YAGs, Burps, and More

Tania Patel, OD and Howell M Findley, OD
Commonwealth Eye Surgery
Lexington, KY

1

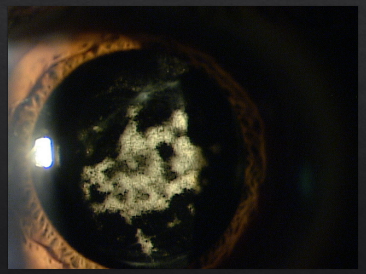
Financial Disclosures?

- We have no financial disclosures.

2

Cases with different types of PCO

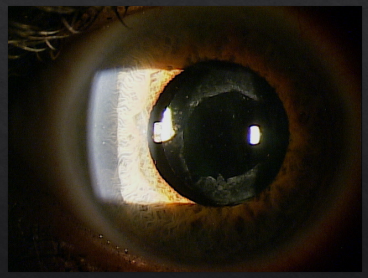
- K.D. (49761)
- 49 yof S/P phaco with IOL with Crystalens IOL
- C/O: decreased vision distance and near resulting in difficulty reading watch and bothered by bright lights
- BVA: 20/30, 20/20, J3
- BAT 20/60
- SLE: Thickened PC



3

Posterior Capsule Opacification

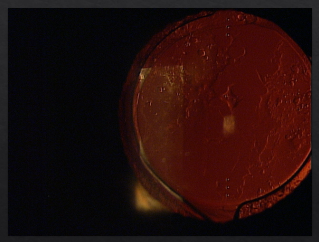
- Diagnosis: PCO
- Treatment: YAG capsulotomy



4

Posterior Capsule Opacification

- Most common late complication of cataract surgery (ECCE, phaco)
- Epithelial cells proliferating over PC
- Patterns
  - Sommering Ring
  - Elschnig Pearls
  - Striae and Opacification
  - Anterior Capsular Phimosis
- Rates of PCO 3-53% w/in 3 years
- IOL materials (silicone>acrylic)
- Truncated edges (dysphotopsia)



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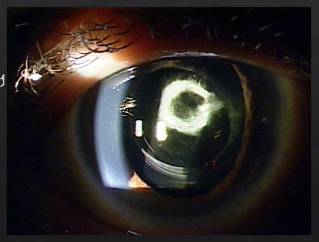
Posterior Capsule Opacification

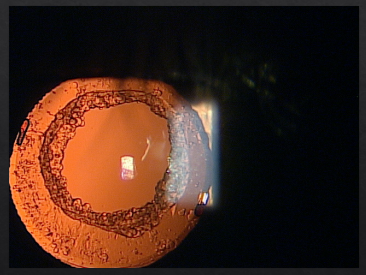
- Sommering Ring
- Nucleated bladder cells (Wedl cell) sequestered between anterior leaflet and posterior capsule.
- Doughnut shaped



6

Posterior Capsule Opacification

- Elschnig Pearls
- Epithelial cells migrate out of capsular bag forming translucent globular masses resembling fish eggs
- At edge of capsular opening



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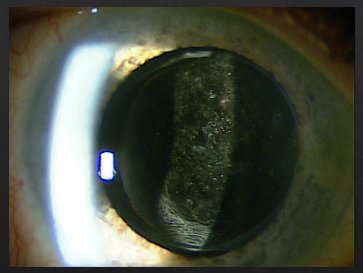
Posterior Capsule Opacification

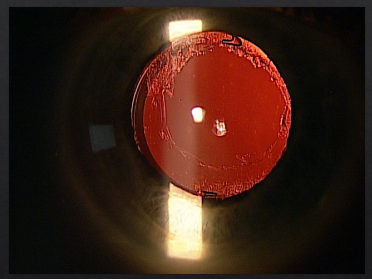
- Capsular Striae and Opacification
- Epithelial cells migrate across posterior capsule causing wrinkling and opacification



8

Posterior Capsule Opacification

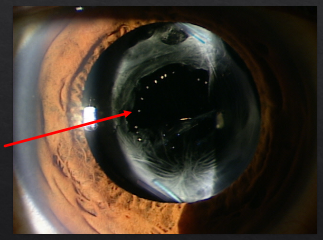
- YAG Procedure
- Center of visual axis
- 3 -4 mm diameter
- High plus lens to stabilize eye and tighten focus
- Spiral, Cruciate, Inverted D
- Focus slightly behind PC then move anterior
- Greater than 95% success rate



9

Posterior Capsule Opacification

- Spiral



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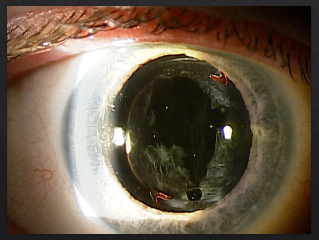
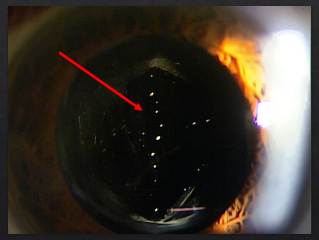
Posterior Capsule Opacification

- Cruciate

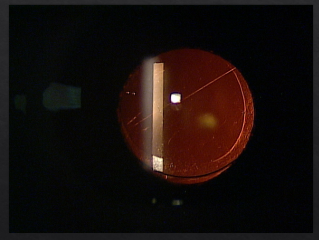




11

Posterior Capsule Opacification Striae

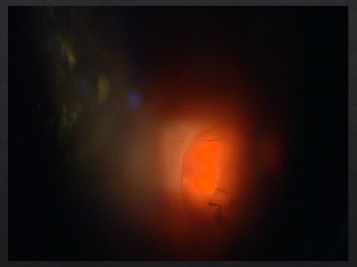
- Indications for YAG
- Symptomatic decreased vision
- Hazy view obscuring fundus
- Monocular diplopia, glare



12

Posterior Capsule Opacification

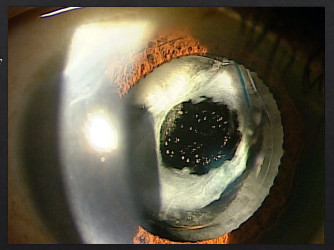
- Contraindications:
  - Inadequate visualization of PC
  - Patient movement
  - Active inflammation (relative)
  - Uncontrolled glaucoma (relative)
  - High risk for RD (relative)



13

Posterior Capsule Opacification

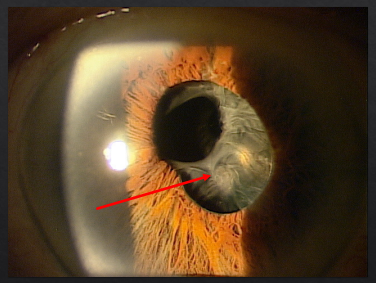
- Complications
- Elevated IOP – 2-3 hrs after, greater risk if vitreous prolapse, IOL in sulcus, glaucoma
- RD – 0-4%, axial myope, male, young, trauma, vitreous prolapse
- IOL damage – pits
- Hyphema



14

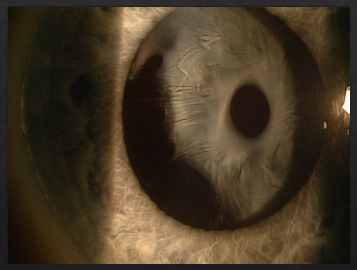
Posterior Capsule Opacification

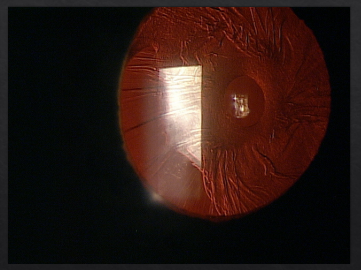
- Anterior Capsular Phimosis
- Contraction of anterior capsular opening due to circumferential fibrosis
- Stress on zonules
- Decentration of IOL in the bag
- In-the-bag subluxation
- Treatment – several radial YAG incisions to release contraction, relieve zonular stress. Usually tougher than PCO.



