Myths, Misconceptions and Mistakes

….mainly Mistakes!

OAVic/SA

Regional Seminar Series 2023

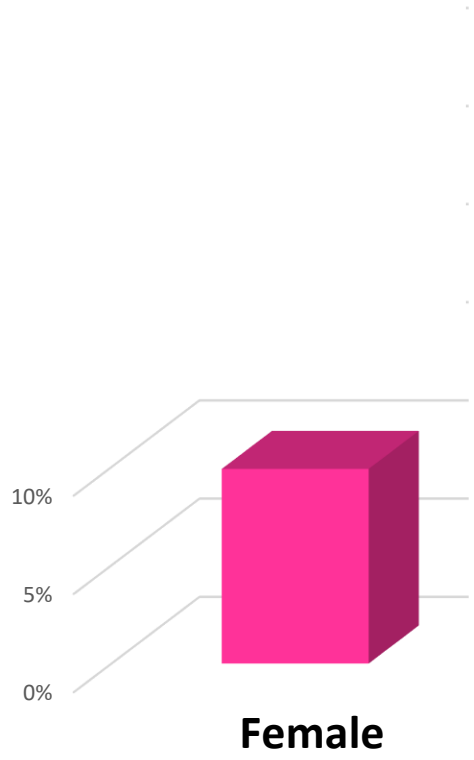
Ken Thomas BScOptometry FACO

Eye Trauma in Victoria

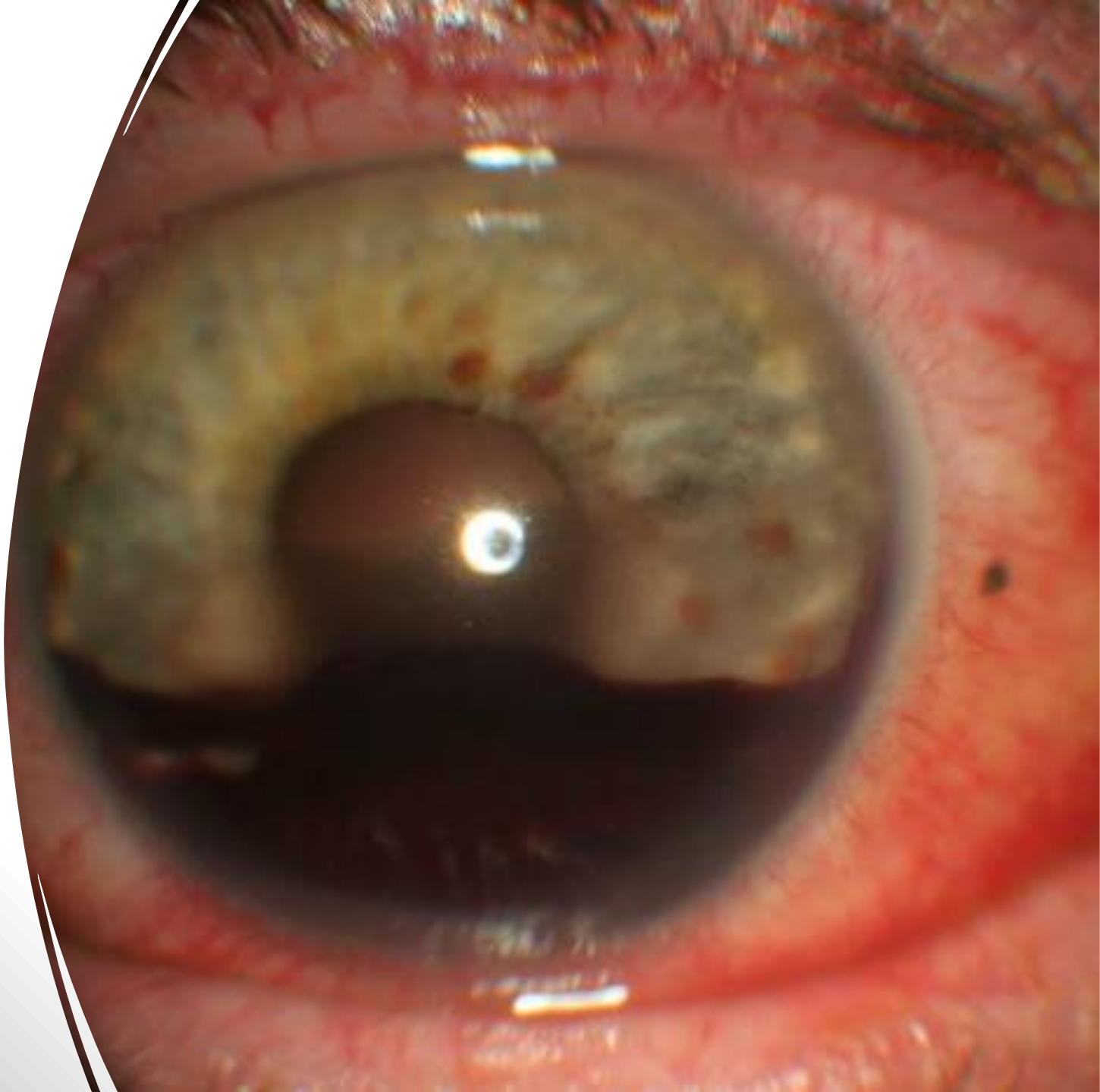
McCarty, Fu and Taylor

Eye trauma is more common in rural males

- 1999 survey of 5000 Victorians over age 40
- Representative cross-section of the community
- Shows eye injuries to be common- 21%



- 39 yo male
- 22g shotgun backfired, casing hit left brow
- Reloaded and refired:



Where is my mistake?

- Topical therapy?
- Referral criteria?
- Rest?
- IOP?
- Iatrogenic tra[illegible]ma?
- Rebleed?

Change of routine-
Not taking a proper social history

- IOP 13mmHg
- Gonioscopy at tw… months sho… degree iridod…ysis inferiorly
- Vision 6/6

- Rebl…ds
- E…vate… IOP is on… Glaucoma concern

Primary prevention

Prevention is contingent on removal of the hyphema. Clot removal via an anterior chamber wash-out procedure is usually performed before 6 days of raised intraocular pressure (25 mm Hg or greater) and certainly with the first sign of blood staining

Br J Ophthalmol. 1980 Mar; 64(3): 164–169.
doi: 10.1136/bjo.64.3.164
PMCID: PMC1039380
PMID: 7387948

Corneal endothelial changes under induced intraocular pressure elevation: a scanning and transmission electron microscopic study in rabbits.

S Melamed, I Ben-Sira, and Y Ben-Shaul

World J Clin Cases. 2019 Aug 6; 7(15): 1978–1985.
Published online 2019 Aug 6. doi: 10.12998/wjcc.v7.i15.1978
PMCID: PMC6695540
PMID: 31423429

Changes in corneal endothelial cell density in patients with primary open-angle glaucoma

Zi-Yan Yu, Ling Wu, and Bo Qu

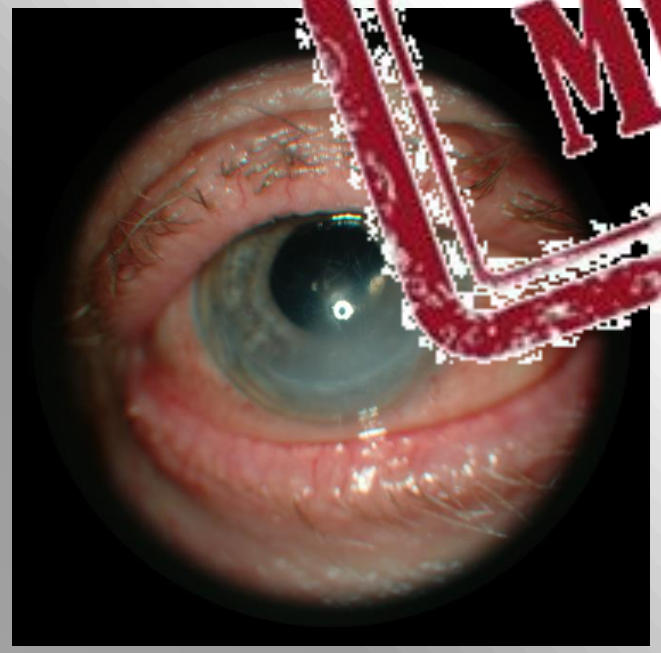
Patients with POAG have lower corneal endothelial cell density than healthy controls of the same age. This may be attributed to mechanical damage from elevated IOP and toxicity of glaucoma medications.

Cornea Transplantation-Induced Glaucoma: A Review of Glaucoma Secondary to PKP, DMEK, and DSAEK Procedures

Article initiated by:	Abanoob Tadrosse, BA, Albert S Khouri, MD
All authors and contributors:	Vatinee Y. Bunya, MD, MSCE, Albert S Khouri, MD, Zeba A. Syed, MD, Ohoud A Owaidhah, MD
Assigned editor:	Ohoud A Owaidhah, MD, Zeba A. Syed, MD
Review:	Assigned status **Up to Date**

by Ohoud A Owaidhah, MD on August 10, 2022.

Patients with pre-operative glaucoma were observed to experience approximately twice to triple as many graft rejections as those without pre-existing glaucoma



MISTAKE #3

W[illegible]

[illegible]truments always elevate IOP

Post op IOPs

- Intraocular pressure spikes recorded in the first 24 hours following cataract surgery are a well-known entity that has been documented since the 1960s.
- It is generally accepted that IOPs tend to peak at around seven hours after cataract surgery, and return to preoperative levels within three days.
- The propensity for this to lead to glaucomatous damage has been downplayed by some studies that claim less than 4% of surgeries result in the need for ongoing glaucoma therapy.

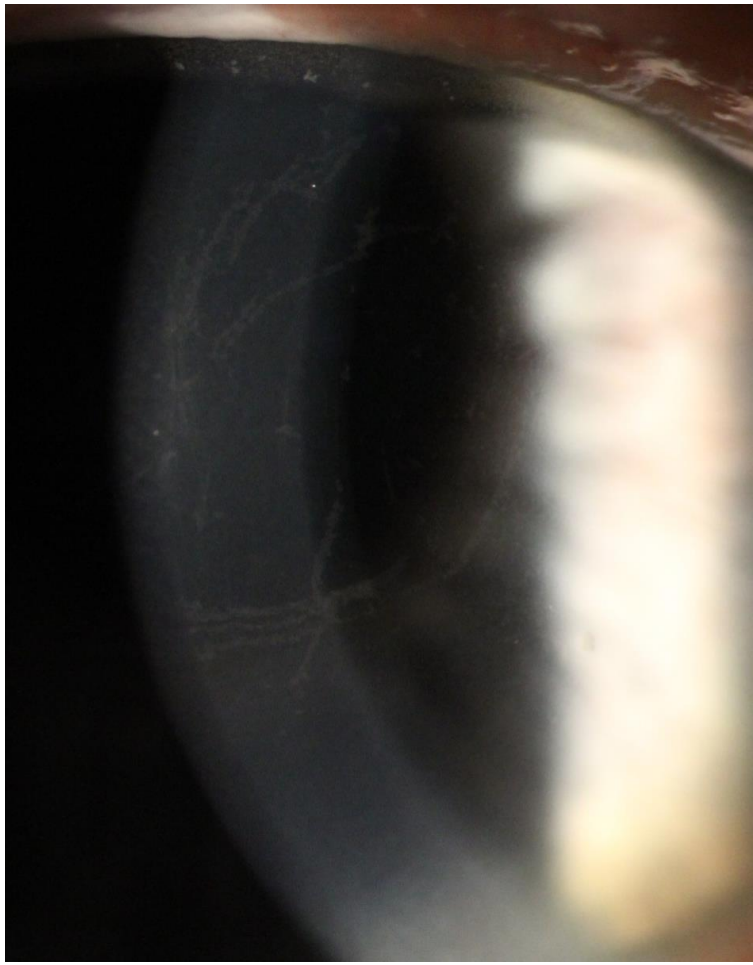
- There is a suggestion that in patients with normal optic nerve heads IOP spikes up to 40mmHg on day one can be left untreated provided there is no pain or corneal oedema.
- There are examples of no permanent vision loss in cases that have experienced transient IOP spikes up to 85mmHg following surgery or angle closure,
- It is important to note that these IOP spikes may be tolerated in healthy optic nerve heads, but that significant damage may occur in discs that are already compromised.
- There is greater risk of vascular occlusion (cf glaucomatous damage) at this elevated IOP

- patients with pre-existing glaucoma, ocular hypertension or higher pre-operative pressure are two to six times more likely to demonstrate an IOP spike following cataract surgery than normal eyes.

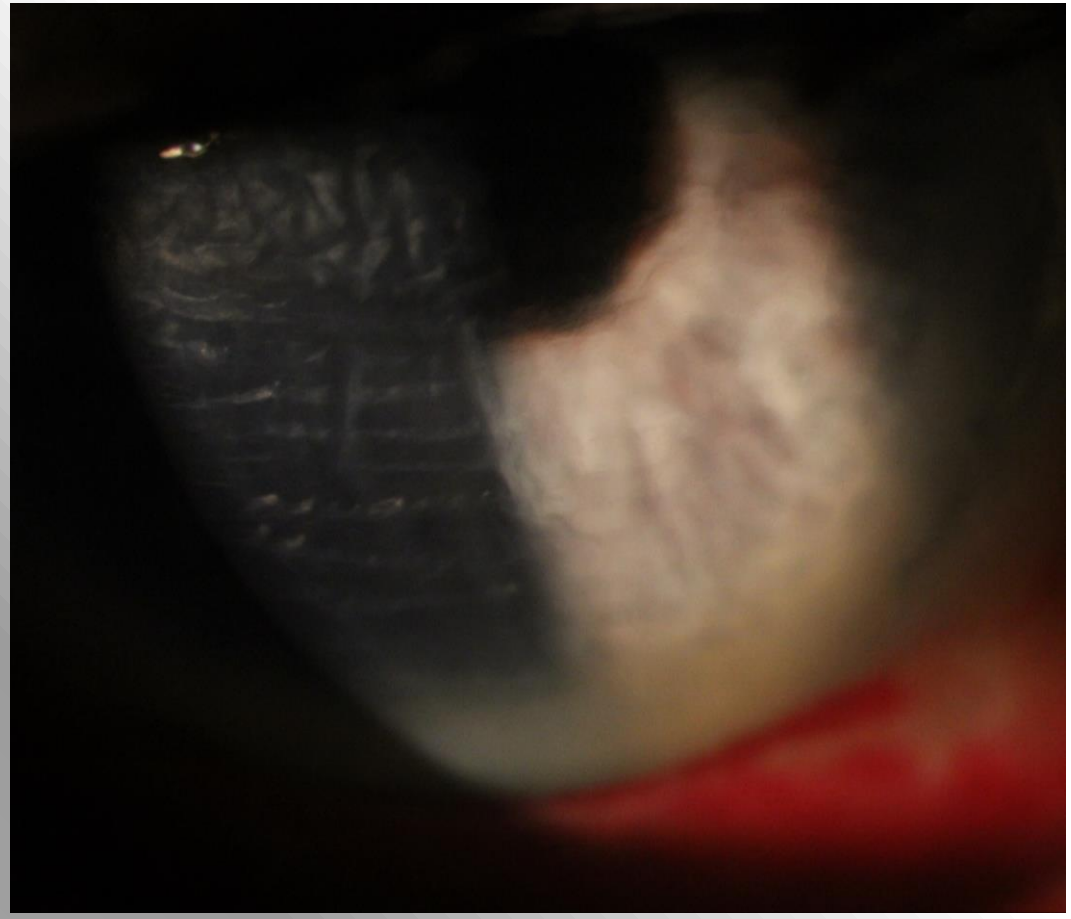
- Communicate with your ophthalmologist about their thresholds for IOP intervention post-operatively

