

**Glaucoma Gauntlet:
Managing the
Challenging Cases**

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DISCLOSURE:

- Joseph Sowka, OD is/ has been a Consultant/ Speaker Bureau/ Advisory Board member for Novartis, Allergan, Glaukos, Zeiss, Aerie, Oculat Therapeutix, and B&L. Dr. Sowka has no direct financial interest in any of the diseases, products or instrumentation mentioned in this presentation. He is a co-owner of Optometric Education Consultants


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Disclosures- Greg Caldwell, OD, FAAO

- Will mention many products, instruments and companies during our discussion
 - I don't have any financial interest in any of these products, instruments or companies
- Pennsylvania Optometric Association –President 2010
 - POA Board of Directors 2006-2011
- American Optometric Association, Trustee 2013-2016
 - Thank you to the members and those who join
- I never used or will use my volunteer positions to further my lecturing career
- Lectured for: Shire, BioTissue, Optovue
- Advisory Board: Allergan
- Involve: PA Medical Director, Credential Committee
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Case: It just isn't clear

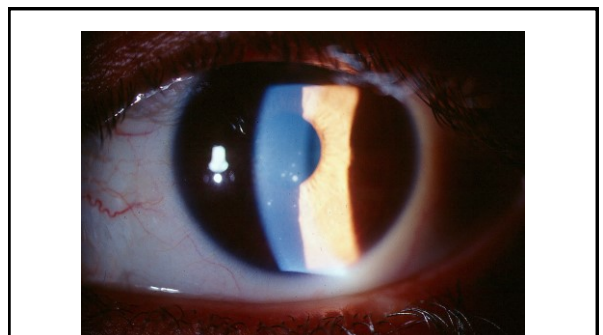
- 24 YOBF
- CC: Blurred vision OS
- Happens twice a year since age 7
- BVA 20/15 OD, 20/20 OS
- PERRL (-) RAPD
- CF: FTFCOD, OS
- Medical history unremarkable



DR. HOUSE
Seriously, how does this guy keep his license?

Case: It just isn't clear

- Conjunctiva clear OU
- Cornea: steamy edema, KP's
- A/C deep
- IOP: 21 mm Hg OD, 20 mm Hg OS



So, What are your thoughts?



MANAGEMENT *This Patient*

- In Office: Pred Forte, Timoptic 0.5%, Alphagan, Trusopt (i gt. each, separated by 5 min)
- After 30 min: IOP 50 mm Hg; edema completely gone!
 - *"Now everything is perfect. Can I go now?"*
- Repeat regimen:
 - After 30 min: IOP 35 mm Hg → Send patient home with Pred Forte Q2H; Alphagan TID
 - F/U 24 Hrs: IOP 10 mm Hg
 - Threshold fields, OCT: Normal OD, OS

Points to Ponder



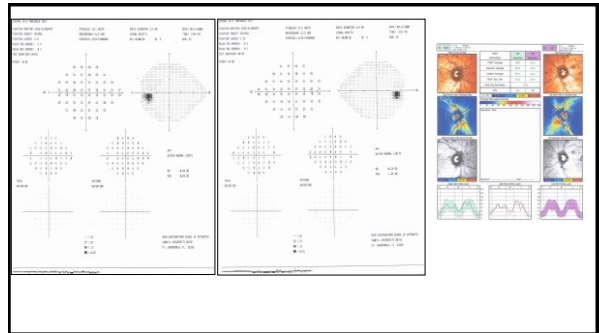
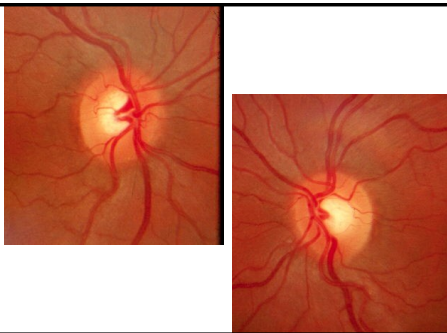
Is GCC a truly benign disease?

Is GCC a real diagnosis or a variant of uveitic glaucoma?

Is GCC an herpetic variant?