15

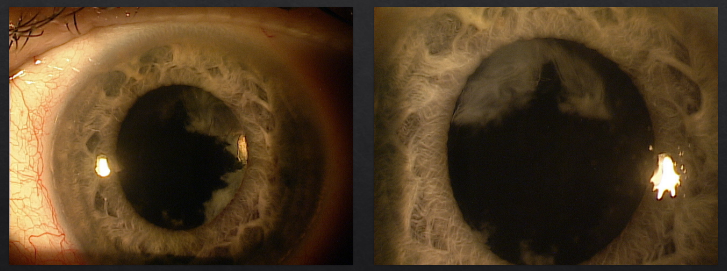
Anterior Capsular Phimosis





16

Anterior Capsular YAG



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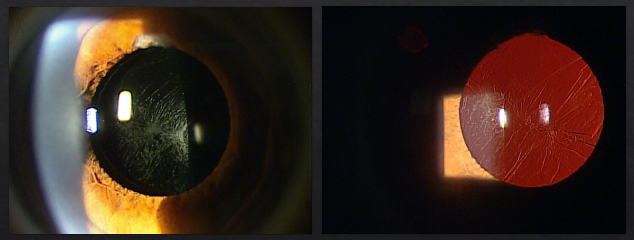
To YAG, or NOT to YAG



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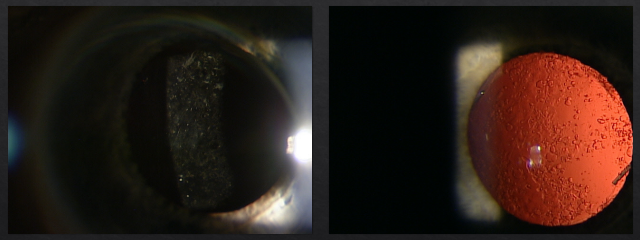

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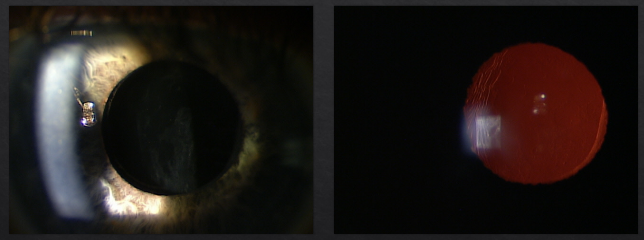
To YAG, or NOT to YAG



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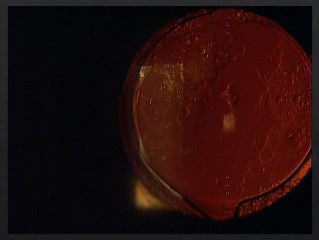
To YAG, or NOT to YAG

- Thickened PC with Toric IOL



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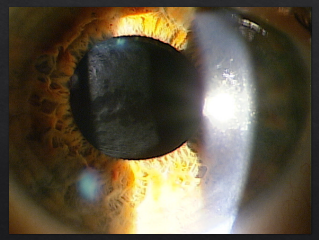
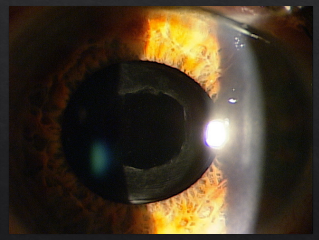
To YAG, or NOT to YAG

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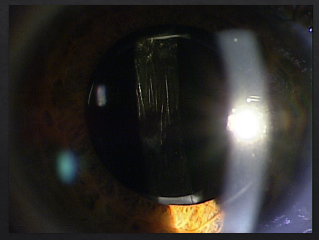
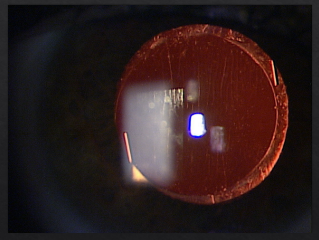
To YAG, or NOT to YAG

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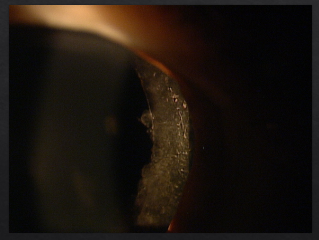
To YAG, or NOT to YAG



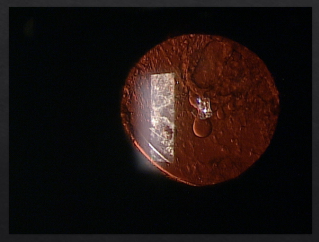
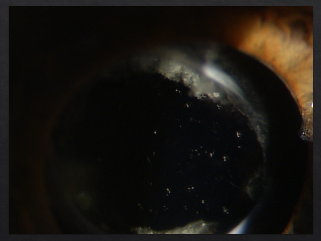

24

To YAG, or NOT to YAG

- Notice knuckle of vitreous in AC

25

To YAG, or NOT to YAG

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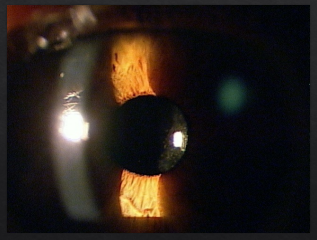
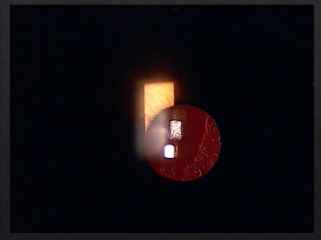
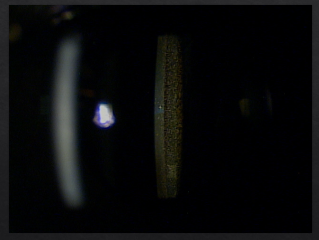
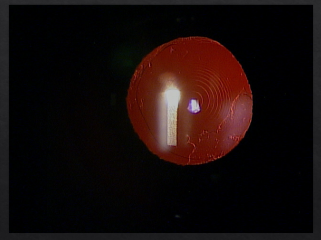
To YAG, or NOT to YAG

27

To YAG, or NOT to YAG Glistenings

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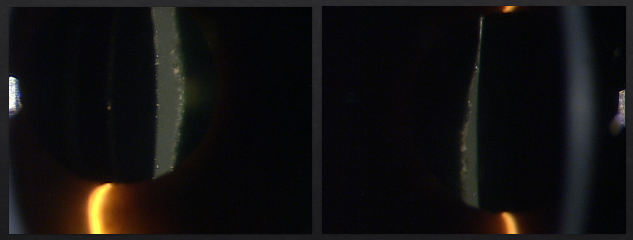
To YAG, or NOT to YAG



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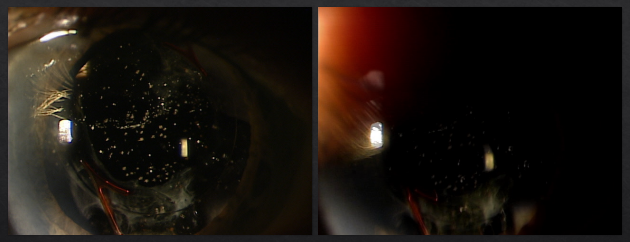
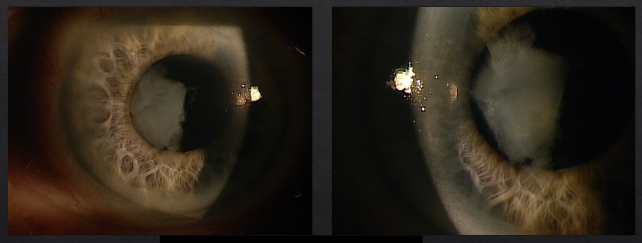
To YAG, or NOT to YAG



Asteroid hyalosis

30

To YAG, or NOT to YAG

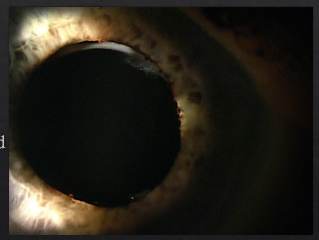


Retained Lens Material

31

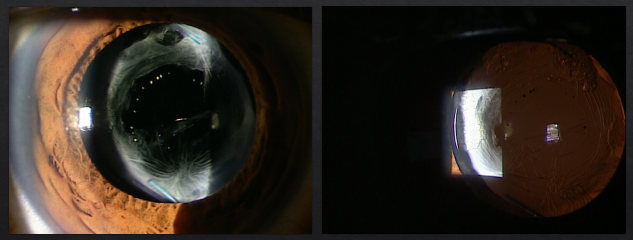
To YAG, or NOT to YAG Supplemental YAG

- W.N. (77740)
- S/P YAG
- Referred for symptomatic decreased vision for second YAG
- Evaluate residual PC through undilated pupil



32

To YAG, or NOT toYAG Supplemental YAG W.C. (51741)



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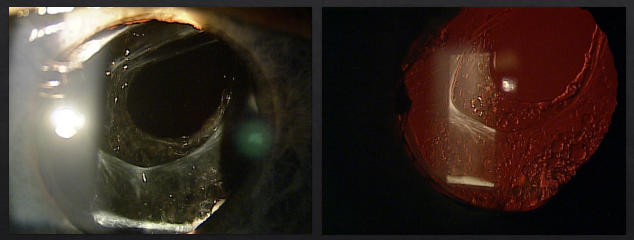
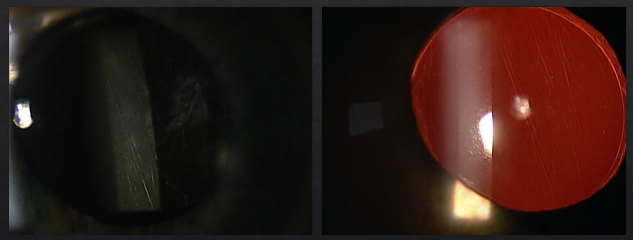
To YAG, or NOT to YAG
PC Dehisence J.H. 29602