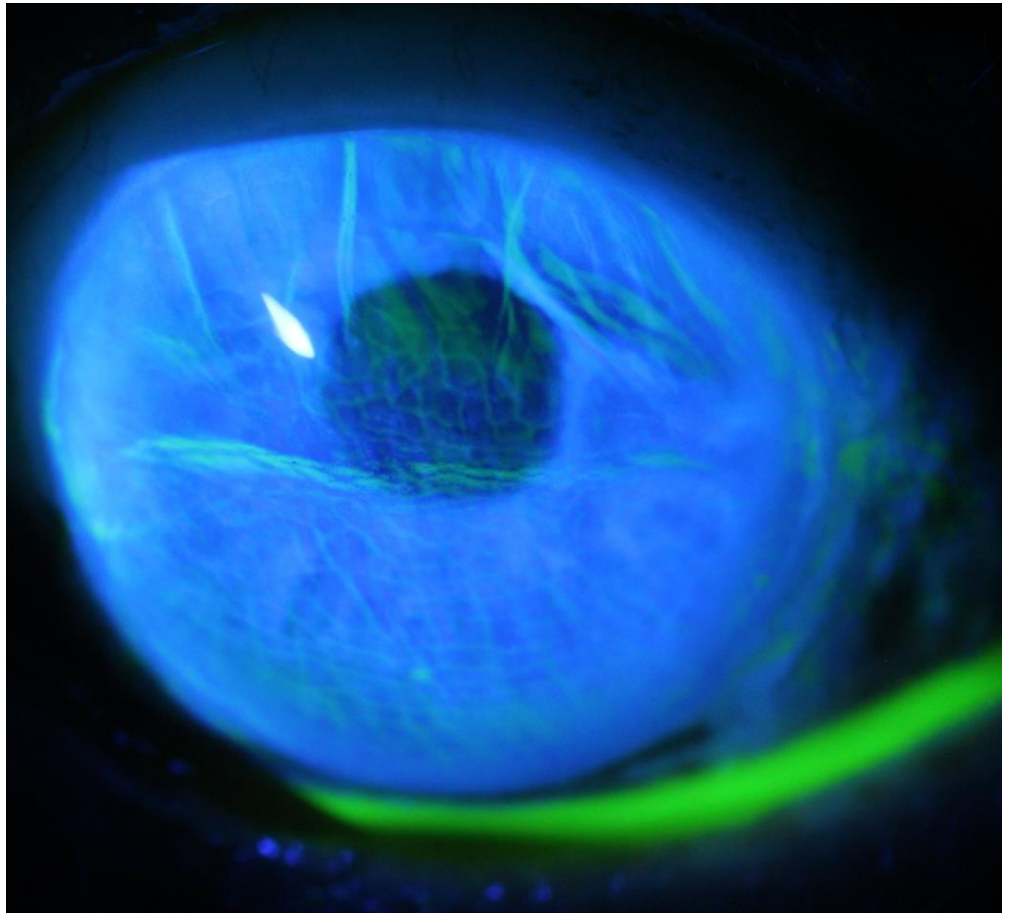
Mechanism

- The degree of trauma, release of prostaglandins and iris pigment, retained lenticular debris and particularly retained viscoelastic can be significant .
- The steroid response can be variable, but 5% of the population have been shown to demonstrate a significant IOP elevation, most commonly after two to three weeks .



Arshinoff S. Postoperative intraocular pressure spikes. *J Cataract Refract Surg*. 2004;30:733-734.





Day one post op therapy- drop and duration variability

- Chloramphenicol qid
- Predniferin Forte qid
- Maxidex
- Acular
- Voltarin
- Ilevro qid

NSAID-induced Bronchospasm: A Common and Serious Problem

Prescriber Update 18: 22-24
March 1999

Ms Joanna Sturtevant, Clinical Pharmacist, Health Waikato, Ha

Between 8 - 20% of adult asthmatics experi bronchospasm following i estion o irin and other non-steroidal anti-inflammatory drugs (NSAIDs). Term -induced asthm this r tion is otentia fatal. Asthmatics with chronic rhinitis or a history of nasal greater risk. The reaction rarely occurs in chil

MISTAKE #5

Asthma, COAD medical: no beta blockers, but other drugs are OK.

#313276

Case Reports > Ophthalmology. 1996 Jun;103(6):890-2. doi: 10.1016/s0161-6420(96)30591-5.

Asthma caused by topical application of ketorolac

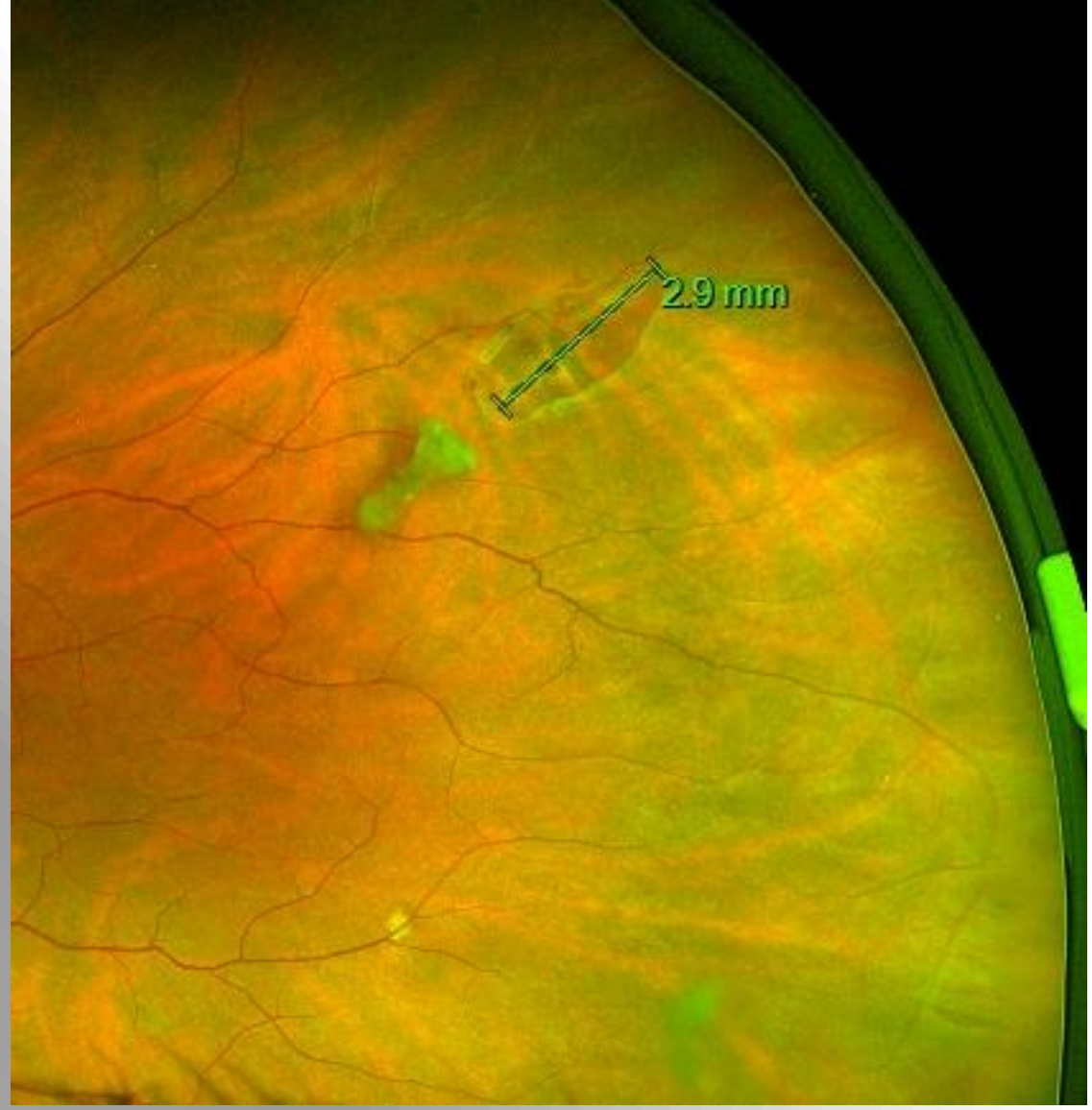
G L Sitenga [1], E B Ing, R G Van Dellen, B R Younge, J A Leavitt

Affiliations + expand

PMID: 8643243 DOI: 10.1016/s0161-6420(96)30591-5

Symptomatic PVDs with retinal tear only present after 4:00pm on Friday


DOB: May 7, 1959
Thursday 2019 2:52:58 PM
Image: 8
2.9 mm
MISTAKE #6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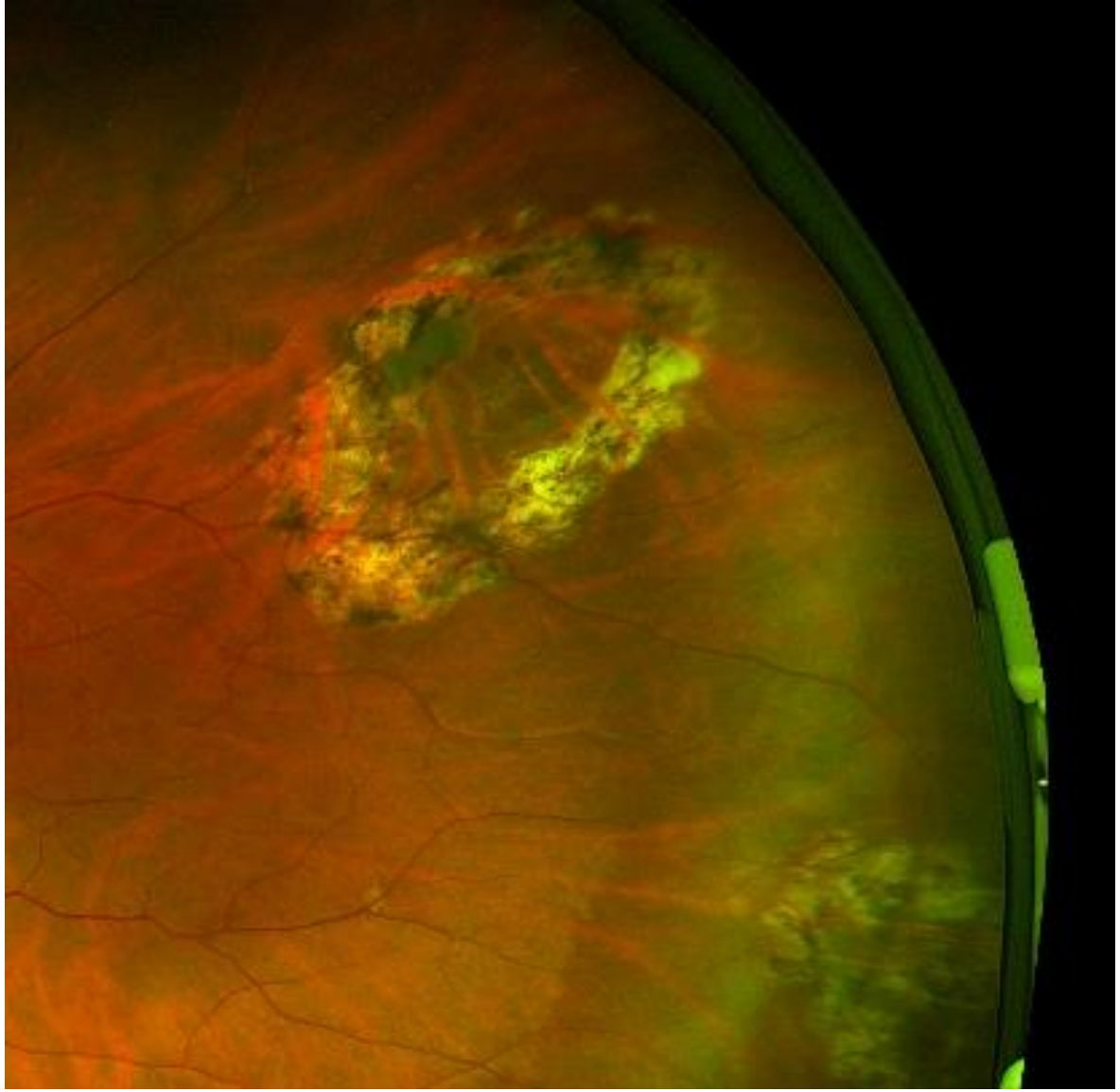
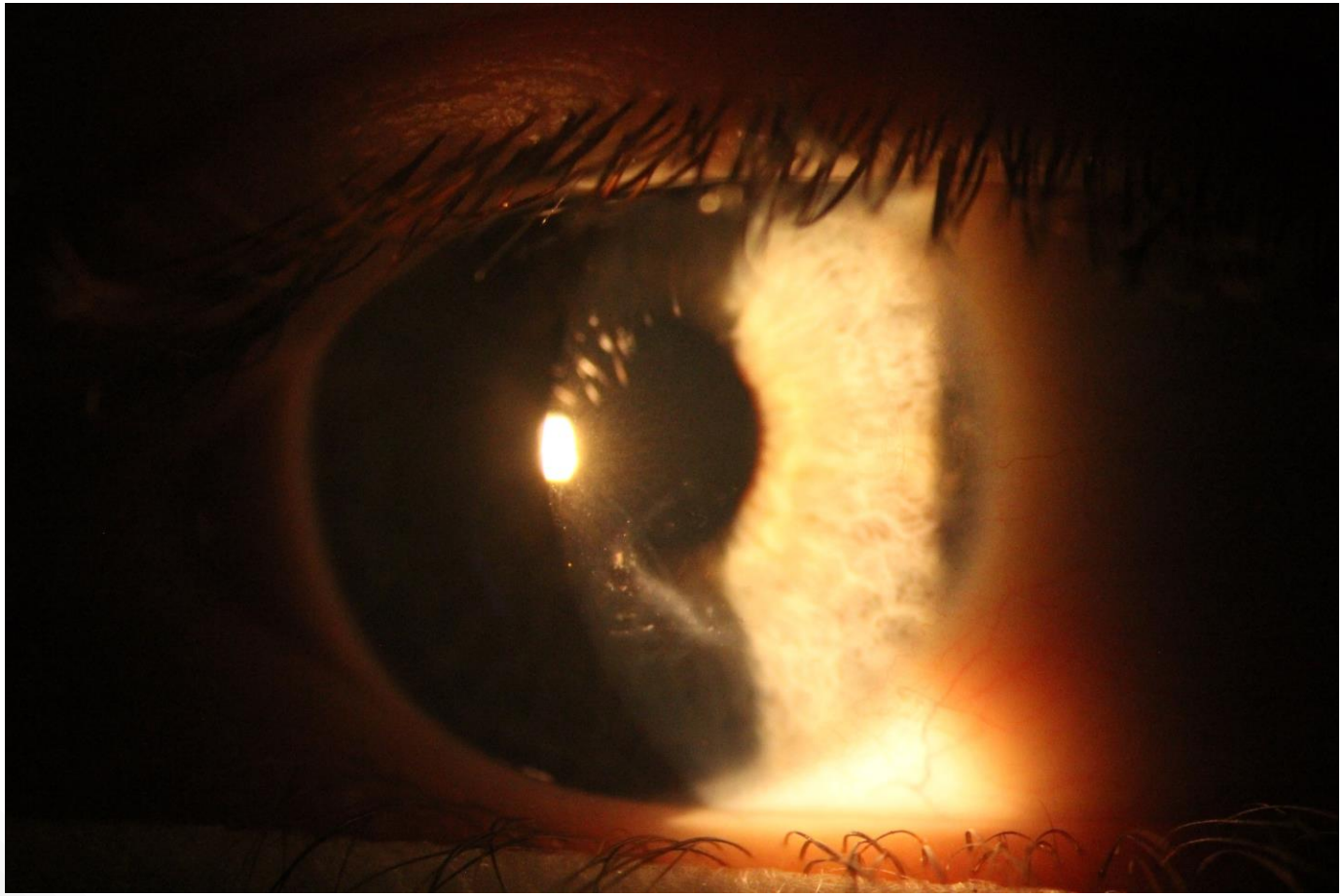