Case

- 31 YO BM
- Medical history unremarkable
- Grandfather had glaucoma?
- TA: 32 mm Hg OD, 30 mm Hg OS
- CCT: 560 OD, 556 OS
- Gonioscopy: angles open CBB OU without abnormalities



Treat or Observe?

What are the Options?

What are the Long-Term Implications?

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Bad Prognosis?

- 78 YOWF
- Average IOP (1 yr x5); 22 mm OD, 20 mm OS
- CCT: 517 OD, 527 OS
- PXE material OU
- Gonio open OU with moderate pigment

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Bad Prognosis?

- PXE glaucoma diagnosed
- Considerations:
 - Mild field loss
 - Older age
 - Lower initial baseline IOP
 - PXE
- Can this patient be monitored, or should she be treated?

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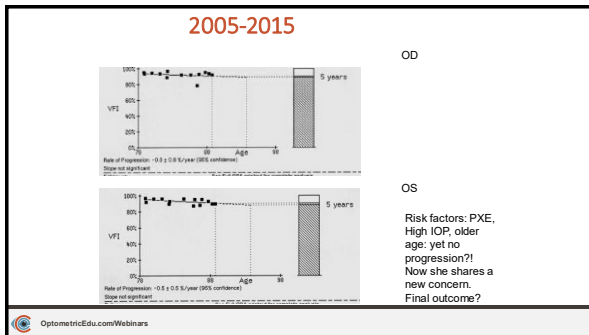
Bad Prognosis?

- Pt answers the question- declines treatment
- Bad experience with treatment suggested by doctors in past
 - more afraid of treatment than glaucoma
 - Wants to see change or other conclusive proof of need for treatment.
- However, everything says she will do poorly
 - Peak IOP: 34 mm Hg OD, 37 mm Hg OS

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Any Final thoughts?

21 YOF

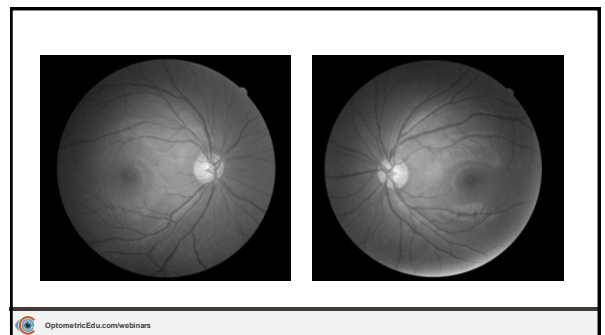
- 21-year-old Hispanic female
- Referral for elevated intraocular pressure
- Pt c/o snowy vision for the last few months, that is getting worse
- Past Ocular History: unremarkable
- Family history: unremarkable
- Past medical history: Asthma dx 2017
- No medical allergies

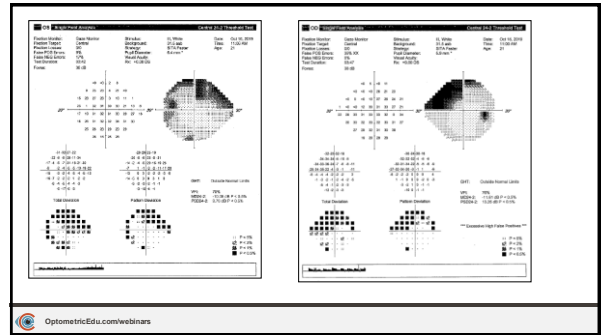
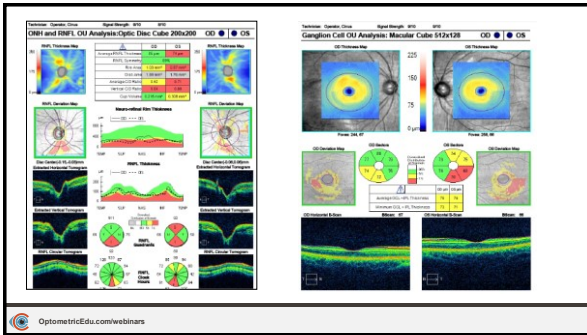
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21 YOF

- 20/70 OD, OS; PH 20/40 OD, OS
- PERRLA OD, OS; -APD OD, OS
- Corneal: clear OD, OS
- Iris: brown & flat iris
- Anterior Chamber: deep & quiet OD, OS
- Gonio: open to CB x360 without abnormalities OD, OS
- Pachymetry: 639 OD, 640 OS

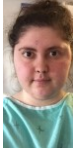

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Forgot to mention...