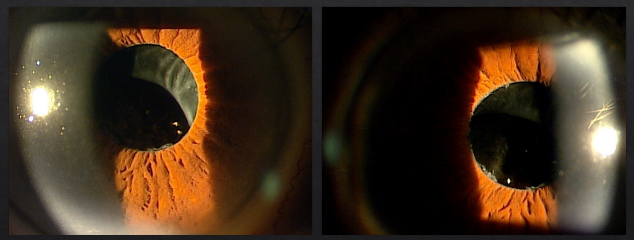
34

To YAG, or NOT to YAG
Anterior Vitreous



35

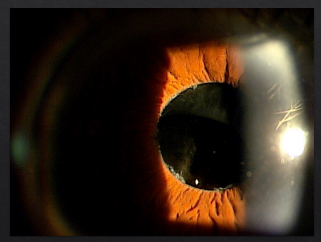
To YAG, or NOT to YAG
Subluxed PCIOL in the bag



36

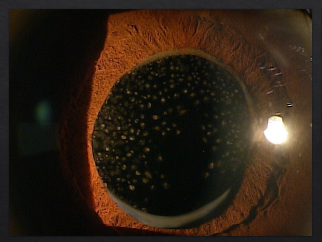
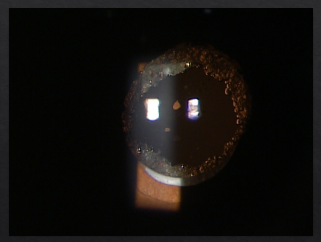
Posterior Capsule Opacification

- Note pseudophacodonesis
- Zonular dehisence
- IOL in the bag
- Subluxed IOL/capsular complex



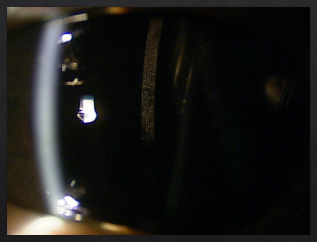
37

To YAG, or NOT to YAG
C.A. 66551 IOL PPT

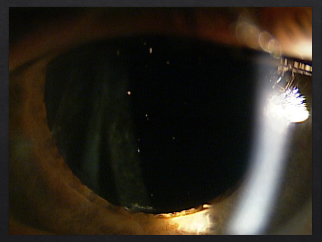
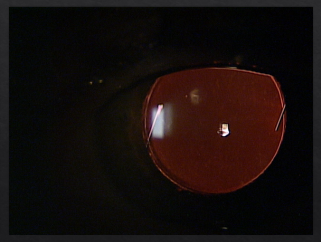
38

To YAG, or NOT to YAG
J.R. 56716 IOL deposit



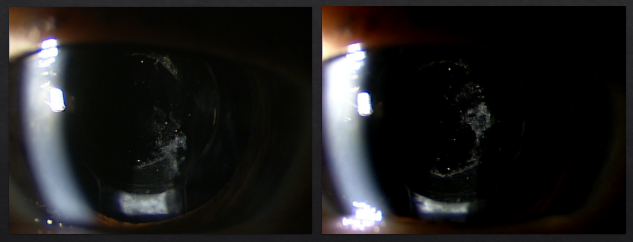

39

To YAG, or NOT to YAG
J.R. 56716 Post YAG for IOL Deposit

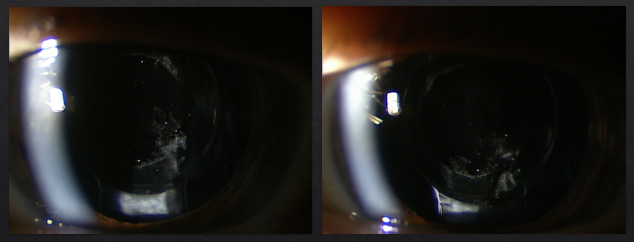
40

To YAG, or NOT to YAG
Post YAG Capsular Remnant



41

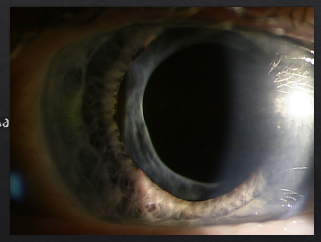
To YAG, or NOT to YAG
Before After



42

To YAG, or NOT to YAG

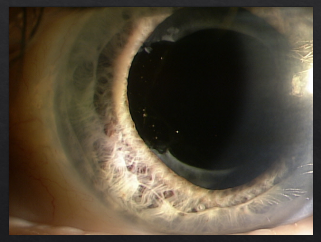
- D.T. (82943)
- 73 yowm
- S/P Phaco with IOL
- Complains of shadow in temporal visua field



43

To YAG, or NOT to YAG

- D.T. (82493)
- Negative dysphotopsia
- YAG anterior capsular lip



44

POSITIVE

- Rings, arcs, central flashes
- Acrylic square edge IOL, multifocals, large LPI
- Square edge reflects light onto peripheral retina
- 15% initially → 5% at 1 year
- Treatment
- Rule out non-IOL causes (tear)
- Time – fades, give it a year
- IOL exchange
- Piggyback silicone round edge
- MASK WITH RHEXIS – anterior capsule overhang edge of IOL
- (Femtosecond laser)

NEGATIVE

- Temporal crescent shaped shadow
- Acrylic square edge IOL
- Clouding of nasal peripheral capsule increases light scatter onto peripheral retina
- 20% initially → 3% long-term
- Treatment
- Time – 3-4 months
- YAG nasal capsule
- IOL exchange of in the bag IOL to sulcus based with reverse optic capture
- Piggyback IOL
- (E.W. April 2014. P. 36-38.)

45

To YAG, or NOT to YAG

- P.W. (24469)
- Aphakiic with PCO

46

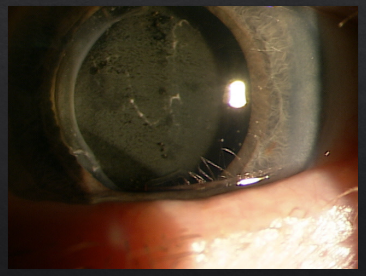
The Point

- To recognize different types of PCO and imitators and the appropriate management of each.

47

The case of PCO that couldn't be YAGed

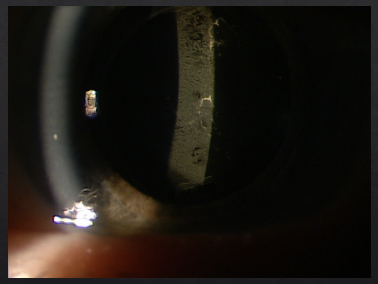
- S.B (81952) 78 yowf
- s/p CE OU 2005 elsewhere
- CC: decreased vision OS
  - Surgeon told her eye was okay but kept running "tests"



48

The case of PCO that couldn't be YAGed

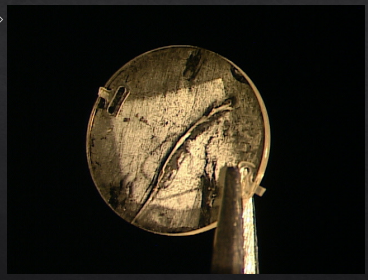
- OC hx: Saw local OD in 2016
  - Diagnosed with PCO
  - Tx- YAG
  - No improvement in VA post YAG
- OD referred to different OMD
  - OMD dx: PCO
  - Tx: YAG
  - No improvement in VA



49

The case of PCO that couldn't be YAGed

- Referred to Commonwealth eye surgery
- BVA: 20/40, BAT:20/400
- Slit lamp exam: calcium deposit on IOL
- Posterior seg eval: Asteroid hyalosis OU
- Tx: IOL exchange
- VA at 1 day Post op: 20/25+



50

The case of PCO that couldn't be YAGed

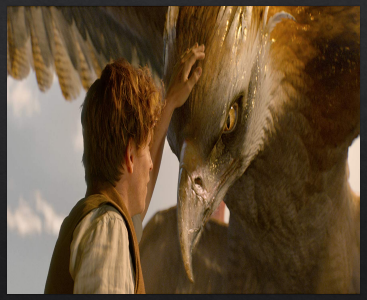
- **Calcification of different designs of silicone intraocular lenses in eyes with asteroid hyalosis.**

  Stringham et. Al (2010)
  - Studied 16 different silicone material IOL
  - Asteroid hyalosis was confirmed in 13 cases


Calcification of hydrophilic intraocular lenses: Laboratory analysis and surgical technique for intraocular lens exchange

51

Where to Find It



- Thunderbird

52

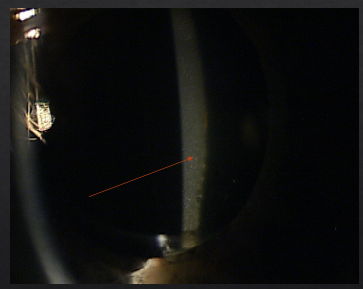
The Point

- Do not mistake IOL deposits, glistenings or anterior vitreous opacities for PCO.