You shouldn’t pee under your parent’s bed

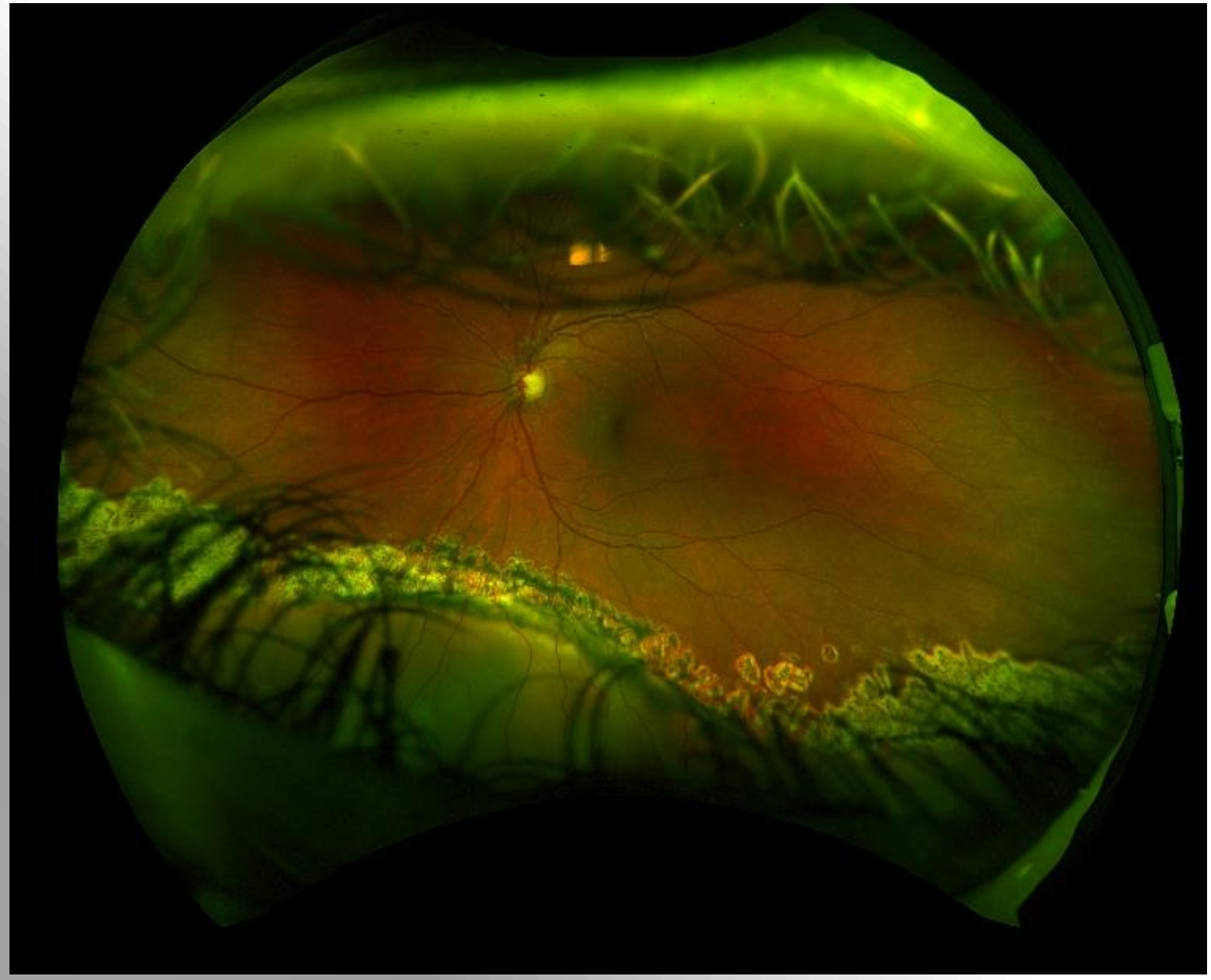
3 year old
Pencil penetrating injury
Pupil peaked @5

Ultimately 6/9.5+

Ax Smiley Face cookies ☹



Bouncing on top of the bed is fun and safe!



- 12 year old
- Upper lid plastic Sx
- Retinal detachment
- Hyphaema
- IOP 40mmHg
- Atropine, Xalacom, Simbrinza and Diamox
- Eventual trabeculectomy

Shane Warne

MISTAKE #8

Alpha male

Brimming

Comb again

Alphagan

Clonidine

Combigan

Not to be trusted with children

Alphagan in children

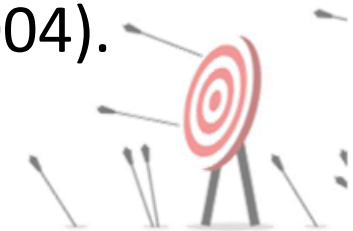
- Contraindicated clearly in age >2 on account of CNS depression including bradycardia, hypotension, hypothermia, hypotonia, and apnea in infants

- Older???

Children >2?

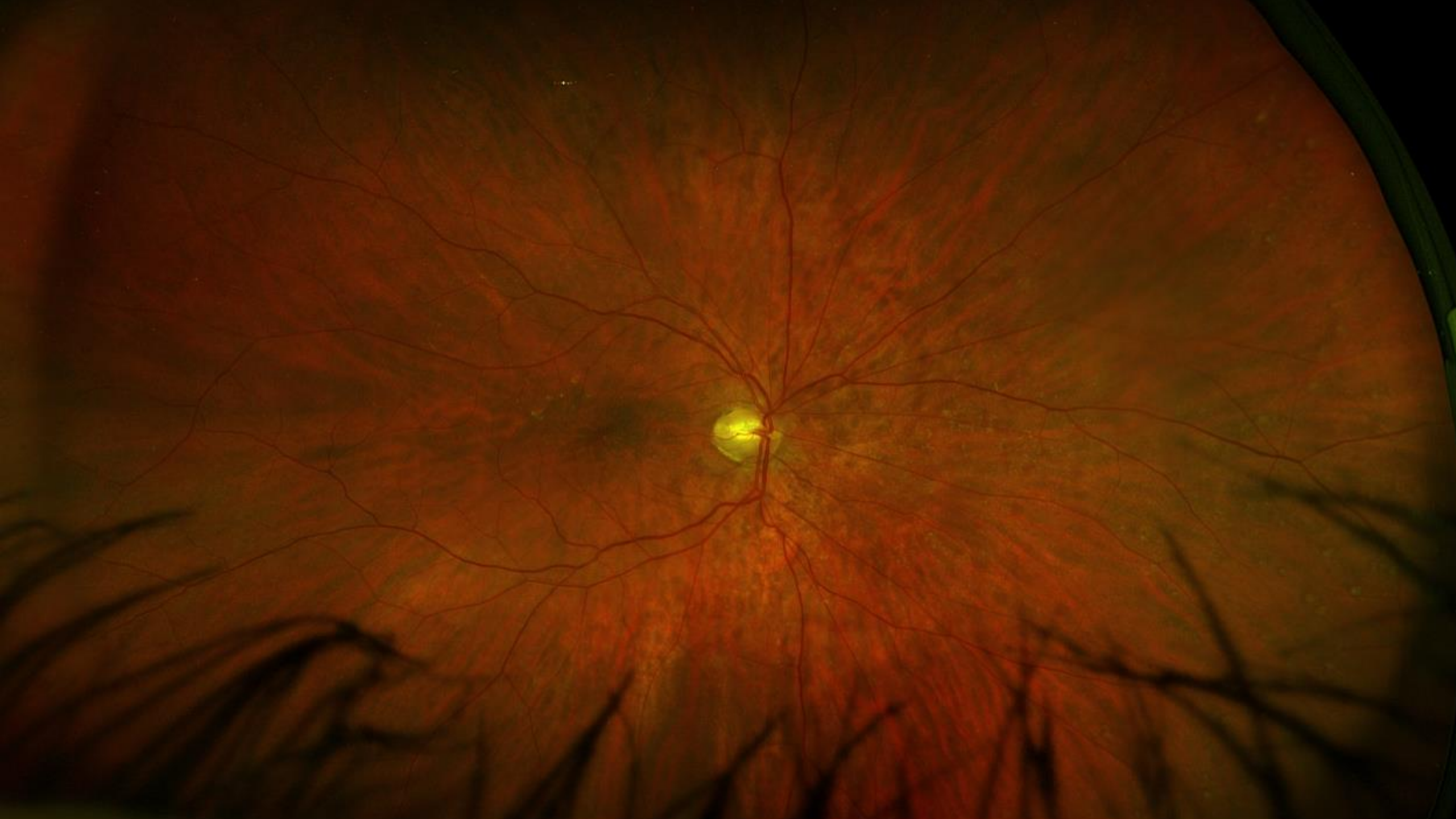
- Of the 22 patients, six (27%) had to stop the drop because of adverse side effects
- Two because of local irritation/allergy,
- Two because of tiredness (aged 6 and 12 years),
- Two because of fainting attacks (both aged 10 years),

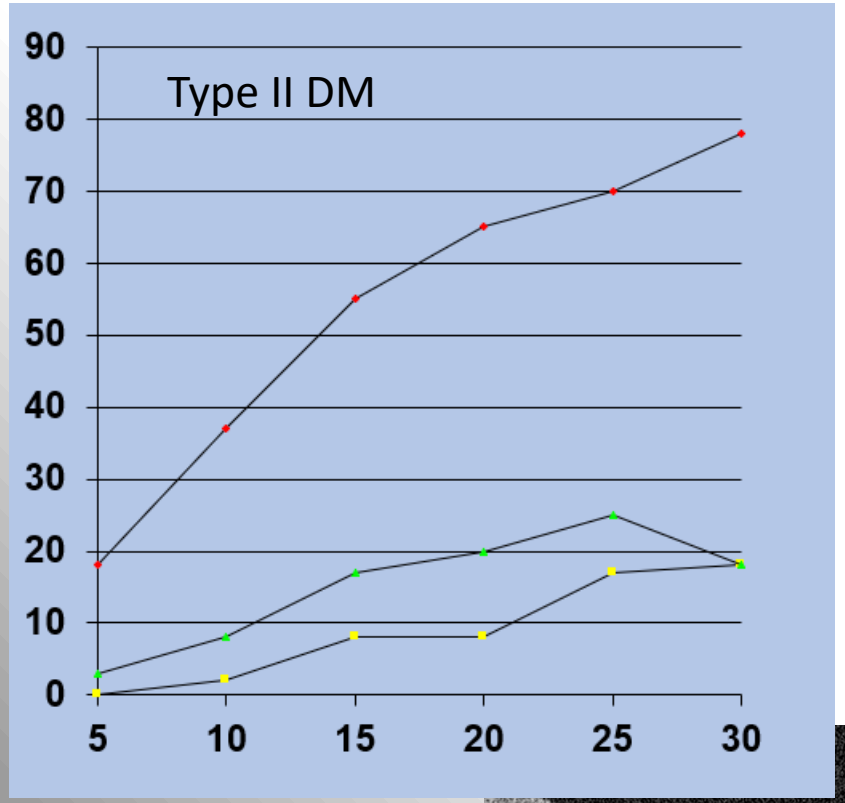
Bowman, R., Cope, J. & Nischal, K. Ocular and systemic side effects of brimonidine 0.2% eye drops (Alphagan®) in children. *Eye* **18,** 24–26 (2004).



Interactive Session 1

- 59 yr old female
- Type I DM > 40 years
- myope wearing dailies monovision due to previous GPC
- Best corrected acuity 6/9.5 in each eye longterm
- Routine exam, asymptomatic
- Scattered dots OU




Type II DM
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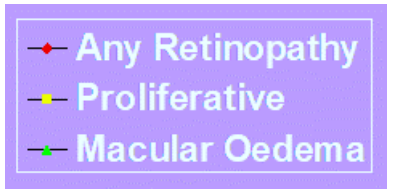
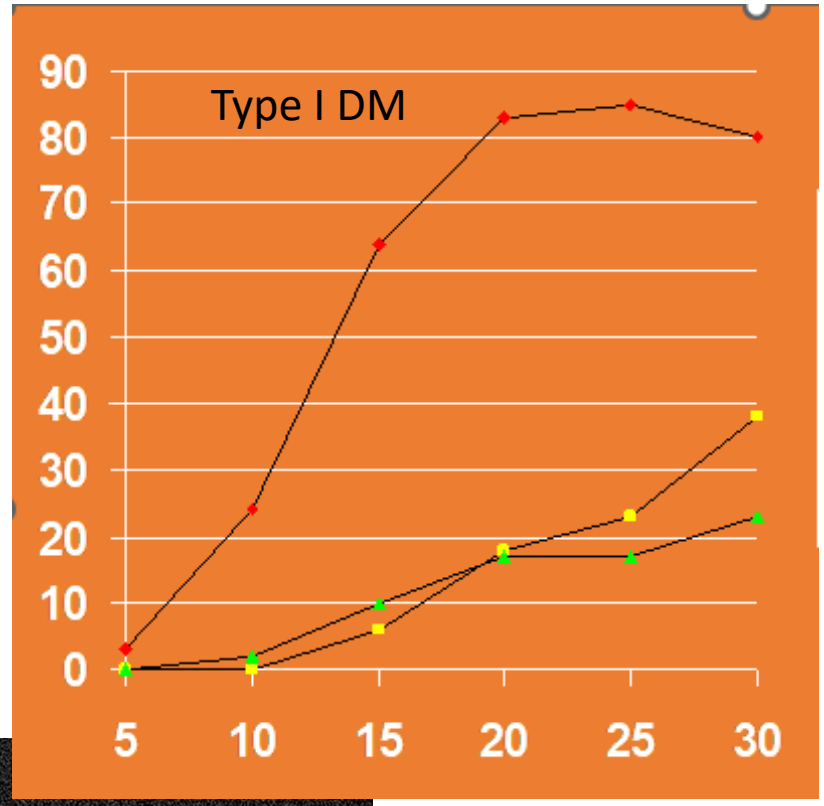
R 2022


Any Retinopathy
Proliferative
Macular Oedema


Type I DM
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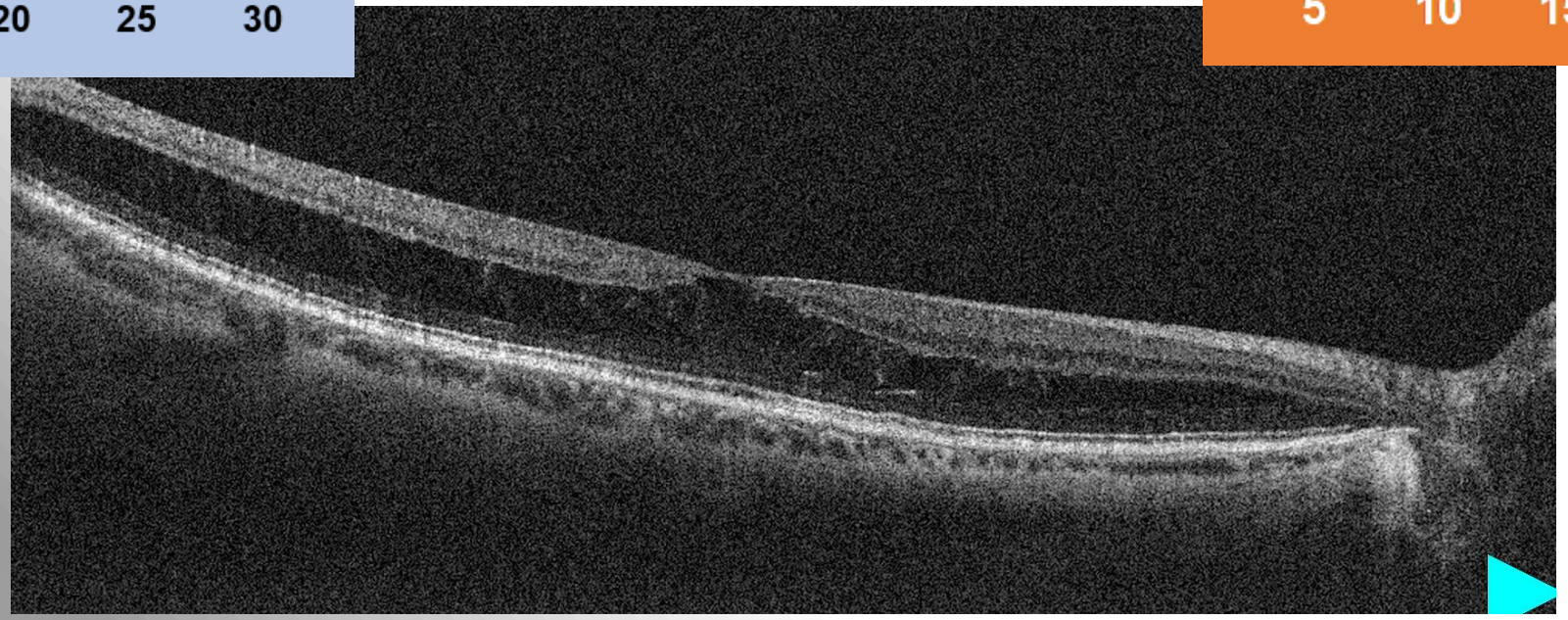


Interactive Session 1

- What to do?