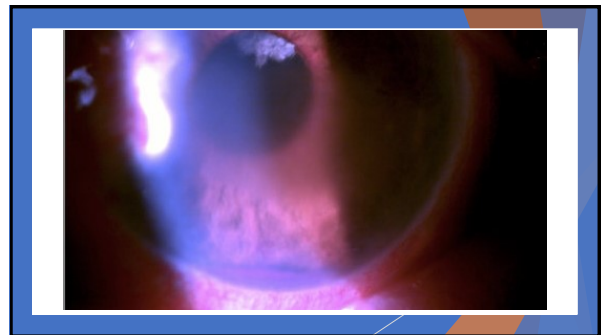
- Lens: 2+ PSC OD, OS (snowy vision)
- IOP 72 mm Hg OD, OS
- "How is that asthma being treated?"
- Dexamethasone injections 2-3x/week self medicated

Case History

- 82-year-old Hispanic male presents for IOP check
- Chief complaint: Pt reports FB sensation, mild ocular eye-pain and redness of left eye that started 15 days ago
- Past Ocular History: POAG OS, severe stage
- LEE: 11/19/2018 – lost to follow-up
- Medical History
 - Diabetes Mellitus Type 2 - Glyburide 5mg Tablet QD po
- Ocular Medications
 - Latanoprost qhs OU

- BVA 20/25 OD; NLP OS
- Cornea: Normal cornea OD, diffuse PEK, microcystic corneal edema OD
- Iris: diffuse NVI at the pupil margin OS
- Anterior Chamber: deep & quiet OD; 1 hyphema with RBCs in anterior chamber OS
- Lens: PCIOL in good position OD; limited views OS
- IOP: 23 mm OD, 62 mm OS
- Gonio: NVA; PAS; hyphema



- NVG MOA
- Management straightforward
 - Atropine 1% BID
 - Pred forte QID
 - Diamox
 - Aqueous suppressants
 - Anti-VEGF
 - PRP

An Interesting Case...

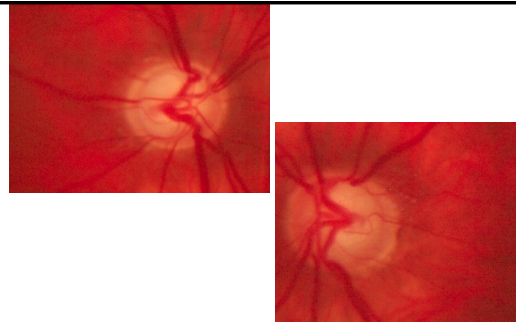
- 40 YO asymptomatic patient
- Constricted confrontation fields
- (-)17.50 – 2.50 x 30 OD; (-)18.00 – 3.00 x 150 OS.
- IOP 42 mm Hg OU
- CCT:549 μ m OD and 535 μ m OS
- Moderate depth central chamber, shallow peripherally
 - Iris bombé?

Okay, What next?

An Interesting Case...

- Gonioscopy: Anterior TM 1 quadrant OS only- remainder of angles closed
 - Iridodonesis OU

Okay, What next?



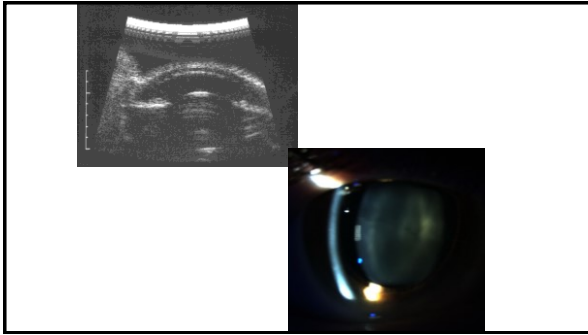
An Interesting Case...