53

The case with fluid behind the PCIOL

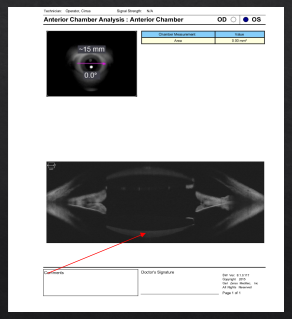
- R.B (67924) 62 yo WM
- s/p CE 2010 elsewhere
- CC: decreased vision OS
- BVA: 20/30; BAT: 20/400
- Slit lamp exam showed a well healed pseuodphakic anterior chamber
- Thick white fluid behind the IOL



54

The case with fluid behind the PCIOL

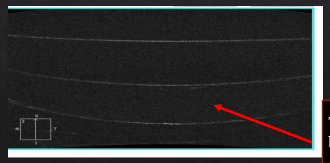
- Turbid fluid behind IOL in bag
- Fluid trapped in capsular bag
- Retrolenticular hypopyon
- Early (days to weeks) - viscoelastic
- Late (months to years) – retained lens epithelial cells



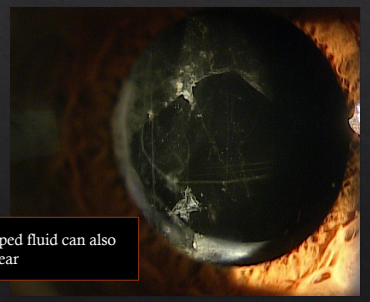
55

The case with fluid behind the PCIOL

- Dx: Capsular bag distention syndrome
- Tx: YAG posterior capsulotomy
  - YAG peripheral anterior capsulotomy
- Proprionobacterium acnes

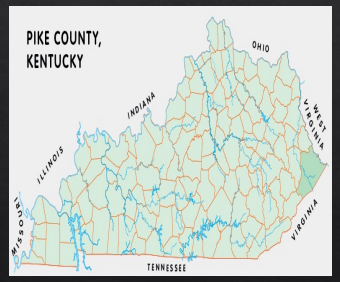


Trapped fluid can also be clear



56

Where to Find It



- Nandus

57

The Point

- Posterior Capsular Distention Syndrome is a relatively newly recognized occurrence after cataract surgery. It is treated similar to PCO with a YAG capsulotomy. Release of the fluid captured in the PC may stimulate an inflammatory response. Consider a short course of topical steroids after YAG.

58

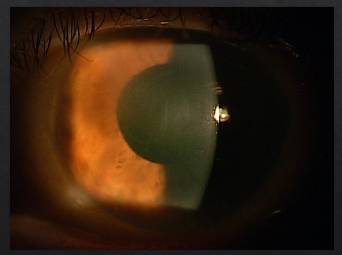
The Case of the Post CE Pressure Spike

- P.D. (68438) 77 yowf returns for 1 day post-op cataract extraction on 4/29/15. She reports a severe headache last night and this morning, post-op eye is painful.
- VA: Hand motion
- Slit lamp: Microcystic corneal edema, moderately deep AC, patent LPI, iris sutured PCIOL.
- TA: 58 mmHg

59

The Case of Post CE Pressure Spike

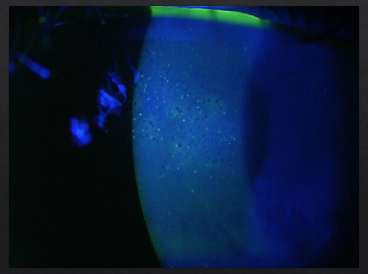
- Epithelial MCE with intact stroma
- A (usually) mild self-limited elevation of IOP
- Significant sustained elevation in IOP may require treatment
- Retained viscoelastic (higher viscosity more likely)
- Large molecules obstruct TM
- Peaks 4-6 hours post-op
- Lasts several days



60

Post Cataract IOP Spike

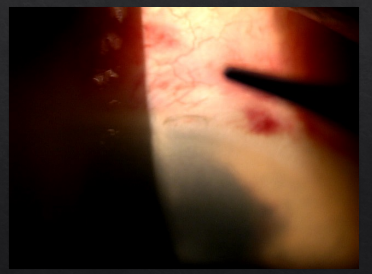
- Responds to glaucoma meds
- "Combigan and 1 hour"
- Burp paracentesis wound
- IOP may rise again in 1-2 hrs, cover with meds
- Other causes: hyphema, TASS, endophthalmitis, retained lens material, pre-existing glaucoma, steroid, uveitis, pigment
- AAO BCSC Vol. 11, 2016.



61

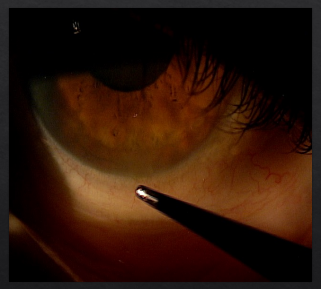
Post Cataract IOP Spike

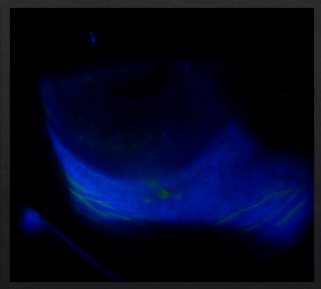
- Burp paracentesis wound with punctal dilator (tapered rounded tip)
- Located at 2:00 from main incision
- Push just on scleral side
- Visualize aqueous egress
- Recheck IOP
- Repeat until IOP acceptable
- Recheck IOP 30 -60 min later
- (TA 50 → 19 mmHg)



62

Post Cataract IOP Spike



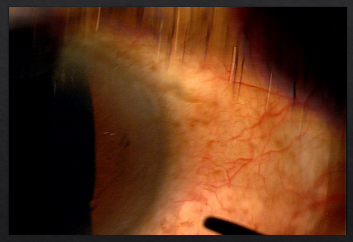


TA 37 → 14 mmHg

63

Post Cataract IOP Spike

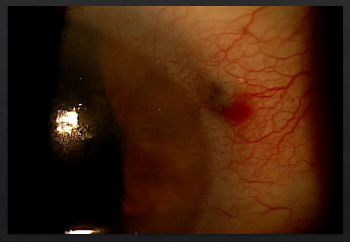
- Burp with a surprise
- Review systemic meds (Flomax)
- TA 44 → 34 mmHg



64

Post Cataract IOP Spike

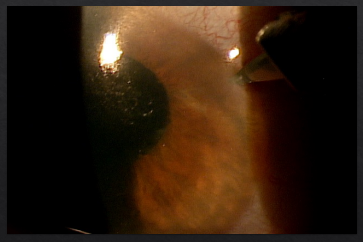
- Failed burp with punctal dilator
- S/P YAG
- TA 70 mmHg



65

Post Cataract IOP Spike

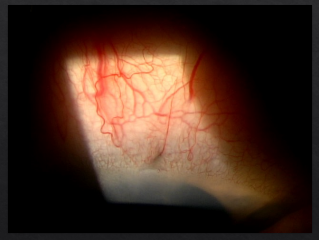
- Beaver blade burp
- S/P YAG
- TA 70 → 29 mmHg



66

Post Cataract IOP Spike

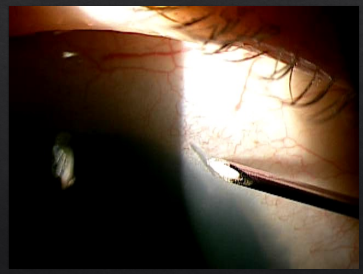
- Beaver blade burp at 12:00
- TA 50 → 19 mmHg



67

Post Cataract IOP Spike

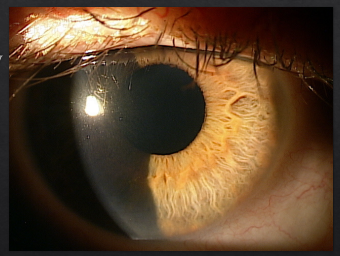
- B. S.
- Paracentesis burp with 25 gauge needle



68

Post Cataract IOP Spike

- After burp:
- Continue post-op meds as scheduled (may increase for a day or 2)
- Diamox 250 mg qid x 1-3 days if no contraindications
- Add topical glaucoma med
- Recheck IOP in 30 to 60 min
- Recheck IOP in 1 day



69

And Where to Find Them

70

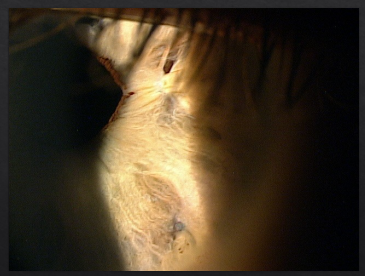
The Point

- IOP spikes at 1 day post-op cataract surgery can be managed in your office
- Combigan and wait an hour. (Dr. Wortz)
- Diamox 500 mg po x 2 tabs
- Burp paracentesis incision.