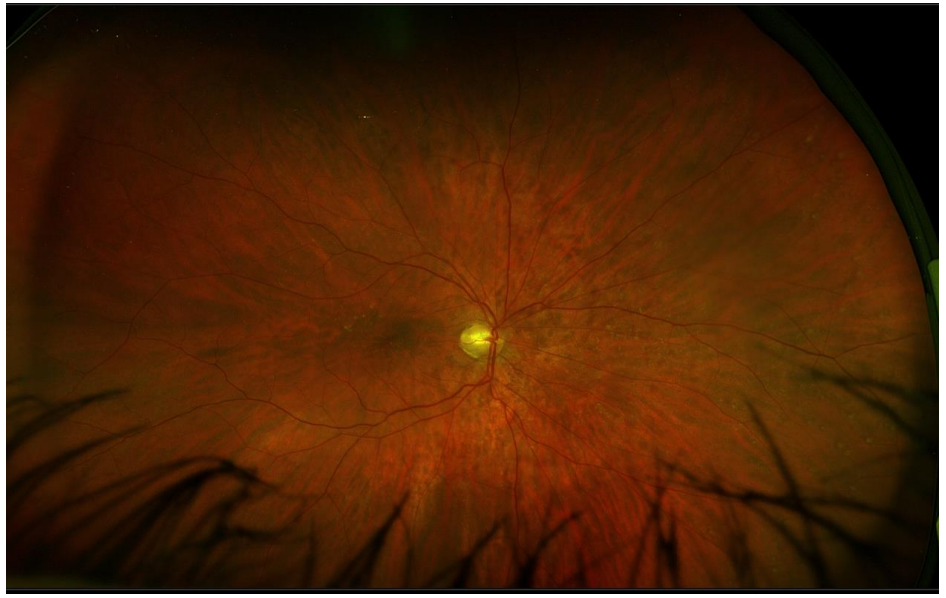
Refer to be poked with a needle (AntiVEGF)?

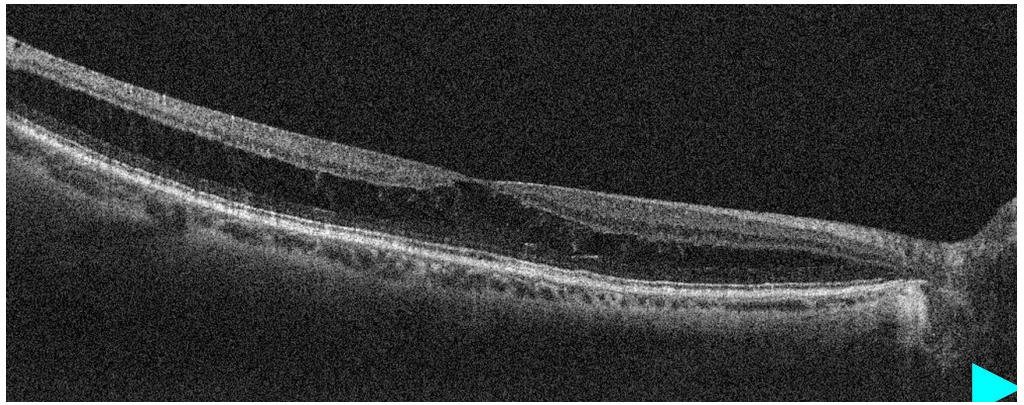
Refer to be poked with a laser?

Refer to be poked with something else?

Monitor?

Other?

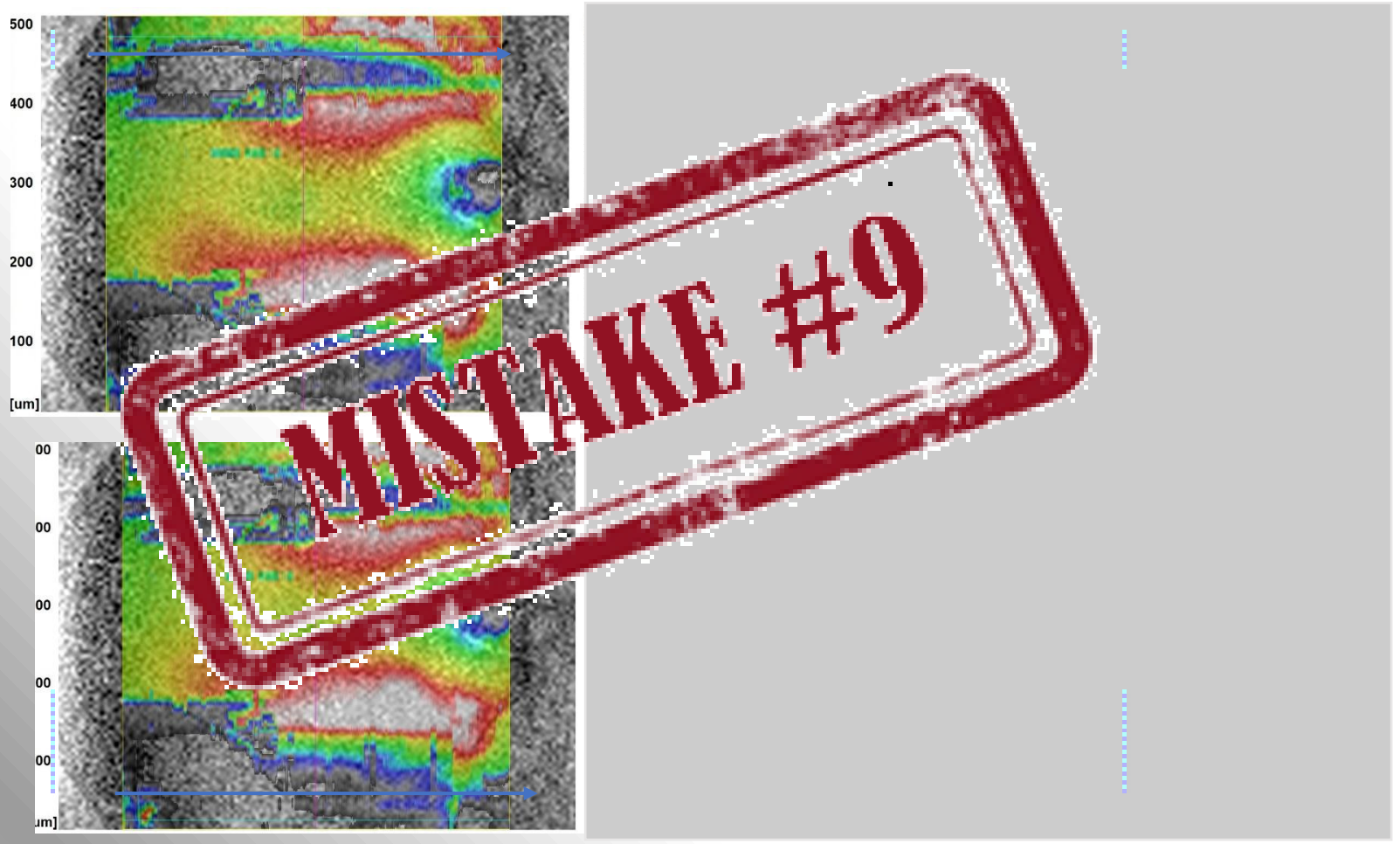




59 yr old female Type I DM > 40 years

6/9.5 best corrected Scattered dots OU

-9.00D myope: assumed poor scans



Myopic Macular Schisis

- Also known as Foveoschisis, Myopic Tractional Maculopathy
- a schisis-like thickening of the retina in eyes with high myopia with posterior staphyloma. The pathologic features may also include lamellar or full-thickness macular holes, shallow foveal detachments, and inner retinal fluid. It has been suggested that the schisis-like thickening represents oedema from traction

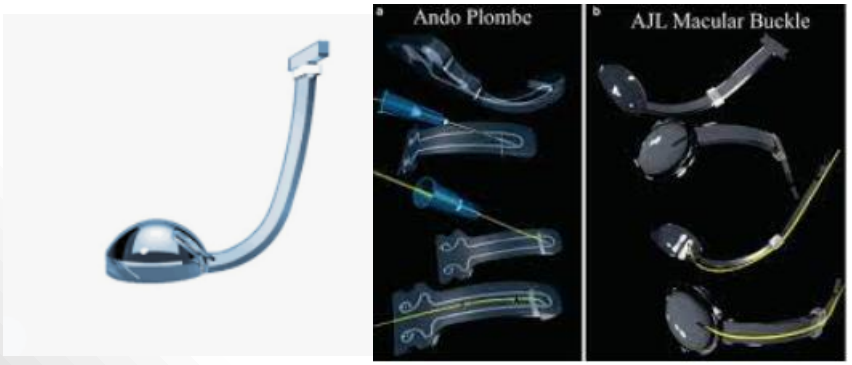
- First described in the late 1950s
- First clear description coincides with development of OCT in 1999
- May be present in 9-34% of highly myopic eyes with posterior staphyloma
- More common in females
- May be an indication for buckling

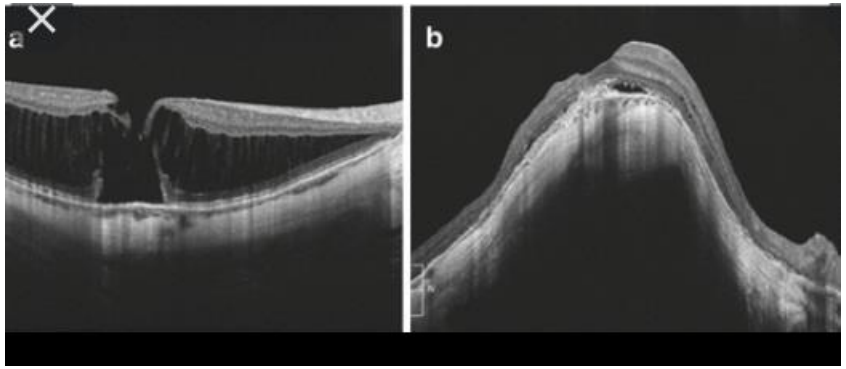
Treatment

- Possible posterior vitrectomy and ILM [illegible]
- High risk in this population o[illegible]ent of iatrogenic macula hole formation
- Possible im[illegible]tment with spontaneous PVD

- Buckle (but won't that squeeze the eye ball equatorially and cause elongation of the axial length and staphyloma?)

Macular Buckles





- Instead of an equatorial belt, the macular buckles look more like a scleral depressor and are inserted longitudinally from the temporal aspect back behind the macula and are sutured in place.
- Many have a fibreoptic port, so they can be lit up and visualised through the sclera to aid positioning in surgery!

Nominative determinism

C. Wright

Dr Pill, Dr Payne

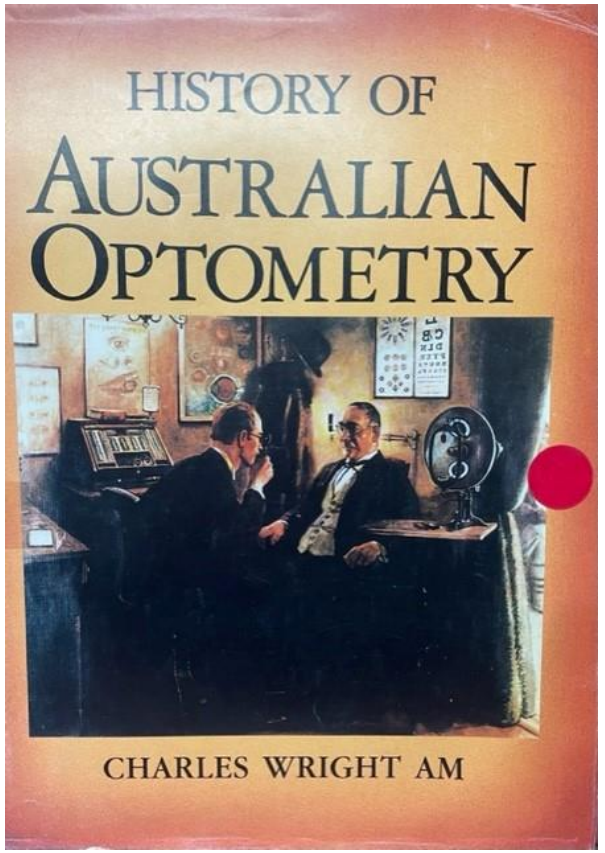
The Urethral Syndrome: Experience with the Richardson Urethroplasty

A. J. SPLATT and D. WEEDON

Royal Brisbane Hospital, Brisbane, Australia

(Received 3 August 1976, accepted for publication 14 December 1976)

The problem of recurrent dysuria in females, which has been attributed to the so-called urethral syndrome, is a major one. Even though complete retention of urine in females is uncommon, it is likely that less marked bladder outflow obstruction occurs frequently. Although our experience with urethral dilatation and urethrotomy was that most of our patients gained only temporary relief from symptoms, we felt that it did give testimony to the existence of bladder outlet obstruction in females.

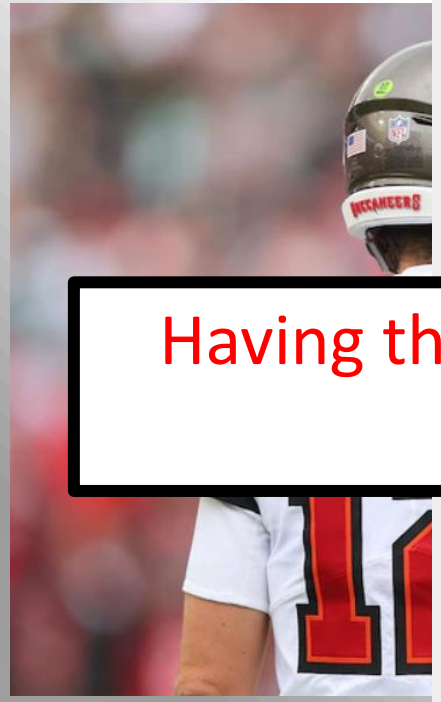


Dr Bohl

Names and taunts might influence children, but not adult medical practitioners

neodymium-doped yttrium aluminum garnet laser capsulotomy

Tachycardia vs B



Abstract

Objective To ascertain whether a name can influence a person's health, by assessing whether people with the surname "Brady" have an increased prevalence of bradycardia.