- Scleral crescent, but no myopic disc or staphyloma
- Biomicroscopy: lens clears plane of pupil?

Diagnosis?

Phacomorphic glaucoma

- Phaco = lens, morph = shape
- Mature cataract causes pupil block and ACG- may be acute or chronic
- Spherophakia- round lens causes pupil block
- Confirmatory findings:
 - Round protruding lens on B scan
 - Axial length 24.12 mm OD; 23.98 mm OS
 - Kind of short for (-) 18 diopter myope, eh?

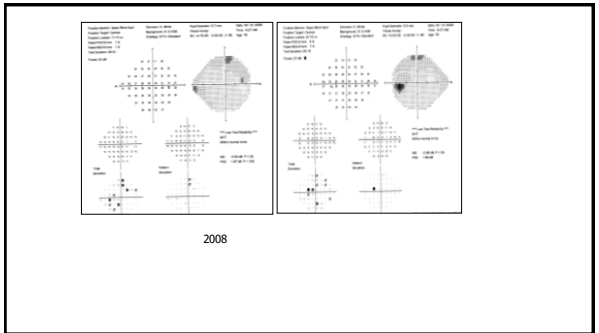
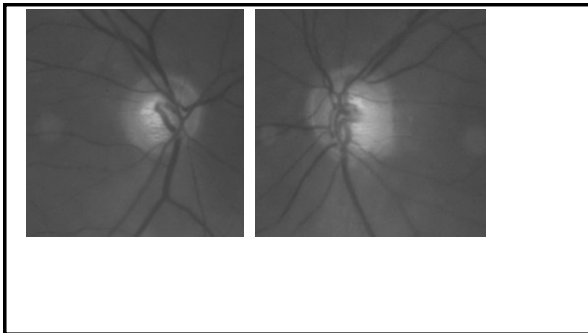
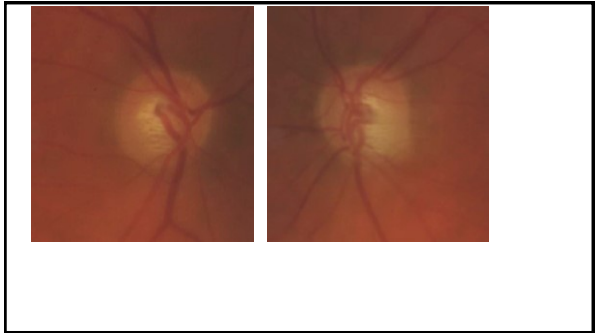


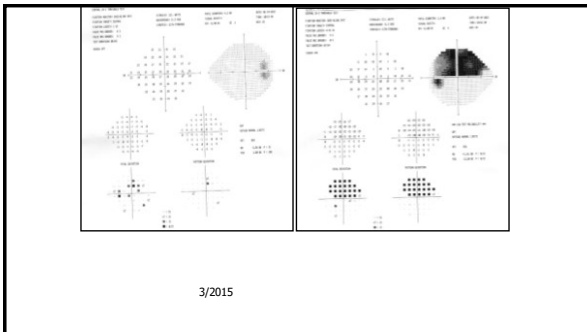
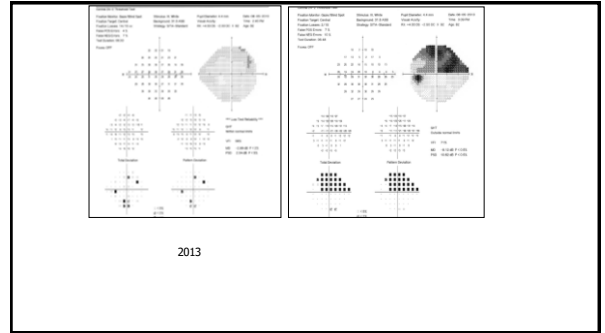
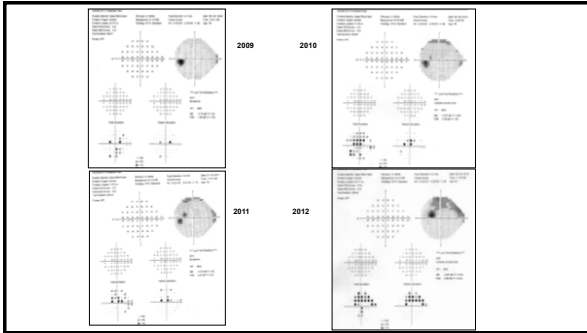
An Interesting Case...Outcome?