71

The Case of the Aphakic Young Man

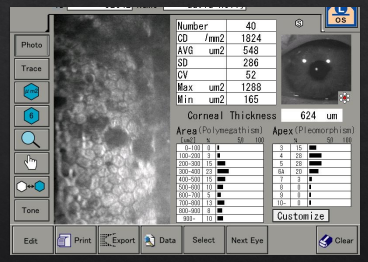
- D.K. (92642) 21 y.o. WM
- CC: Blurry vision OS > OD. Double vision when wearing glasses so he does not use them. Consult regarding ways to improve vision.
- Med Hx: Marfan's Syndrome
- Fam Hx: Grandmother with ARMD



72

The Case of the Aphakic Young Man

- Previous Ocular Hx
  - CE OU UK in 2003
  - HSK OS after CE
  - 2004: IOL implants at UK
  - 2004-16: 5 to 6 IOL exchanges in Louisville
  - 2016: Dislocated IOL OS removed in Louisville

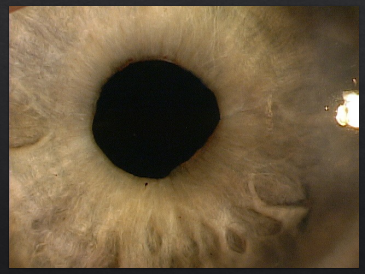


73

The Case of the Aphakic Young Man

- VA SC
- OD: 20/80
- OS: 20/300

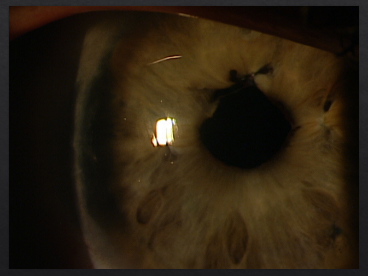
- BCVA with MRx in office
- OD: -1.75 -3.50 x 25 20/20
- OS: +9.50 -2.00 x 140 20/20-2



74

The Case of the Aphakic Young Man

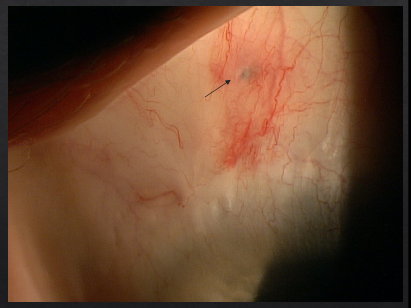
- Slit lamp exam:
  - OD: sutured PCIOL, 3 interrupted iris sutures (iris cerclage), scleral suture at 6 o clock.
  - OS: aphakia, 2 iris sutures, guttata
- Specular microscopy results adequate OU
- Gonioscopy showed open angles OU, candidate for ACIOL
- DFE: unremarkable



75

The Case of the Aphakic Young Man

- Assessment and plan:
  - OD : pseudophakia; Monitor.
  - OS : Aphakia; secondary IOL. Recommended PCIOL with **Yamane** technique Target Near, Veltrex pre and post sx.

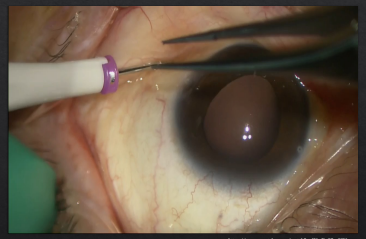


76

The Case of the Aphakic Young Man

Yamane technique

- Performed when there is inadequate or no capsular support
- Requires scleral incisions using needles to externalize the IOL haptics.
- IOL haptics are threaded through a 30 g needle inserted posterior to iris
- Needle withdrawn leaving haptics protruding through sclera
- Tip of haptic trimmed and cauterized so that it cannot retract through sclera into posterior segment
- Supports PCIOL

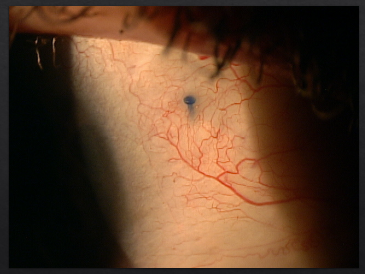


https://www.youtube.com/watch?v=WwEuS2mHFYg

77

The Case of the Aphakic Young Man

- 1 day post op:
  - UCVA OS:: 20/40-2
  - PCIOL centered, iris sutures remain
- 2 week post op:
- UCVA OS: 20/40
- 4 week post op
  - UCVA OS: 20/30+1
  - BCVA : OD 20/25+2, OS 20/20-
  - Single clear vision



78

Where to Find Him

Niffler

79

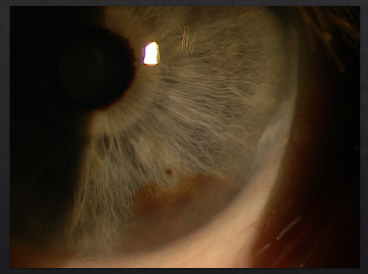
The Point

- The YAMANE technique is an excellent alternative to anterior chamber, iris suture or scleral suture IOL fixation for patients with inadequate posterior capsule for PCIOL fixation.

80

The Case of Decreased Vision After CE

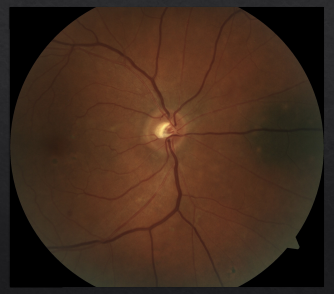
- A.R. (57431) 79 yowm
- Cataract evaluation with decreased vision OU.
- Hx of ARMD, iris nevus, choroidal nevus
- BVA: OD 20/20 BAT 20/70; OS 20/60 eccentric
- SLE – OD NS and cortical cat; OS full thickness corneal scar, iris nevus, NS and cortical cat
- NCT: 15 OD, 13 OS
- Gonio – peripheral iris nevus not involving angle No apparent change compared to 2012



81

The Case of Decreased Vision After CE

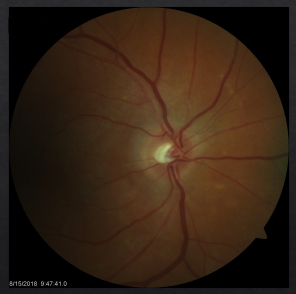
- DFE: OU C/D .6 with large deep cups
  - Pigment changes in macula OU
  - 2 ½ DD flat choroidal nevus nasal to disc OD.
- 8/9/18 Standard Phaco w/ IOL OD



82

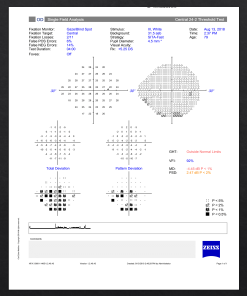
The Case of the decreased vision after CE

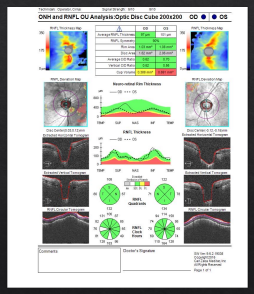
- 8/13/18 referred back with CC of cloudy vision since CE. Reports a "dark spot" in temporal vision that has not gone away
- BVA: 20/30
- SLE: normal pseudophakic anterior segment
- DFE: unchanged
- HVF as shown
- OCT as shown



83

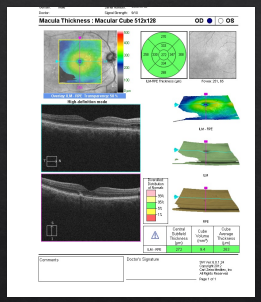
The Case of the decreased vision after CE

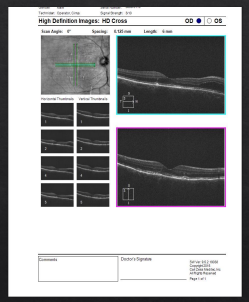




84

The Case of the decreased vision after CE

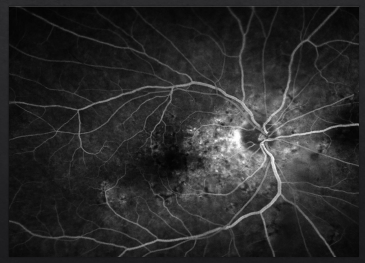




85

The Case of the decreased vision after CE

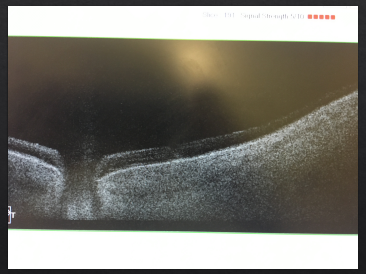
- SRF in papillomacular bundle
- Referred for retinal consult
- Dx with an unusual optic pit
- Monitor. Tx if it does not resolve. Do NOT expect similar occurrence OS.
- Retina cleared to proceed with CE OS.
- 8/16/18 Standard Phaco w IOL OS
- SDT→ Same Dang Thing happened OS!
- Continued F/U with O.D. and retina
- 8/29/18 BVA 20/20 and 20/40