Design Retrospective, population based cohort study.

Setting One university teaching hospital in Dublin, Ireland.

Participants People with the surname "Brady" in Dublin, determined through use of an online telephone directory.

among non-Bradys (n=991, 0.61%; P=0.03). The unadjusted odds ratio (95% confidence interval) for pacemaker implantation among individuals with the surname Brady compared with individuals with other surnames was 2.27 (1.13 to 4.57).

Conclusions Patients named Brady are at increased risk of needing pacemaker implantation compared with the general population. This finding shows a potential role for nominative determinism in health.

Having the surname Brady makes you 2.27 times more likely to have a pacemaker inserted

Research Christmas 2013: Research
The Brady Bunch? New evidence for nominative determinism in patients' health: retrospective, population based cohort study
BMJ 2013; 347 doi: https://doi.org/10.1136/bmj.f6627 (Published 12 December 2013)
Cite this as: BMJ 2013;347:f6627

Confirmational Bias

is the tendency to search for, interpret, favour, and recall information in a way that confirms or supports one's prior beliefs or values.

Examples: Anti Vaxers Flat Earth Politics Lunatics

Clinically we are driven to find what we expect to find: eg the interactive case in which I expected to find diabetic oedema in a long-term diabetic patient

- 54yo female
- Right Hand movements only- sudden onset PSC
- 6/7.5 unaided left
- Cochlear implant
- I became suspicious Px may have Susac's Syndrome when she stated:

"A young neurologist thought I might have Susac's Syndrome"

Ahhh, yes, I’ve heard of Susac’s syndrome….

Susac's Syndrome

- Triad of deafness, encephalopathy and BRAOs
- First described in 1975
- By 1993 70 cases in the literature
- Female 3:1 Male
- Typically aged 20-40 (16-58)

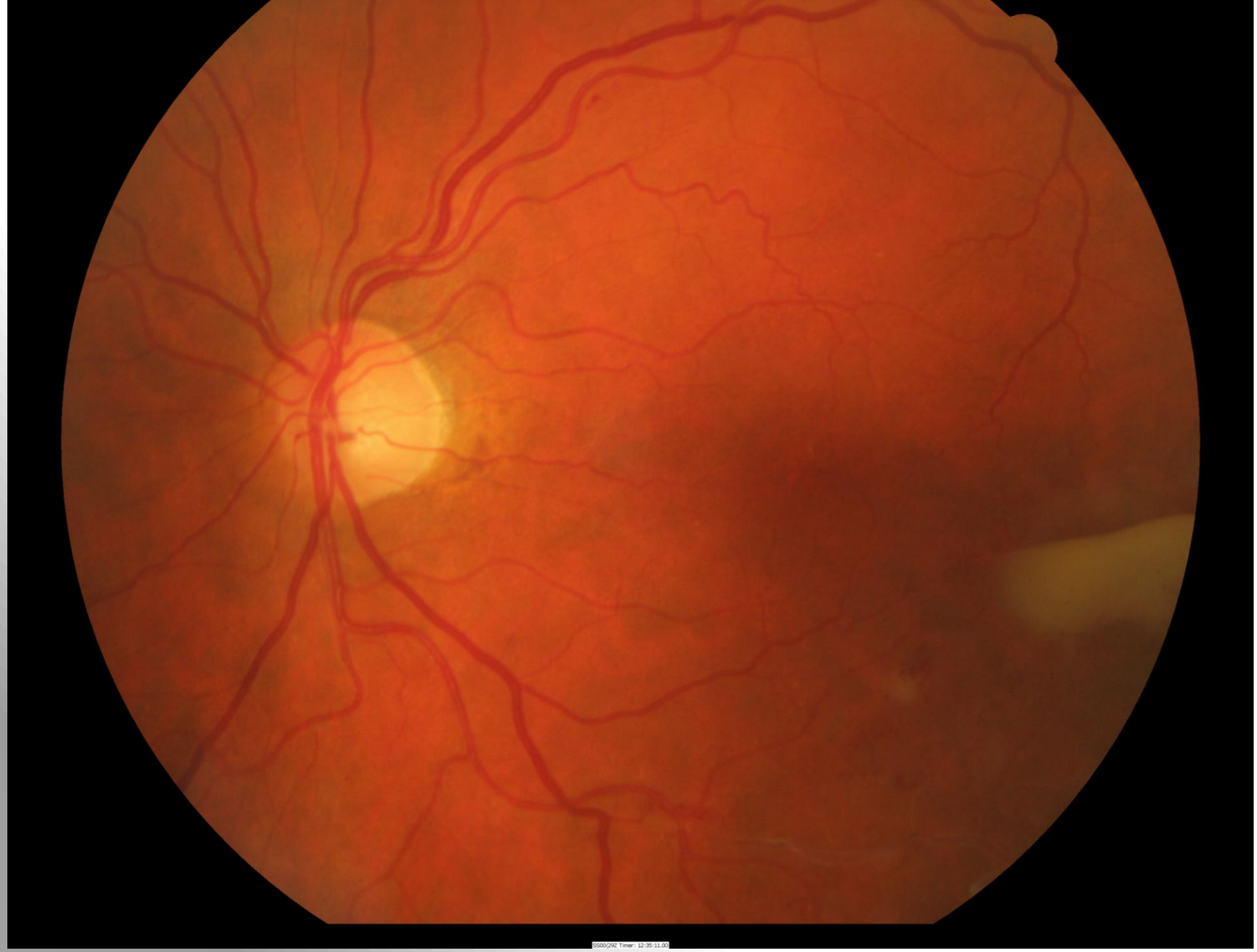
Prognosis

- Autoimmune microvasculopathy
- Self limiting, with course of 1-4 years
- Rarely blindness
- Deafness permanent, but ½ respond well with cochlear implants
- May have psychiatric effects, paranoia, speech disorders and poor extensor plantar responses

- Px reports sudden an profound deafness around three years ago and now has cochlear implant
- Intensive investigation did not reveal cause
- Retrospectively, I feel Px paranoid and speech unusual

Branch Retinal Artery Occlusions

- Gass plaques (retinal arterial wall plaques) that are frequently encountered at the mid segments of the retinal arterioles (Egan). These Gass plaques may be confused with Hollenhorst plaques and the patients may undergo a fruitless cardioembolic workup.
- Silver wiring of arteriole with time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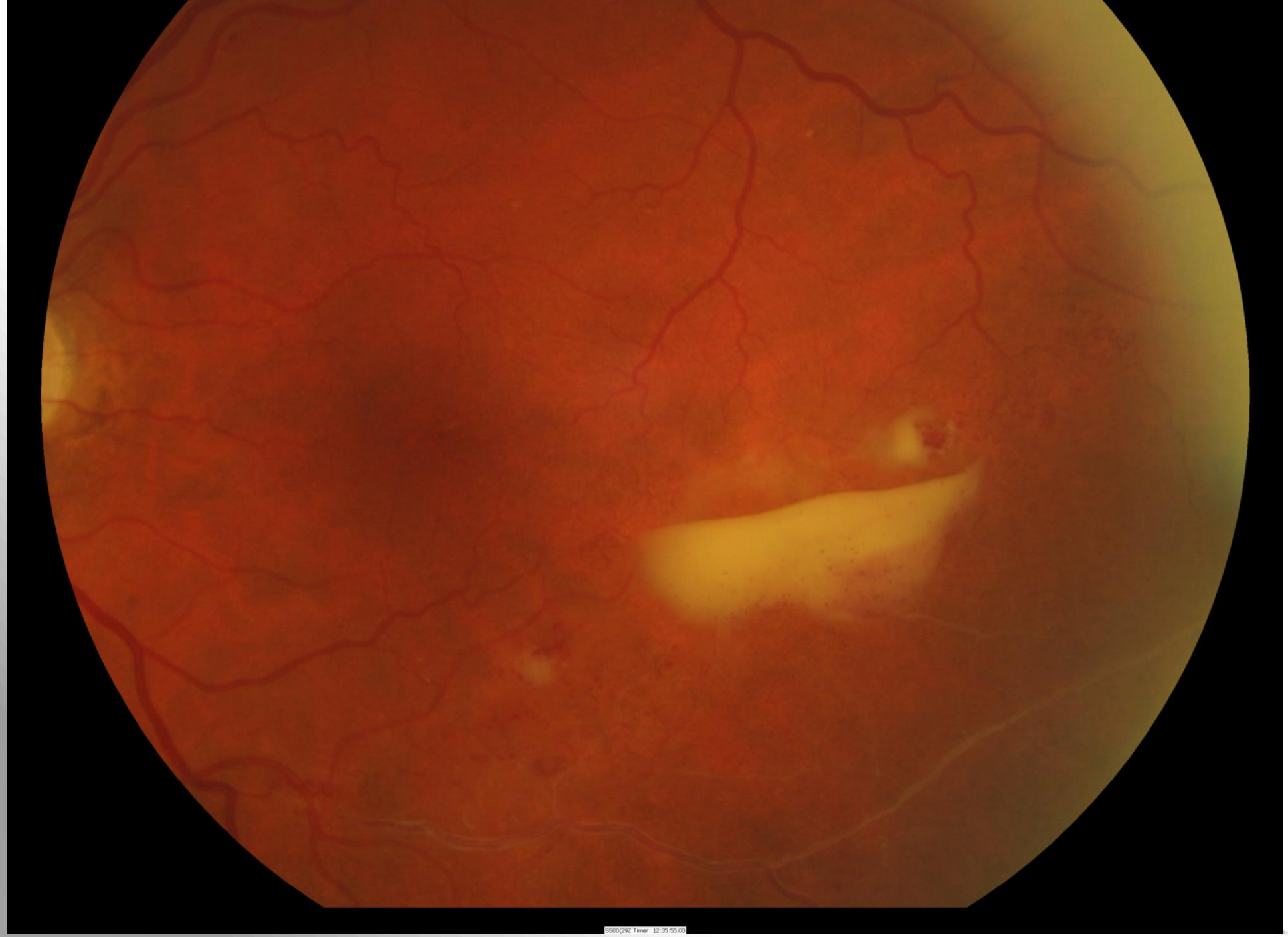
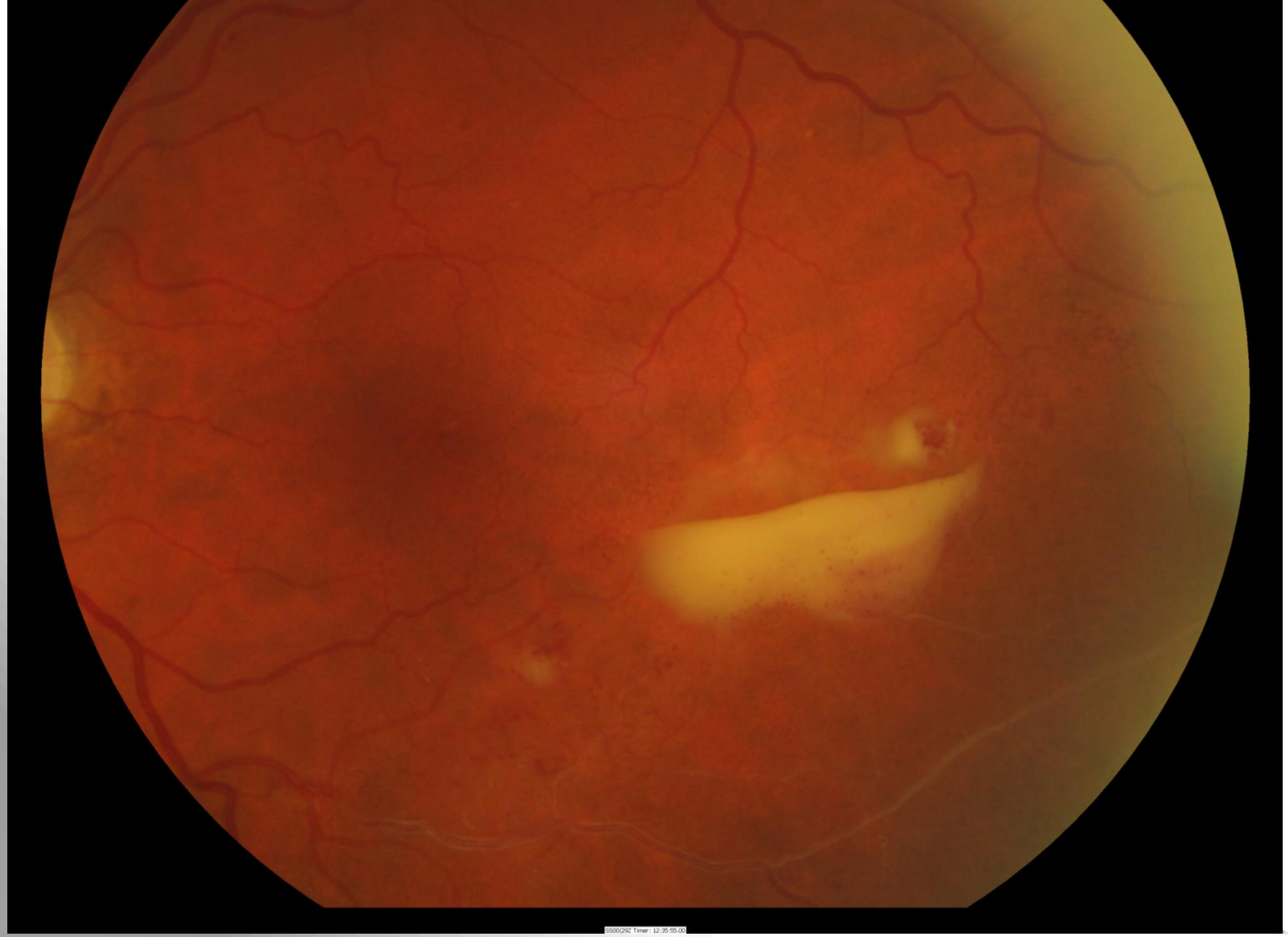


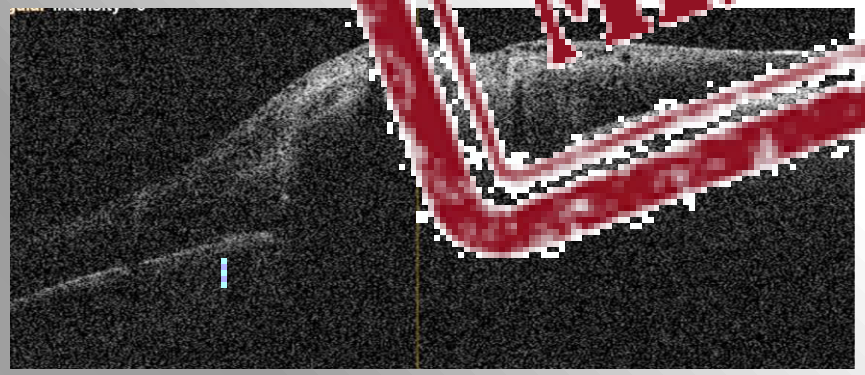
Management

- Refer for cataract surgery, mentioning Susac's Syndrome
- Letter to GP also mentioning Susac's Syndrome
- Consider naming new condition of deafness, encephalopathy, BRAO and PSC "Thomas-Susac's Syndrome