- Rx'd Combigan and pilo 2% OU
 - IOP 17 mm Hg OU
- OS angle open to TM and SS
 - Pigment and PAS abound
- OD angle doesn't budge
- Undergoes LPI- Opens both angles
 - Residual PAS
- IOP controlled on PGA, timolol, brimonidine

Asymmetric Progression?

- 76 YOWM- 2008; US citizen, lives/works Brazil
- BPH, hypercholesteremia, aortic stenosis
 - Crestor, Flomax, Levitra
- 20/20 OD, OS
- Peak IOP 25 mm OD, 20 mm OS
- CCT 618 OU
- PERRL (-) RAPD; gonio/SLE normal
- Dx'ed POAG OS; OHTN OD vs early POAG
- Travatan OU
 - Occasionally used DuoTrav
- 15-16 mm Hg OU





Asymmetric Progression?

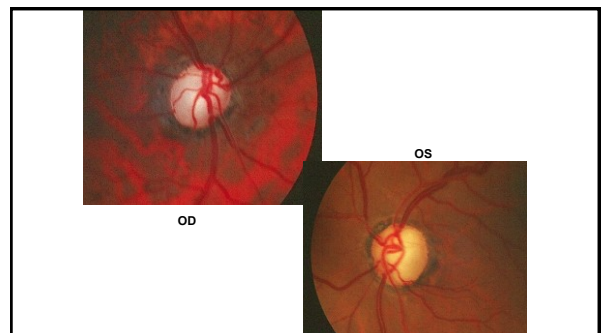
- Treated IOP mid teens
- Marked field progression OS only
 - Meds changed throughout
- BP 114/70; 46 BPM
- Travatan Z/ Simbrinza
 - IOP 12 mm Hg OU
- Why asymmetric (rapid) marked progression OS?
- What else to look for?
- Next step?

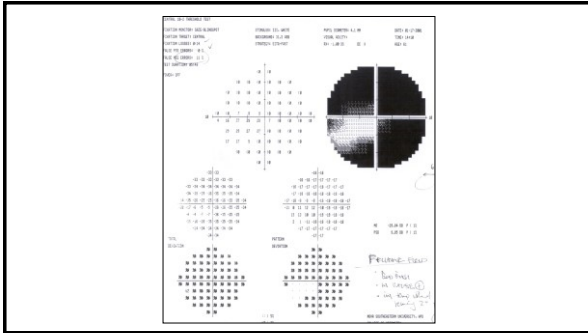
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As Good as it Gets?

- 63 YO BM
- Knows he has POAG – doesn't follow through with treatment
 - Poor care in Caribbean
- IOP 43 mm Hg OD; 60 mm Hg OS
- Angles open by gonio OU
- Hand Motion OD, 20/40 OS
 - Small temporal island of vision OS

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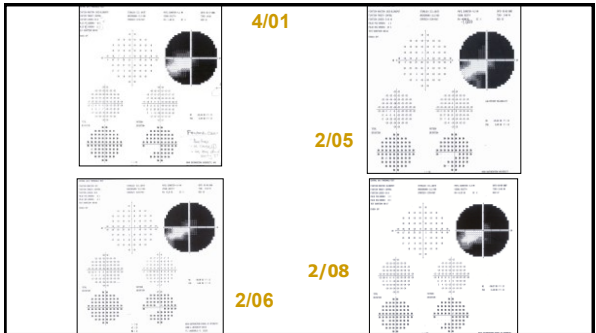
So, who wouldn't want this patient in their practice?

What are the options?

As Good as it Gets?