86

The Case of the decreased vision after CE

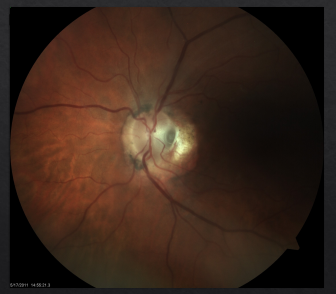
- Retina performed MSPPV, ILM was peeled and stuffed into pit to prevent further leakage.
- Optic Pit maculopathy treatment options
  - Continued monitoring to see if it self resolves
  - Laser photocoagulation to temporal border of ONH
  - Intravitreal Gas Tamponade



87

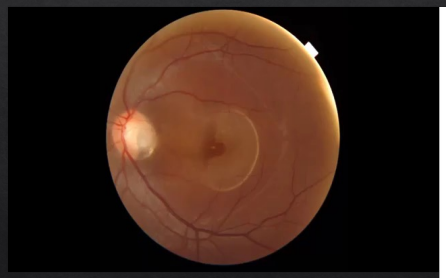
The Case of Decreased Vision After CE

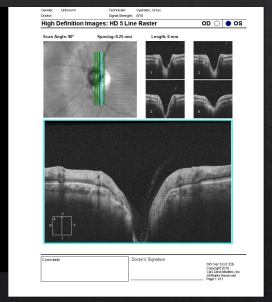
- Optic pit maculopathy tx options (cont.)
  - Pars Plana Vitrectomy+ endolaser on temporal edge of ONH
  - PPV+ ILM peel, fill pit with ILM to prevent further leakage (performed in our patient)
- Optic Nerve Pit (different patient)→



88

The Case of Decreased Vision After CE





89

Where to Find It

90

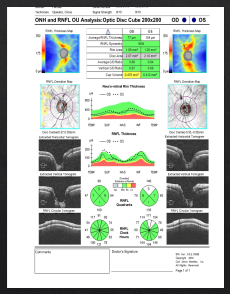
The Point

- If you listen, patients will often tell you where to look to diagnose their problem
- Optic nerve pits have traditionally been difficult to manage. This case demonstrates a new management technique.

91

The Case of Dim Vision After CE

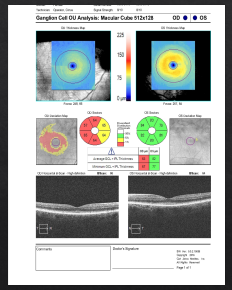
- J.H. (40228) 74 yowf
- Decreased vision OD>OS. Hx of LPI OU.
- Plaquenil 200 mg p.o. b.i.d.
- BVA: OD 20/20 BAT 20/80; OS 20/30 BAT 20/100
- SLE: Patent LPI OU. 2+ NS OU.
- NCT : OD 11; OS 9
- DFE: C/D .5 OU; macula appears normal OU
- OCT shows symmetric normal range NFL OU but reduced OD.
- Catalys Phaco w IOL OD 8/27/18



92

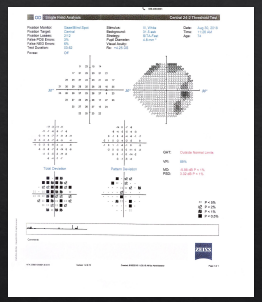
The Case of Dim Vision After CE

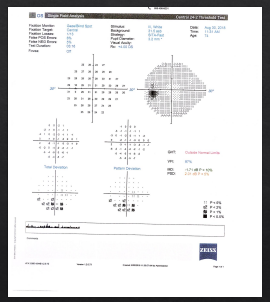
- 8/31/18 returns with CC of faded, desaturated colors OD since surgery. Vision is like looking through a fog, smoky.
- UnCVA OD 20/20
- NO APD
- Color plates identified 13/14 OD and 14/14 OS
- SLE – normal pseudophakic anterior segment with anterior vitreous veils
- DFE – vitreous debris; C/D .6; drusen along arcades
- Note Ganglion Cell Layer (GCL) OD



93

The Case of Dim Vision After CE





94

The Case of Dim Vision After CE

- DDx:
- Corneal?
- PCO?
- Vitreous?
- Macula – CME? Plaquenil?
- Optic nerve?

- Sent to retina for consult regarding vitreous

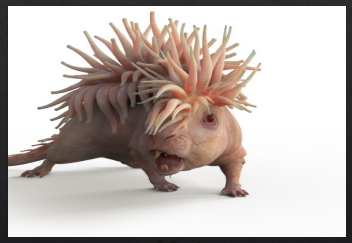
95

The Case of Dim Vision After CE

- Retinal consult confirmed OCT findings of mildly reduced NFL OD
- Dx: Optic Neuropathy
- MRI ordered to rule out demyelinating disease and optic nerve compressive lesion
- 2.4 mm aneurysm of ICA compressing the optic chiasm

96

Where to Find It



- Murtlap

97

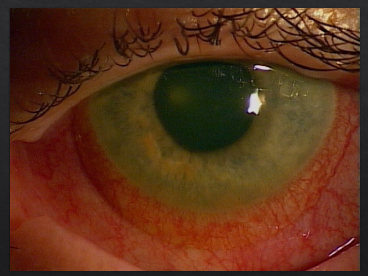
The Point

- Post-op cataract patients almost without exception remark about increased brightness and more vibrant colors. If they report the opposite there is trouble somewhere. Investigate and involve subspecialists if necessary.

98

The Case of Failed Prophylaxis

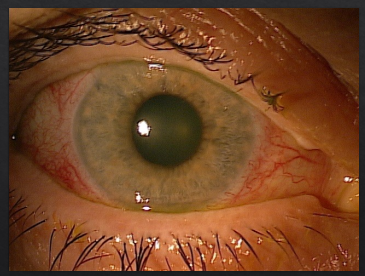
- D.M. was seen on 7/7/06 with a complaint of a red painful OS x 5 days.
- External exam showed a mid-dilated pupil OS
- Slit lamp: narrow angle OD; closed angle OS.
- Gonioscopy OS: no structures visible
- TA: 10 OD, 44 OS
- Referred to UK for emergent LPI OS. Subsequent LPI OD and later CE OS.



99

The Case of Failed Prophylaxis

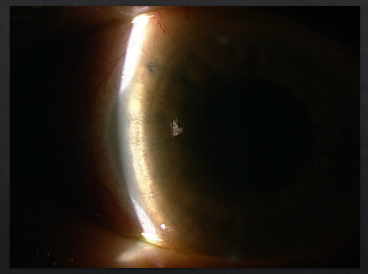
- On 3/19/19 DM had a routine eye exam with dilation resulting in acute angle closure OD. She presented with a red painful OD and nausea.
- UnCVA: OD 3/200 ; OS 20/40
- Slit Lamp: MCE, angle closure, LPI @ 10, mid-dilated pupil, 2+ NS.
- Gonioscopy: No structures visible OD; OS showed TM with some PAS inferior, SS other quadrants.
- TA: 55 OD; 11 OS



100

The Case of Failed Prophylaxis

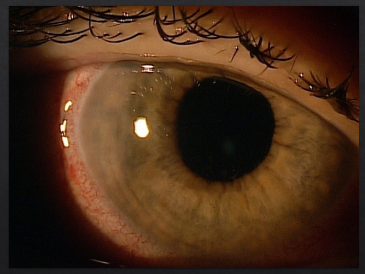
- Patient was given Diamox 500 mg po x 2 tabs.
- Combigan, Rhopressa, and Iopidine qtts were instilled
- Supplemental LPI was performed
- TA: 40 (4:30). 45 (5), 36 (5:30), 34 (6pm)
- Lenstar ACD: 2.14 OD; 4.17 OS
- PHACO with IOL OD 3/20/19



101

The Case of Failed Prophylaxis

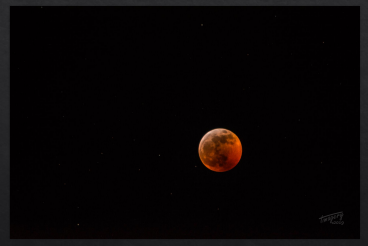
- 3/20/19 at 1 day post-op patient reported felling much better, no headache
- UnCVA: 20/40
- Slit lamp: Clear cornea, moderately deep AC with trace cells, round pupil with patent LPI, PCIOL well centered
- TA: 7 mmHg
- 1 week post-op
- UnCVA: 20/25
- Slit lamp: deep and quiet AC
- TA: 11 mmHg



102

The case of NAG

- J.B. (29802) 81 yo WF
- CC: Glaucoma evaluation, no glc drops
- OHx: LPI OU and SLT OU
- BCVA: OD:20/50; OS: 20/40
- CVF: FTFC OD and OS, No APD
- Slit lamp exam: PI patent OU, 2+ NS OU
- IOP: 15/15
- ONH: OD: 0.80; OS:0.70
- Normal HVF and OCT OU. Monitor off drops, RTC 6m for cat eval