30 yo female

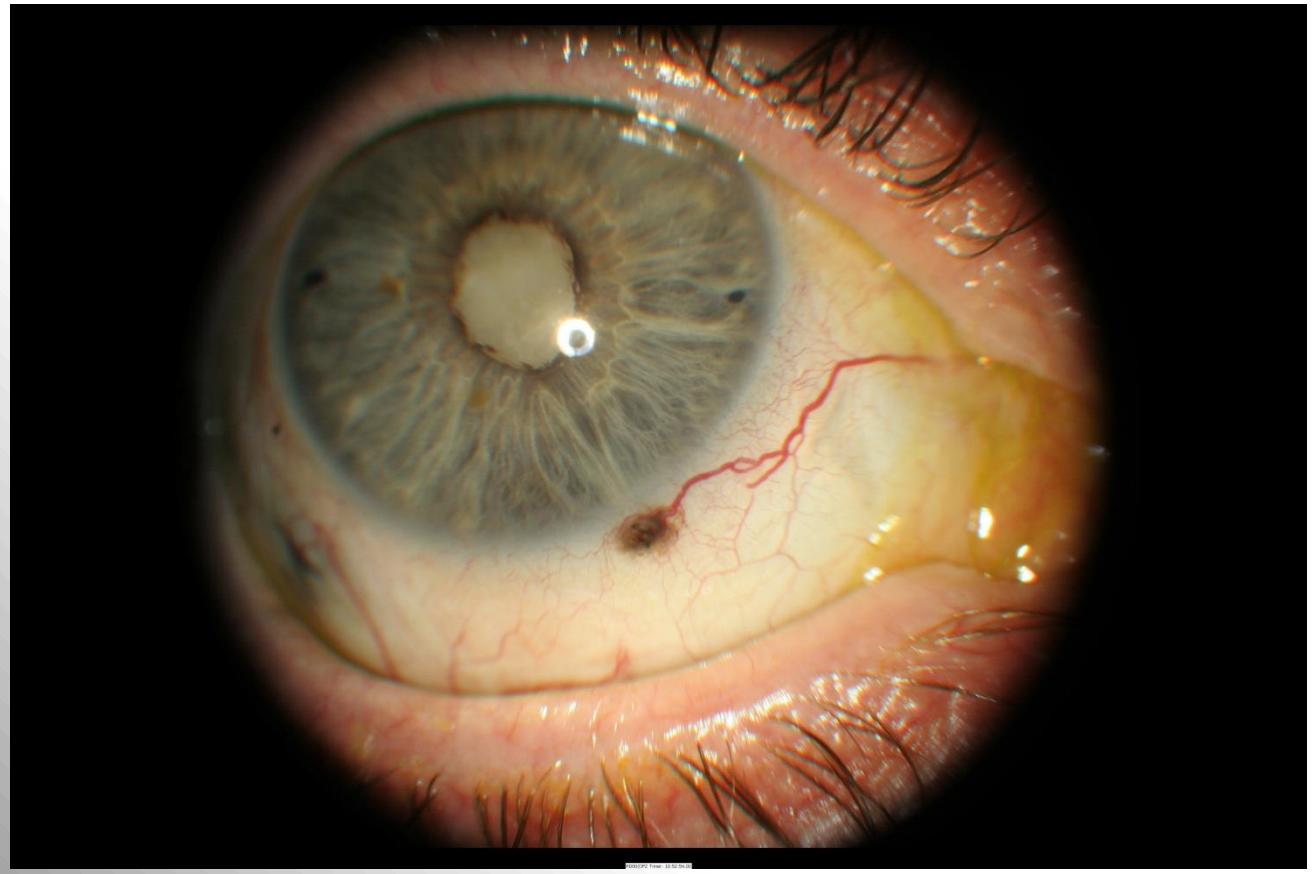
- Friday 5.15pm presentation
- Hand Foot Mouth- lesions on fa
- 2-3+ cells in the AC
- R upper fiel bance



Ahh- but she does also have a retinal detachment

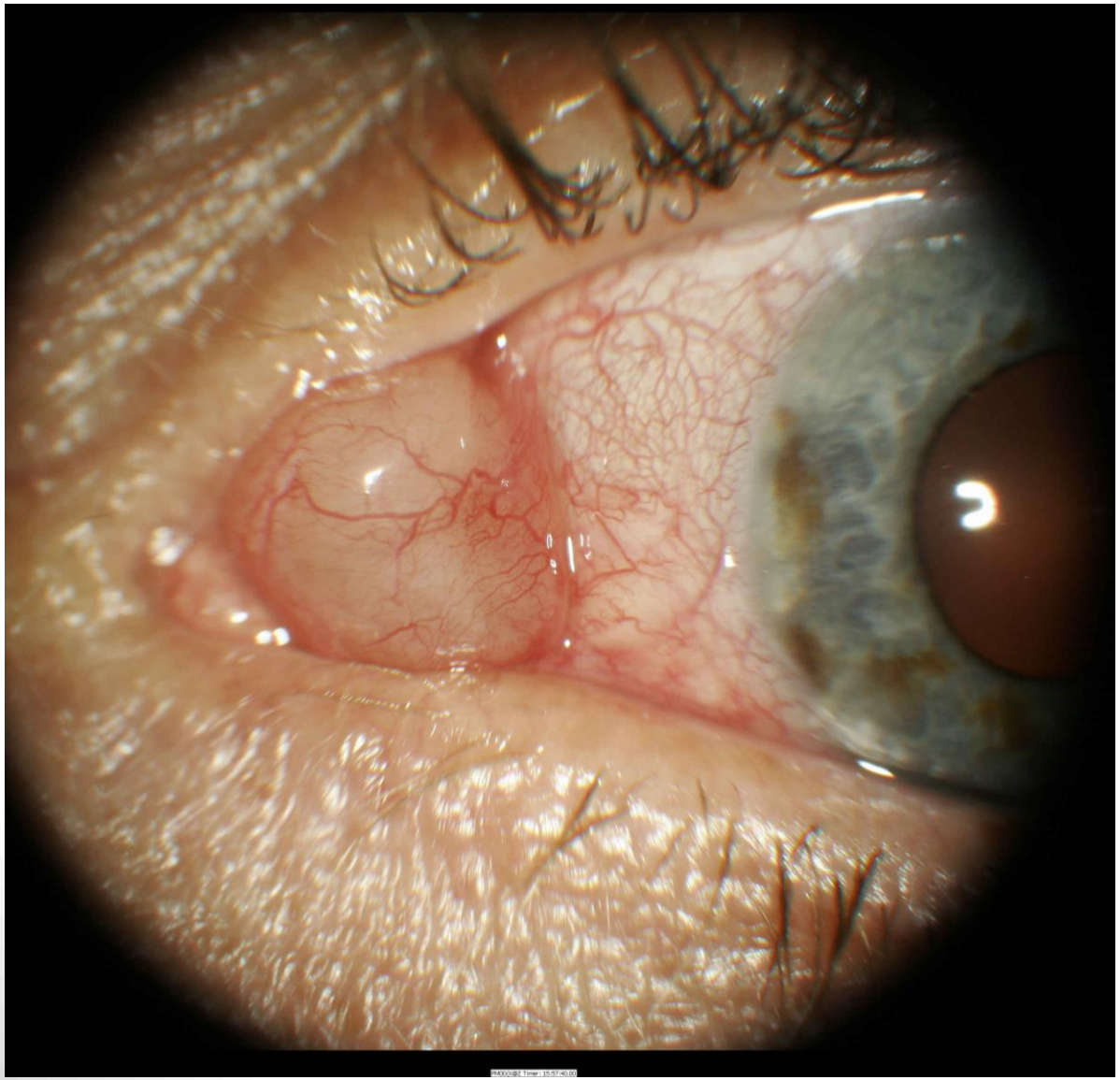
Melanomas and naevi are brown

Brown lesion with feeder vessel= tumour



iridencleisis

- 40 yo male
- “Cyst” inner canthus
- Last twelve months



Incidence/Prevalence

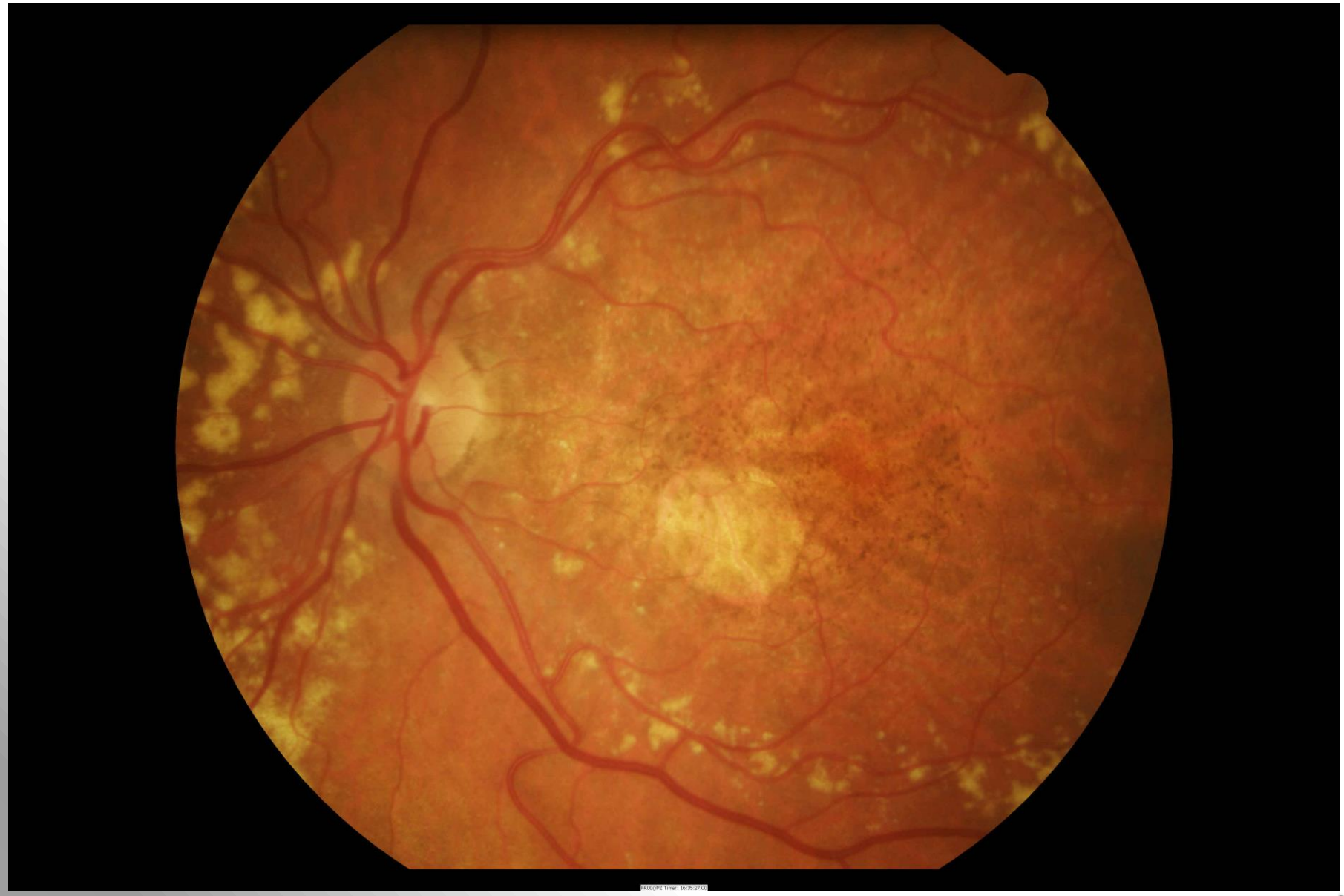
- Malignant melanoma of the conjunctiva accounts for only 2% of all ocular malignancies.
- In Sweden, only 2 new cases of primary malignant melanoma of the conjunctiva were diagnosed in 1987
- the age-standardized incidence of conjunctival melanoma is 0.74 cases per 1 million population in men, and 0.45 cases per one million population in women.
- 10% are unpigmented (incidence ~ 1 in 15 million)

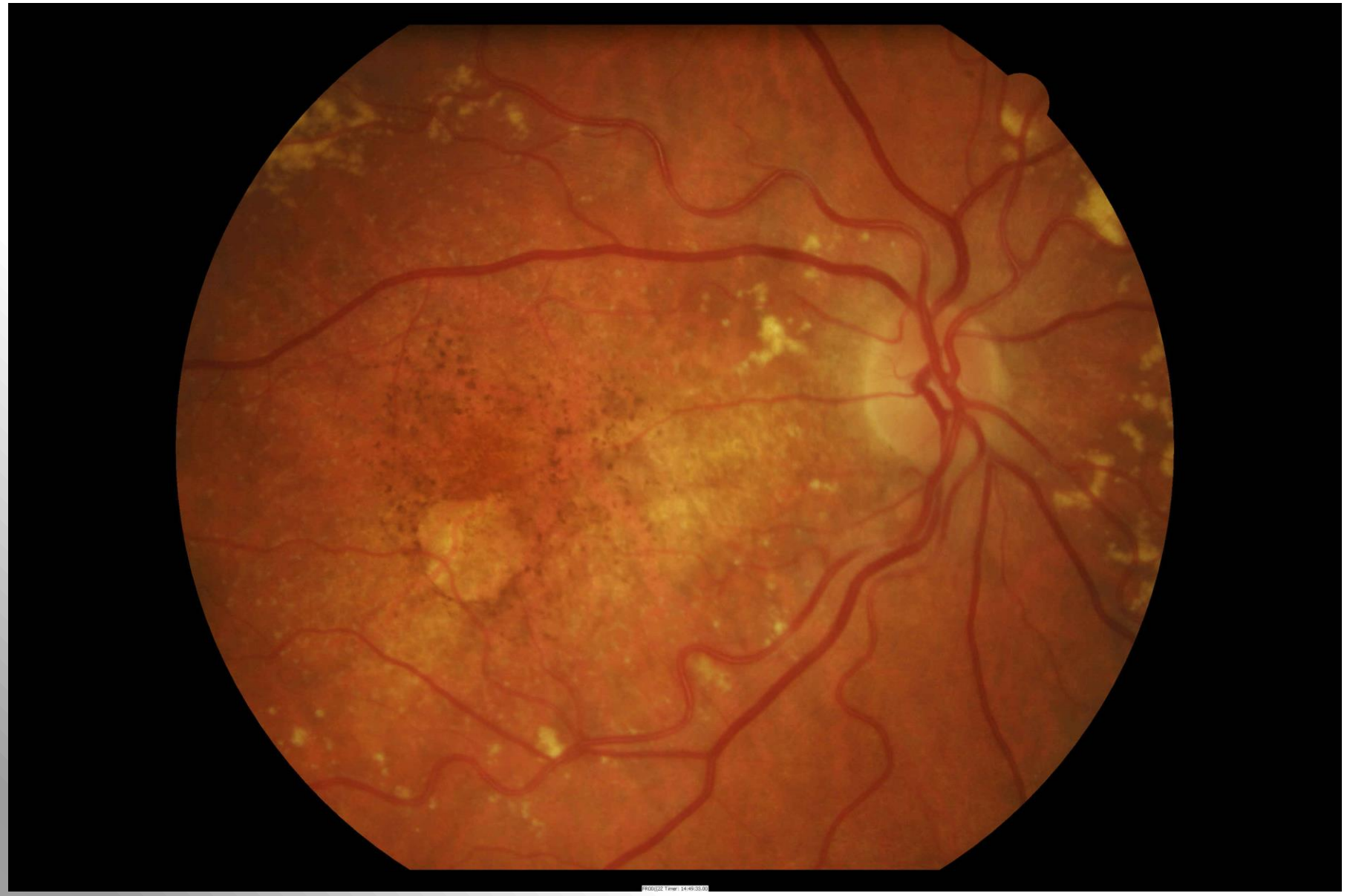
“Ahhh, yes, I have heard of Sorsby’s….”