- 63 YO BM - POAG
- Medications:
 - Timolol/brimonidine FC, brinzolamide, travoprost OS; travoprost OD
- IOP: 29-34 mm Hg OD, 10-13 mm Hg OS
- Never misses appointment
- Thankful things are as good as they are

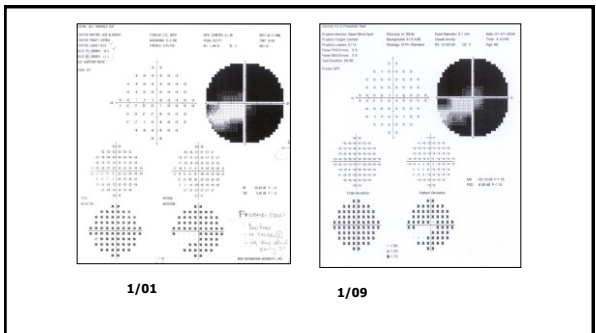
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Hanging on

- January 2009
- Reports vision slowly getting worse OS
 - 20/200
- "We had a good run, Joe"
- Is it cataract or glaucoma?

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- Cataract surgery obtained on humanitarian basis
 - Nobody wanted to do surgery
 - 20/150 1-day post op
 - "Seeing beautifully"
 - 20/70 dist; 20/50 near
 - Final outcome?

All Glaucoma is Not Created Equal

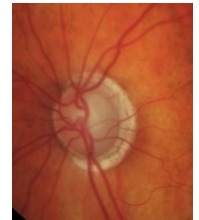
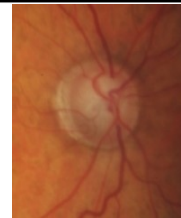
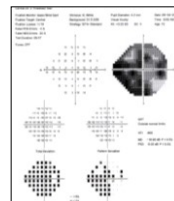
- 71 YOF
- Diagnosed POAG OU 2009- treated with Travatan Z will good response (IOP drops to 18 from 28)
- CCT: 579, 583
- Transfers care for convenience
- Angles open- no evidence of secondary glaucoma



All Glaucoma is Not Created Equal

- 2012: 20/30 OD, 20/400 OS
- SLT OU x2
- Meds: Lumigan, Combigan, Azopt
- Hx: Used oral CAI 3x/day- hands and feet hurt too much to continue
- Used pilocarpine- motion sickness
- IOP- 22 mm OD and 38 mm OS

Now What?



All Glaucoma is Not Created Equal

- Visit 2/14
- Not seeing OS since 9/13
- 20/50 OD, LP OS
- IOP 36 mm OD, 30 mm OS
- Now What?
- Declines surgery again and again

All Glaucoma is Not Created Equal

- N/S until 2/15
- Did request med refills throughout, however
- Using Combigan only- ran out of Azopt and Travatan
- 20/60 OD, NLP OS
- IOP 46 mm OD and 72 mm OS
- Refill all meds
- Declines surgery again

All Glaucoma is Not Created Equal

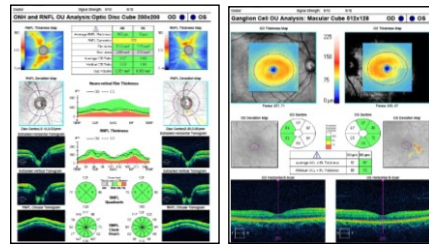
- Visit 6/15
- Using meds regularly, but was confused when to use Travatan so didn't use it in past week
- Vision unchanged
- IOP: 40 mm OD and 53 mm OS
- New views on surgery

Any Final thoughts?