103

The case of NAG

- J.B. (29802) 81 yo WF
- CC: cataract evaluation, blurry vision OS>OD
- Slit lamp exam: PI patent OU, 2+ NS OU
- IOP: 16/16
- Cat sx OS then OD.
- 2 week post op:
  - IOP 14/13
- 4 week post op
  - IOP 15/15

104

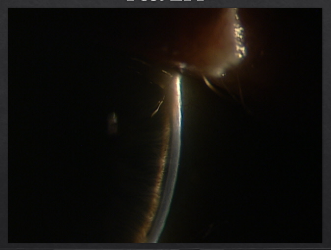
The case of NAG

- Cataract Extraction/Lensectomy
- Better treatment for NAG

105

The case of NAG

Post LPI

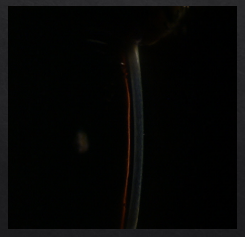


Post CE

106

The case of NAG

Pre LPI



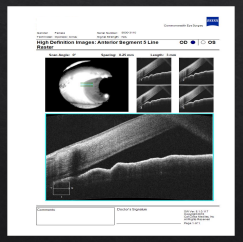
Post LPI

Post CE

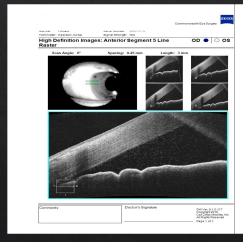
107

The case of NAG

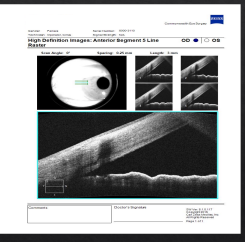
Pre LPI



Post LPI



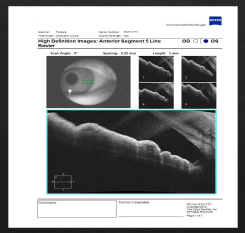
Post CE



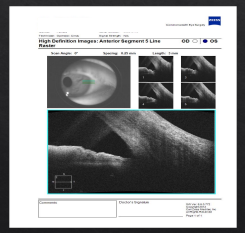
108

The case of NAG

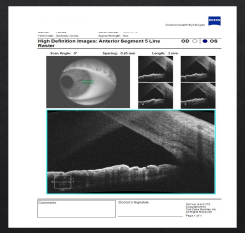
Pre LPI



Post LPI



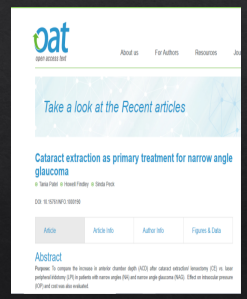
Post CE



109

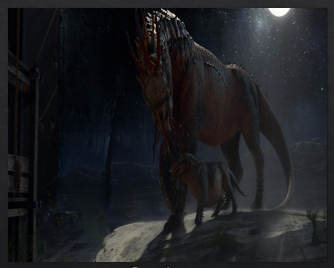
The case of NAG

- Cataract Extraction as Primary Treatment for NAG. Patel, Findley, Peck
- Published in Open Access Text
- ACD Pre LPI 2.74 Post LPI 2.81
- Pre CE 2.47 Post CE 4.10
- EAGLE study



110

Where to Find It



- Graphorn

111

The Point

- There is a paradigm shift in treatment of Narrow Angles and Narrow Angle Glaucoma
- The traditional LPI may protect the angle for the short term but does nothing to deepen the anterior camber or protect the angle from phacomorphic angle closure. It is not effective for plateau iris.
- Cataract/Lens extraction significantly deepens the AC opening the angle and preventing future phacomorphic angle closure It also is curative for plateau iris
- Cataract extraction Lensectomy should be considered as first line treatment for patients with NA/NAG,

112

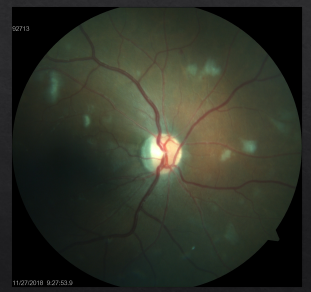
The case of retained lens material

- T.B. (92713) 38 yo BF
- OHx: corneal abrasion 15 years ago
- Med Hx: DM, HTN
- FHx: glaucoma- mother
- CC cataract evaluation, blurry vision OD~OS, difficulty driving at nighttime due to glare from headlights.
- BCVA: OD: 20/50; OS: 20/50

113

The case of retained lens material

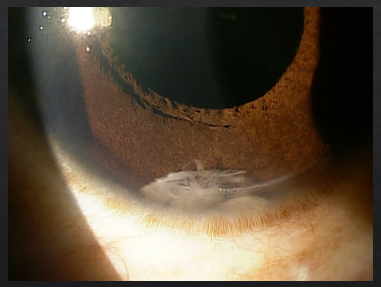
- SLE: OD: cortical, 2+PSC; OS: cortical cataract
- IOP: 15/15
- DFE: OD: 0.40, scattered CWS; OS:0.40, scattered CWS
- Plan: cat sx OU, target near OU, DM with moderate non proliferative retinopathy- refer to retina.



114

The case of retained lens material

- 1 Day post op OD:
  - SLE: mild corneal edema, Catalys AK incision, PCIOL centered,1+ cells, cortical lens remnant in AC
  - Pseudophakic OD: Use meds as directed, pt to call if eye feels sore.
- 3 day post op:
  - SLE: 1+ cells, lens remnant in AC resolving.
  - Continue current care.



115

The case of retained lens material

- 4 week post op:
  - SLE: PCIOL centered, trace cells, lens remnant resolving
  - IOP 11/14
  - Lotemax BID OD.
- 2 months post op:
  - SLE: PCIOL centered, no cells or flare, lens remnant resolved

116

Retained Lens Material

- Varying degrees of inflammation depending upon
  - Size/amount of retained lens
  - Type of lens material
    - Cortical is better tolerated than nuclear, more likely to be reabsorbed
  - Time since surgery
  - Individual patient response
- Signs of retained lens
  - Uveitis
  - Elevated IOP
  - Corneal edema
  - Vitreous opacities

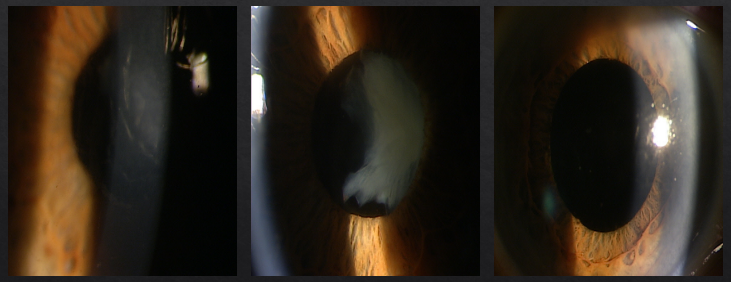
117

Retained Lens Material

- Treatment
- Doesn't necessarily require surgical intervention
- Medical → Uveitis – steroid and NSAIDs
  - IOP - hypotensive gtts., oral CAIs
- AC Washout → large or visually significant amount of lens material
  - increased inflammation not controlled on steroids, NSAIDs
  - Increased IOP unresponsive to meds
  - corneal edema
- If in vitreous → send to retinal specialist
- (BCSC 2016-17. AAO. ppg. 140-143.)

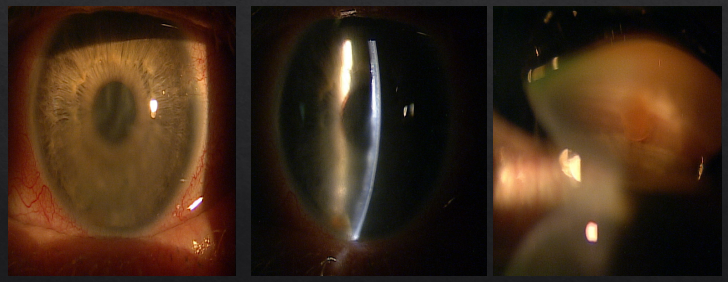
118

Corneal Edema, Retained Lens, Washout



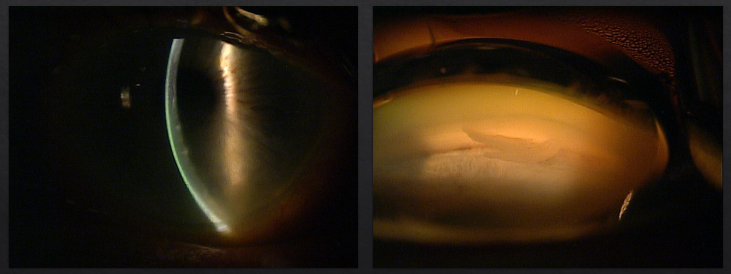
119

Corneal Edema, Retained Lens, Gonio



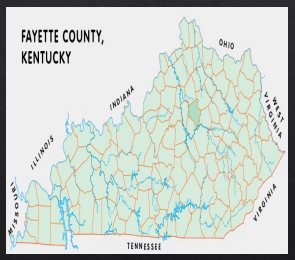
120

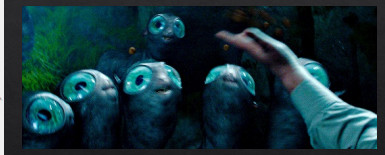
Corneal Edema, Retained Lens on Gonio



121

Where to Find It





Mooncalf

122

The Point

- A little retained lens material may be monitored and resolve on its own with or without topical steroid.
- A lot of retained lens material may require anterior chamber washout
- Retained nucleus is worse than cortex.
- In patients with persistent corneal edema and / or inflammation post-op CE → look for retained lens material. May require gonioscopy

