 OS:20/20
- EOM: Full
- CF OD: Full OS: Full
- IOP OD: 20 OS: 20

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Case 3

- Slit Lamp: see photo



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Case 3

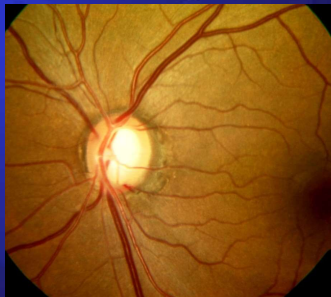
- Gonio: see photo



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Case 3

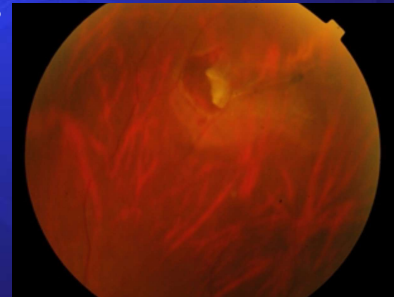
- Angles open, safe to dilate
- DFE: see photo
- Next test?



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Case 3


- Scleral depression: see photo
- Diagnosis?
- Treatment?



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Case 3


- Send to retina for laser retinoplexy
- If turns into RRD, will need PPV



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Case 4

- Which patient would benefit from SLT?



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Case 4

- Neither
- Both are too narrow
- High risk for PAS
- Need LPI

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Case 4

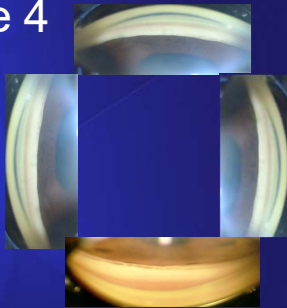
What if these are PAS, not just a narrow angle?
Pi may not help.

If a TM is "normal", how much angle must be closed in chronic ACG before the IOP rises above normal?
370 degrees

What quadrant closes last in CACG from narrow angles?
Inferior

What iris type sheds the most pigment with a PI (*pigment storm*)?
Dark brown iris

Which direction does gravity pull the pigment?
Inferior



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Case 4

- PCIOL with goniosynechialysis: see video



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Thank you!

Questions?

ianmcwherter@gmail.com

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