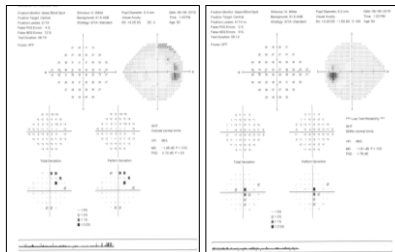


Look at all of the data

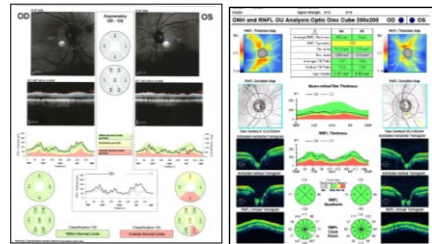
- 62 YOF- glaucoma suspect
- 20/20 OD, OS
- CCT: not done yet
- IOP: 17-18 mm Hg OU – multiple occasions
- Biomicroscopy normal OU
- Angles open OU

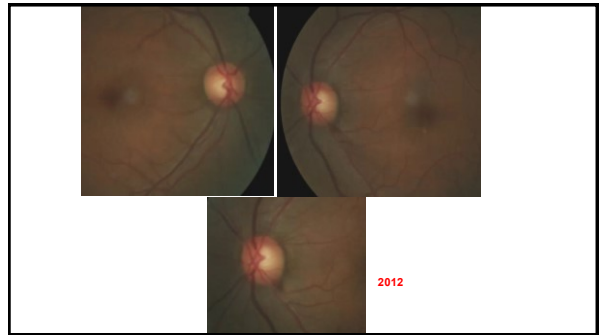
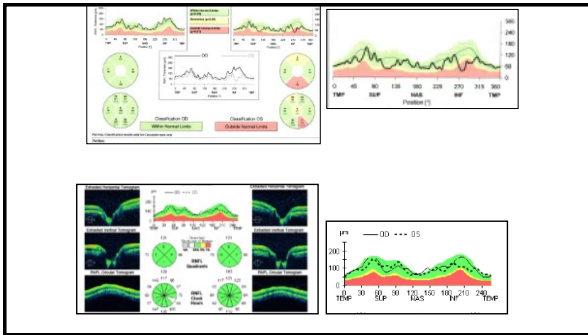


Normal? Abnormal? Borderline? Suspicious?



Normal? Abnormal? Borderline? Suspicious?





Now how would you handle these?
Don't worry...

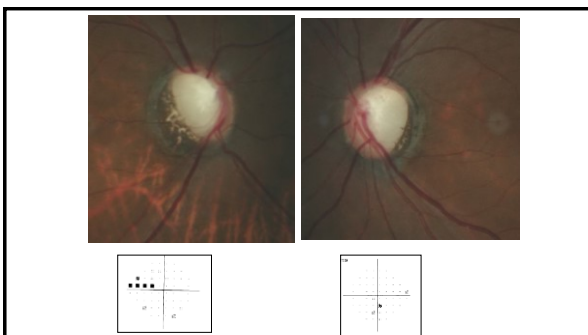
IT'S NAHT A TOOMAH

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JP: 38 YOF

- Referred for glaucoma eval in 2002 after failing LASIK screening
- Had been treated since mid 20s for glaucoma
- IOP in mid-upper teens off meds
- CCT: 459 OD; 469 OS
- Anomalous nerves with mild field loss

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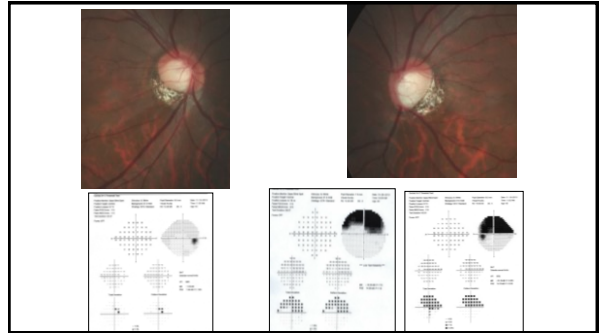
JP: Now 49 YOF

- Congenitally anomalous nerves with field loss
- Monitored for 11+ years
- Field changes late
- Pt now treated with IOP 09 mm OD; 10 mm OS
- Pt had/had congenitaloma and now has glaucoma
 - Doubloma

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Similar...Yet Different

- 45 YOF
- Referred for glaucoma evaluation
- IOP never exceeds mid-teens
- CCT: 554 OU
- Marginal effect of meds



Conundrums

- Field loss due to anomaly, glaucoma, or both?
- Progressive or congenital?
- Mid-teen IOP and poor medical response
- Treatment or observation?