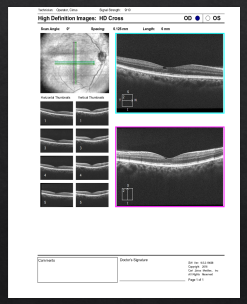
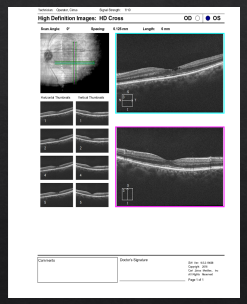
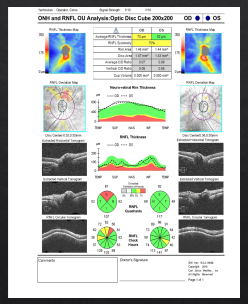
123

The case of misdirected aqueous

- I.F.(92546) 70 yo WF
- Med Hx: DM, HTN, COPD
- CC: cataract evaluation, blurry vision OU
- BCVA: OD: 20/30 BAT: 20/60; OS: 20/40 BAT: 20/100
- SLE OD 2+ NS, cortical, OS EBMD, 2+NS, cortical
- DFE OD ONH drusen, intraretinal cyst, OS intraretinal cyst
- Cataract sx OS then OD

124

The case of misdirected aqueous

RNFL OCT- ONH drusen OD

125

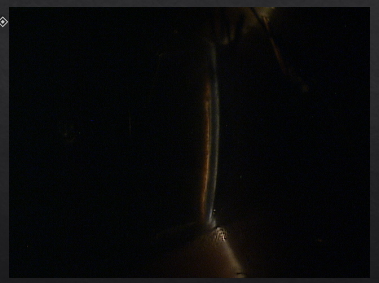
The case of misdirected aqueous

- 1 day Post op OS:
  - UCVA: 20/50+2
  - SLE: PCIOL centered, trace cells, deep AC, Catalys AK incisions, EBMD
- 2 week post OP OS: 10/22/18
  - UCVA: 20/20-2
  - SLE: PCOL centered, deep and quiet AC, AK incisions, EBMD
  - IOP 19/15
- 1 day post op OD: 10/23/18
  - Pt states VA is good in OD but decreased in OS.
  - UCVA: OD: 20/25; OS:20/200
  - IOP 18/18
  - SLE:
    - OD: trace cells, PCIOL centered
    - OS: shallow and quiet, PCIOL centered.

126

The case of misdirected aqueous

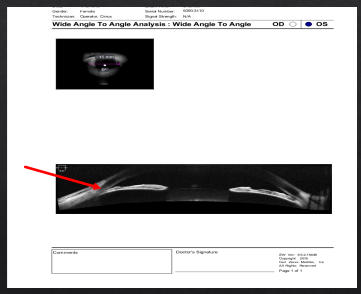
- Gonioscopy OS showed no visible structures. Angle closure likely secondary to aqueous misdirection shifting IOL forward.



127

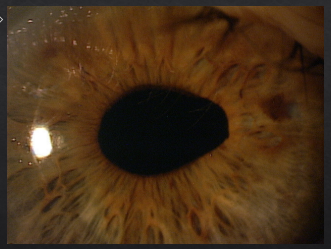
The case of misdirected aqueous

- Aqueous misdirection with Angle closure OS.
- Tx: atropine BID OS, Durezol QID OS, post CE drops.
- Follow up in 1 day for VA, IOP check and gonioscopy with referring OD.



128

The case of misdirected aqueous

- 4 weeks later at CES:
  - BCVA: 20/20 OD and OS
  - SLE: OD: PCIOL centered; OS: PCIOL centered, AC deep and quiet, Iris mildly peaked temporal, no apparent vitreous
  - IOP 14/13
  - DFE: small lamellar hole OD and OS
  - Release care to referring OD.
- 

129

Where to Find It

Occamy

130

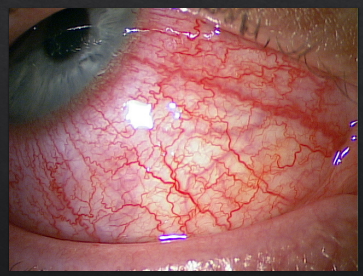
The Point

- Angle closure glaucoma post-op CE → think aqueous misdirection → Dilate.

131

The Case of the Mysterious Red Eye

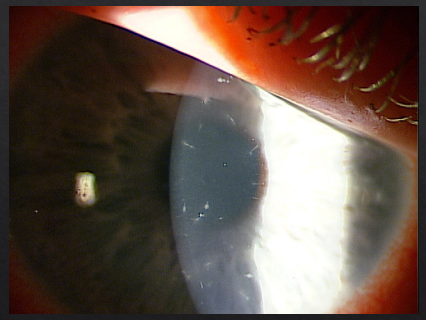
- R.J. (44402) 18 yowm
- CC: 1 month ago OD became red, painful and irritated.
  - Saw local OD who started him on Vigamox and Viroptic and eye cleared in 2 days. 2 weeks later, eye got worse.



132

The Case of the Mysterious Red Eye

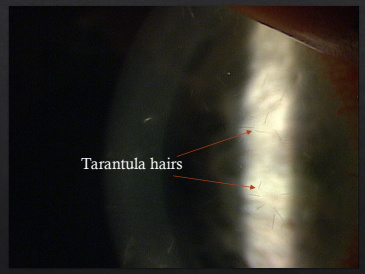
- UcVA: OD 20/30-2; OS 20/30+2
- SLE: 2+ to 3+ conjunctival injection.
  - Multiple small ? TH in cornea with several small KP
  - 1+ cells in AC
- DFE: 0.1 CD OD and OS



133

The Case of the Mysterious Red Eye

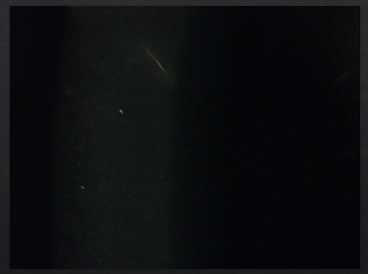
- Upon questioning patient after SL exam
  - He stated that he had a friend's pet tarantula on left arm. Doesn't remember the spider rubbing legs but had sudden pain in OD like a "punch in the eye" .
- Dx:
  - Uveitis/ Iridocyclitis OD
  - Tarantula hair Keratitis OD
- Tx:
  - Tobradex ung. qid OD
  - Omnipred qid
  - Homatropine 5% bid OD.



134

The Case of the Mysterious Red Eye

- Follow up with referring OD in 2 days
  - Return to CES in 1 week
- 1 week f/u:
  - UcVA: 20/50+
  - SLE: no changes
- Plan: Finish Omni pred q2h then switch to Lotemax q2h. Continue Homatropine bid and Vigamox gid. Stop Vigamox when finish current bottle.



135

The Case of the Mysterious Red Eye

- Follow up with referring O.D in 1,2,3 weeks.
  - RTC 1 month.
  - Expect this will take a couple of more months to clear. Watch for IOP rise.

136

Where to find him

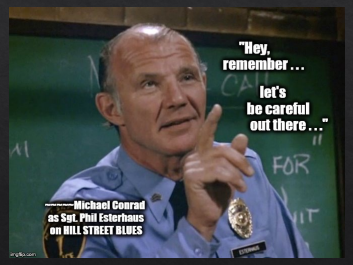
137

The Point

- Don't play with spiders.
- Especially not tarantulas!

138

Thank You For Your Attention



139

References

- Stringham, J., & Werner, L. (2010, August). Calcification of different designs of silicone intraocular lenses in eyes with asteroid hyalosis. Retrieved February, 2019, from https://www.ncbi.nlm.nih.gov/pubmed/20537395
- Yoshida, H. (2016, January). IOL fixation from dr yamane. Retrieved February , 2019, from https://www.youtube.com/watch?v=WwEuS2m08Yg
- Sharma, S. (2017, December 18). Optic disc pit surgery. Retrieved February, 2019, from https://www.youtube.com/watch?v=IAEYNP95Jc4

140