Sorsby's fundus dystrophy

- Sorsby's fundus dystrophy (SFD) is a rare autosomal dominant macular disorder with age of onset usually in the fourth decade.

- It is characterised by loss of central vision owing to subretinal neovascularisation and disciform macular degeneration.

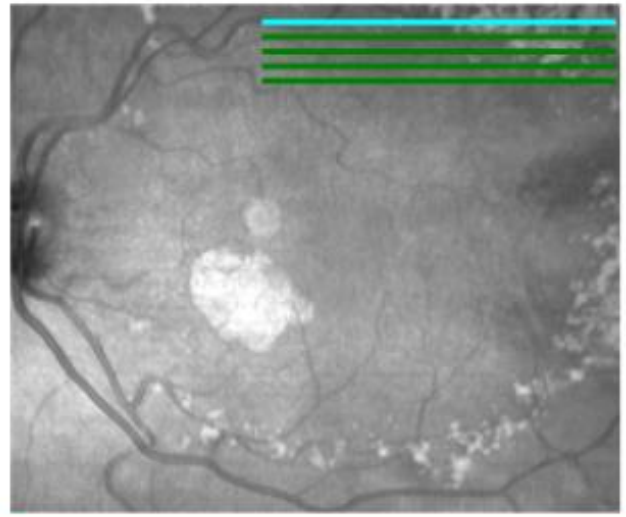


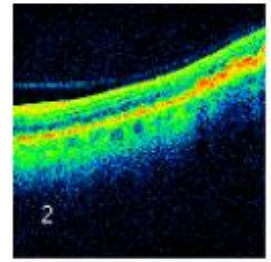


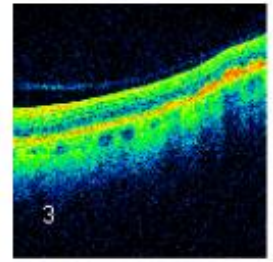
High Definition Images: HD 5 Line Raster

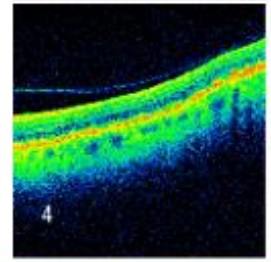
OD ○ | ● OS

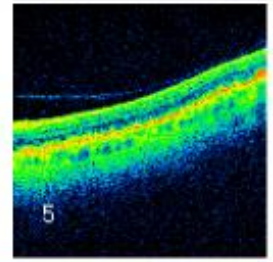
Scan Angle: 0° Spacing: 0.25 mm Length: 6 mm

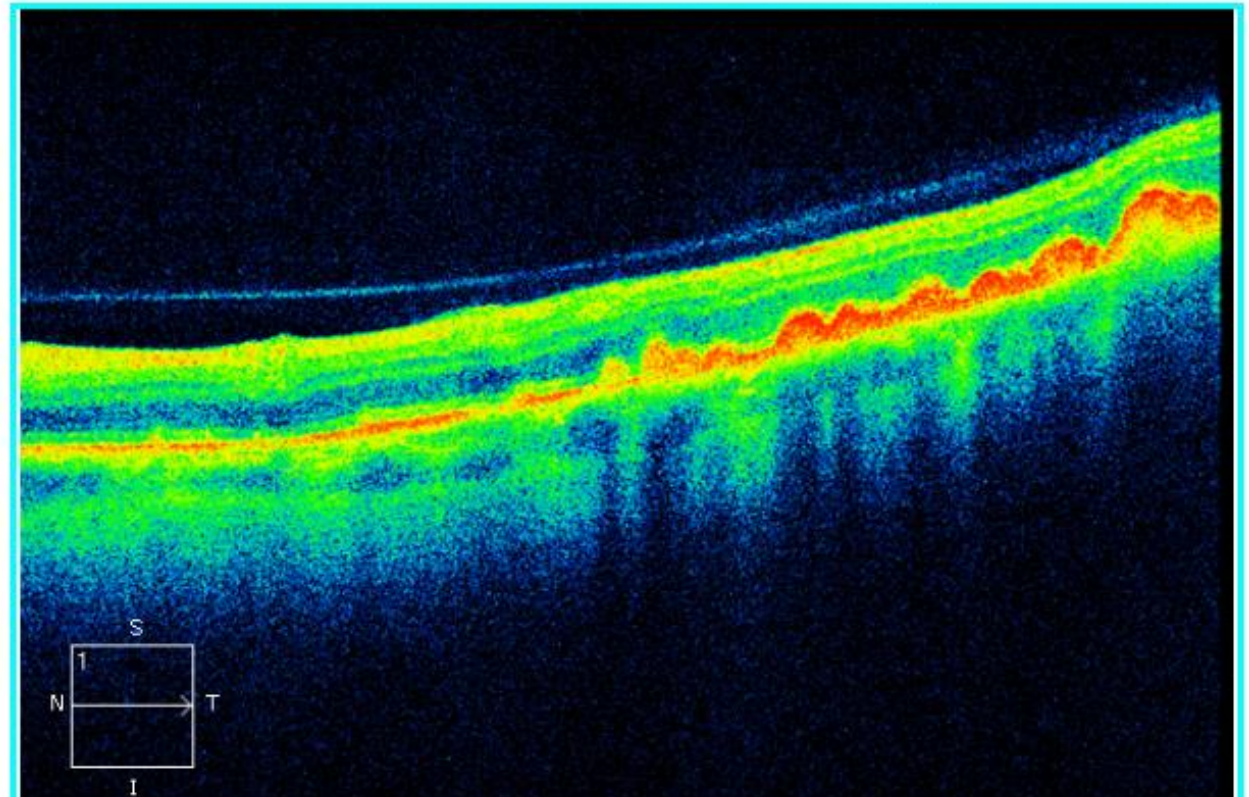






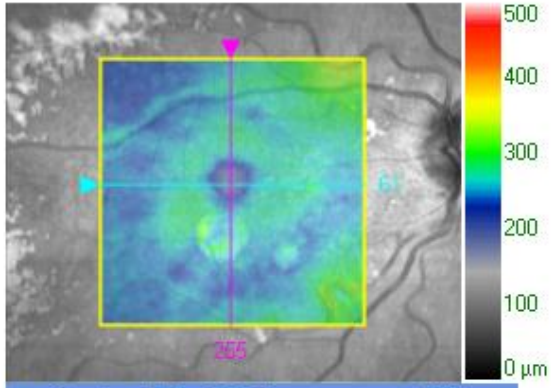


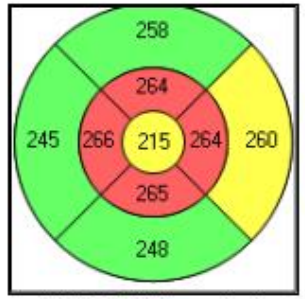




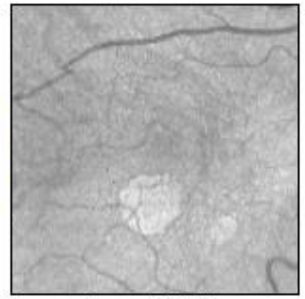
Macula Thickness : Macular Cube 512x128

OD ● ○ OS

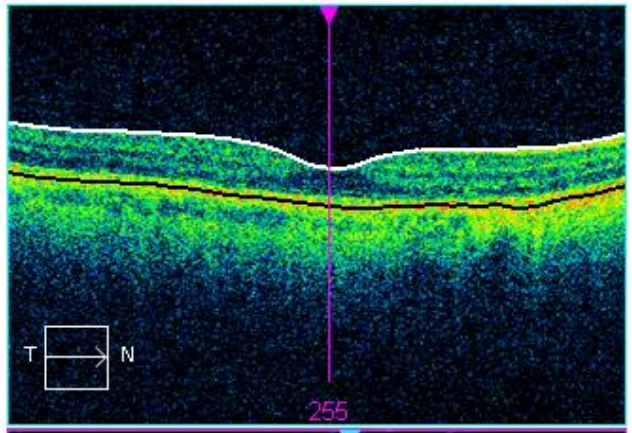


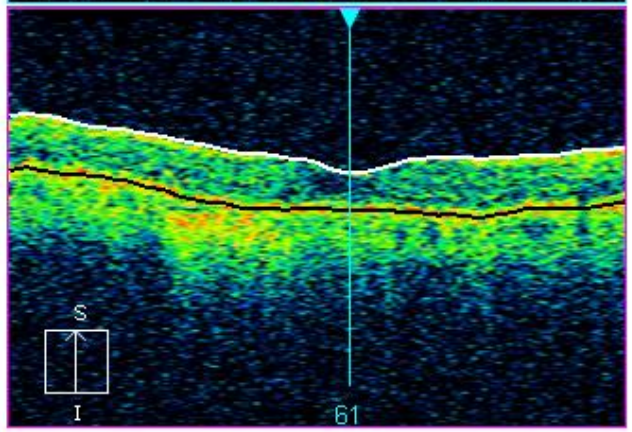


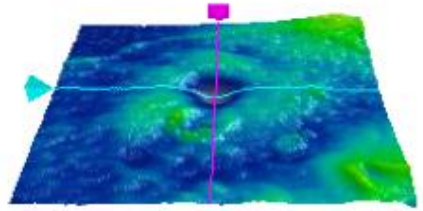
ILM-RPE Thickness (µm)



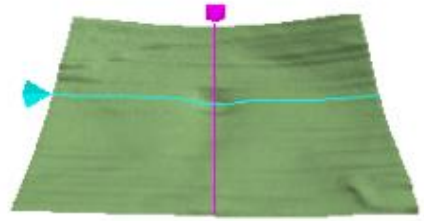
Fovea: 255, 61



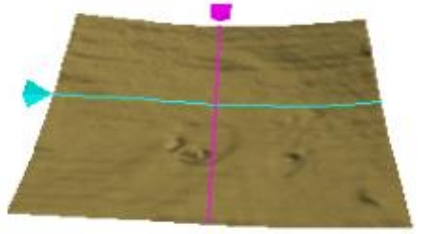




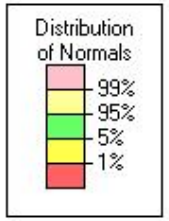
ILM - RPE



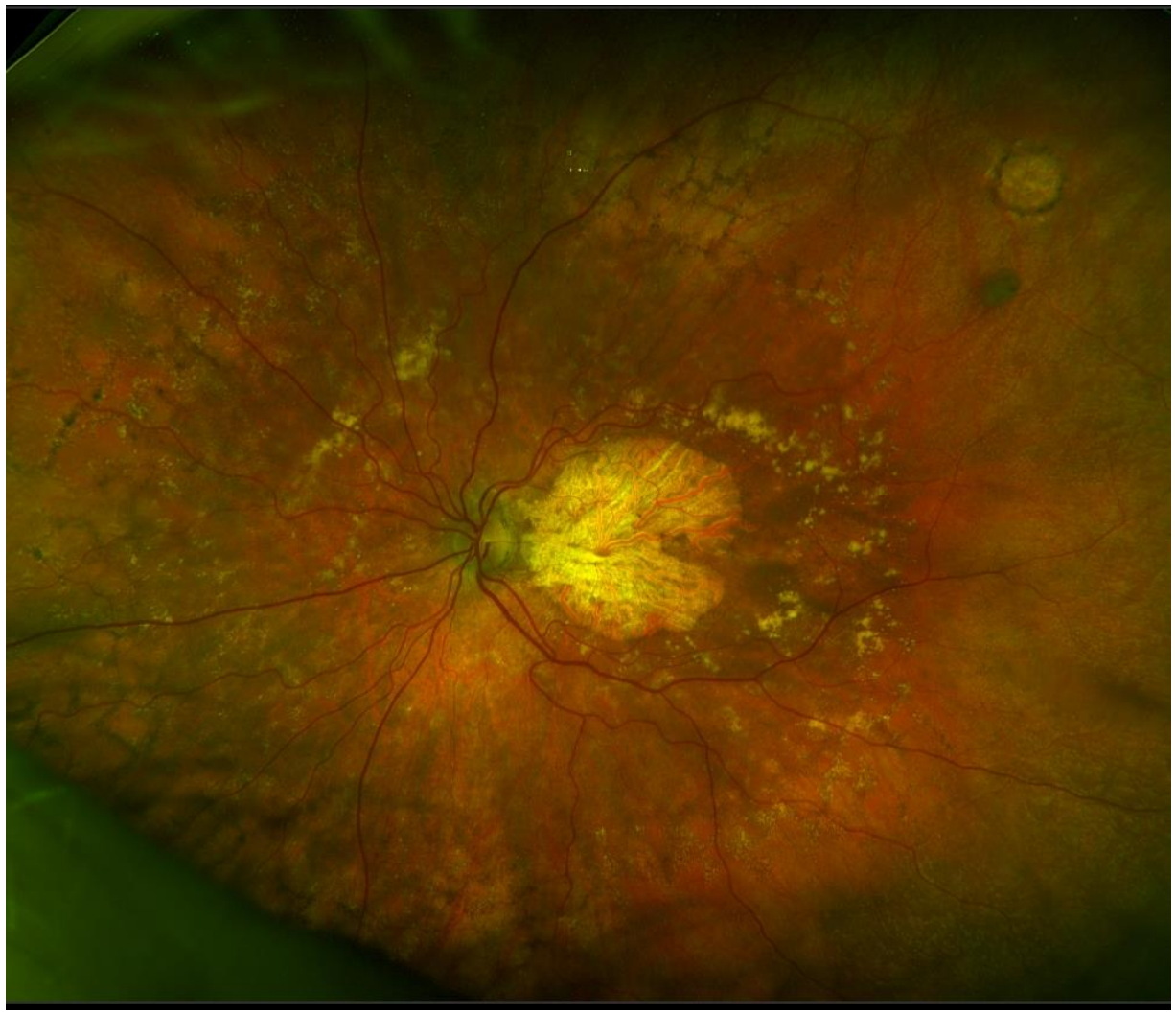
ILM

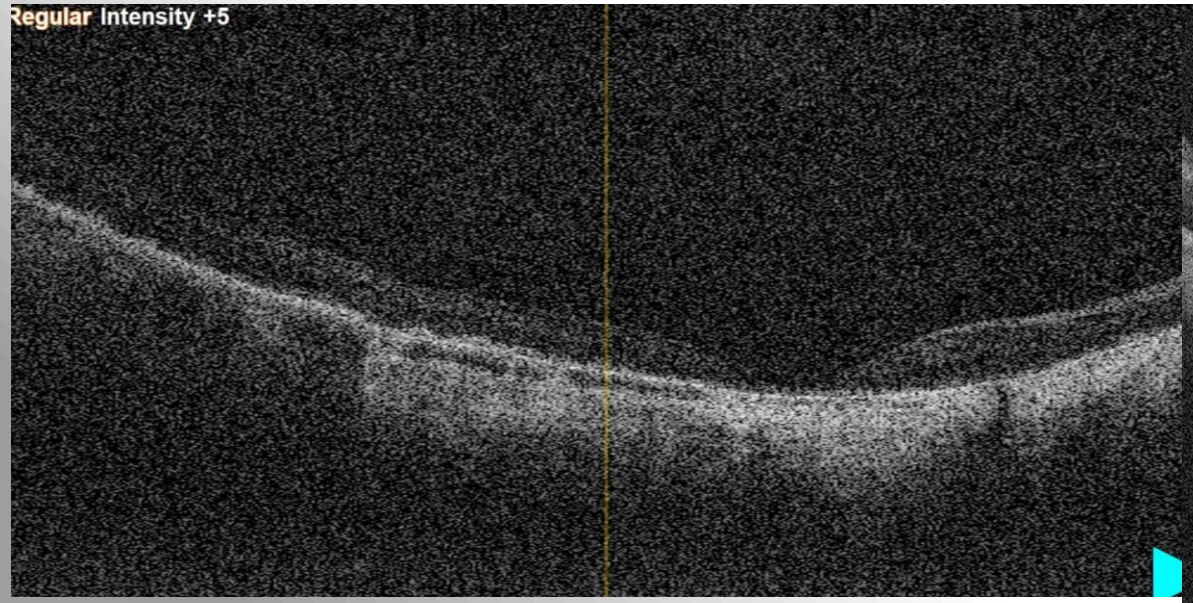


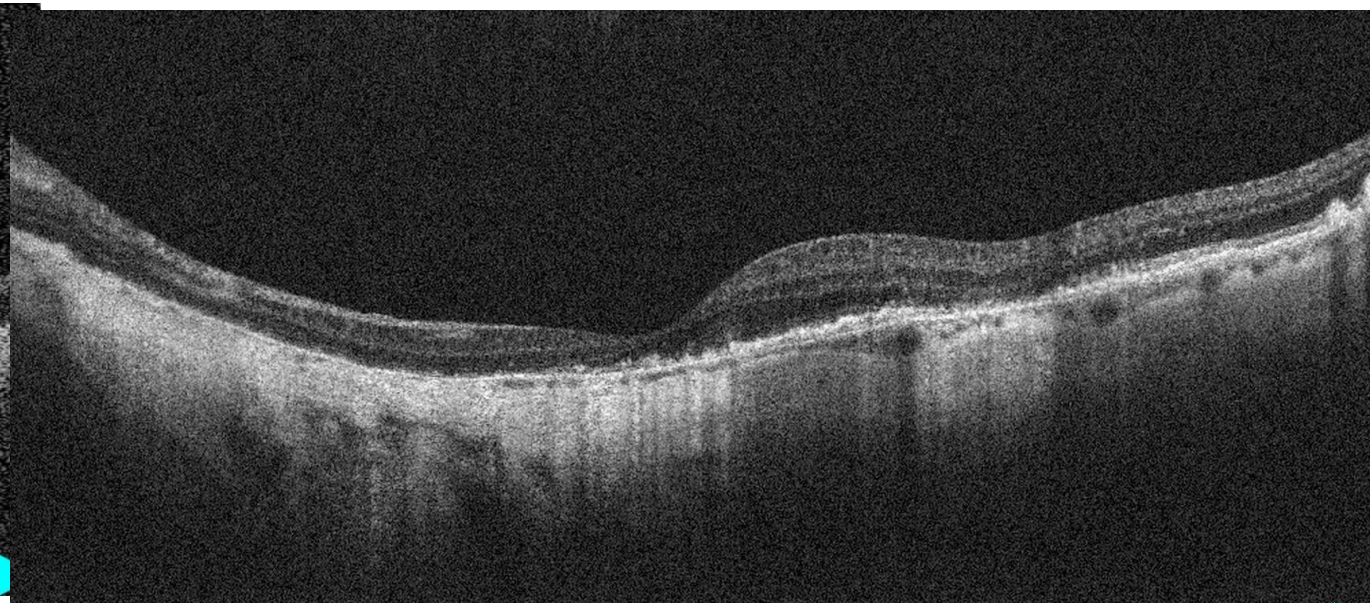
RPE



	Central Subfield Thickness (µm)	Cube Volume (mm³)	Cube Average Thickness (µm)
ILM - RPE	215	9.3	257




Regular Intensity +5



Angle closure won’t happen after cataract surgery

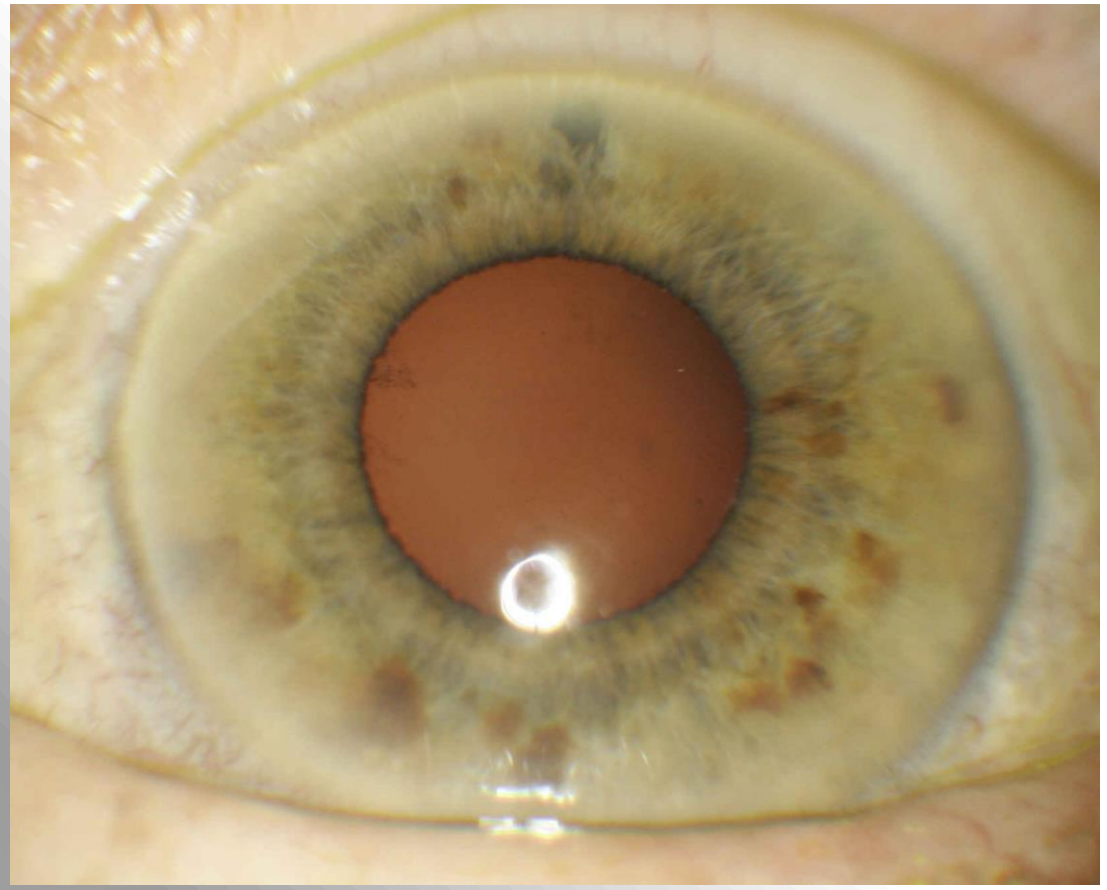
Angle closure post cataract extraction

- Caucasian female
- Bilateral cataract extractions
- Known to have bilateral PXF

- 11 years after cataract Sx developed left angle closure with an IOP of 70mmHg while in Stockholm, was flown to Scotland for YAG PIs

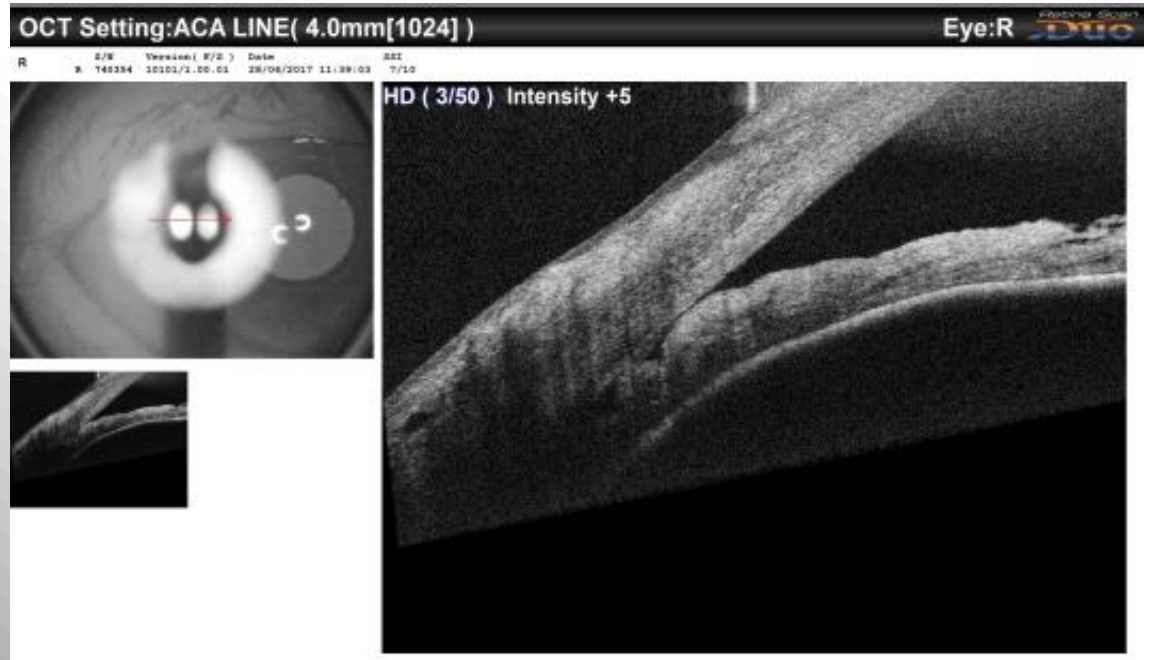
- On return to Oz, angle was assessed as closed 270 degrees and the PIs were enlarged

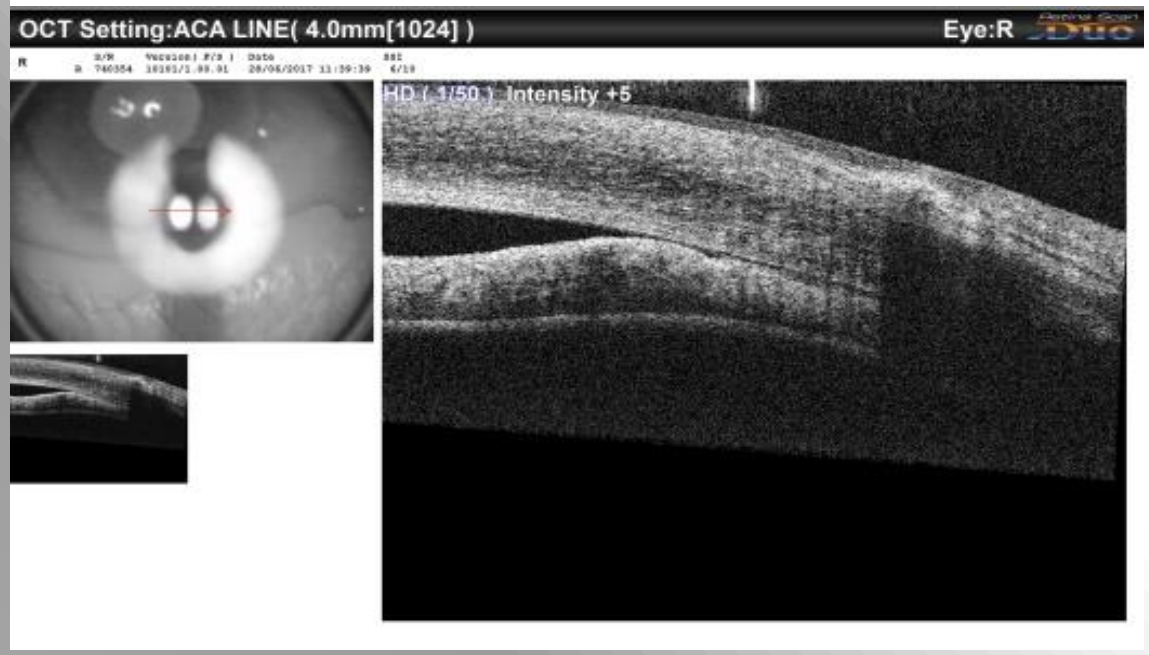
- 24 years after cat Sx developed left eye pain similar to original ACG event
- Angle determined to be closed due to lens dislocation
- Lens removed, anterior vitrectomy performed, surgical PI and anterior chamber lens inserted

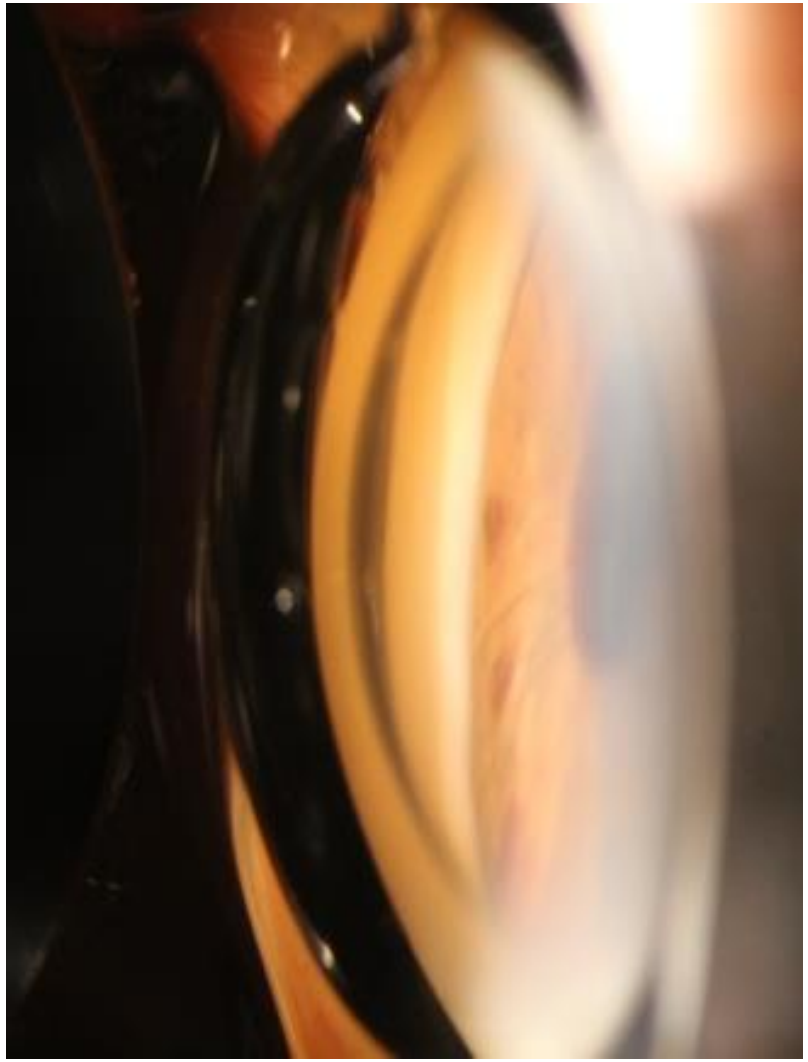


…and now for the right eye:

- mild RIGHT pain and haloes around lights.
- AC deep centrally, but the Van Herrick was 0.25
- Angle was open only in 180 degrees.
- IOP 56mmHg.
- YAG peripheral iridotomy was performed, Prednefrin Forte and Combigan were prescribed and an immediate drop in pressure to 28mmHg was measured. A series of visits subsequently has seen the intraocular pressure drop to 10mmHg in both eyes.


OCT Setting:ACA LINE(4.0mm[1024])
Eye:R
HD (3/50) Intensity +5


OCT Setting:ACA LINE(4.0mm[1024])
Eye:R
HD (1/50) Intensity +5



Discussion

- Cataract surgery is considered to be one of the interventions of choice in patients with lens induced angle closure such as the phakomorphic and microspherophakic forms of glaucoma.

- It is expected that cataract extraction will usually result in a deepening of the anterior chamber and opening of the anterior chamber angle.

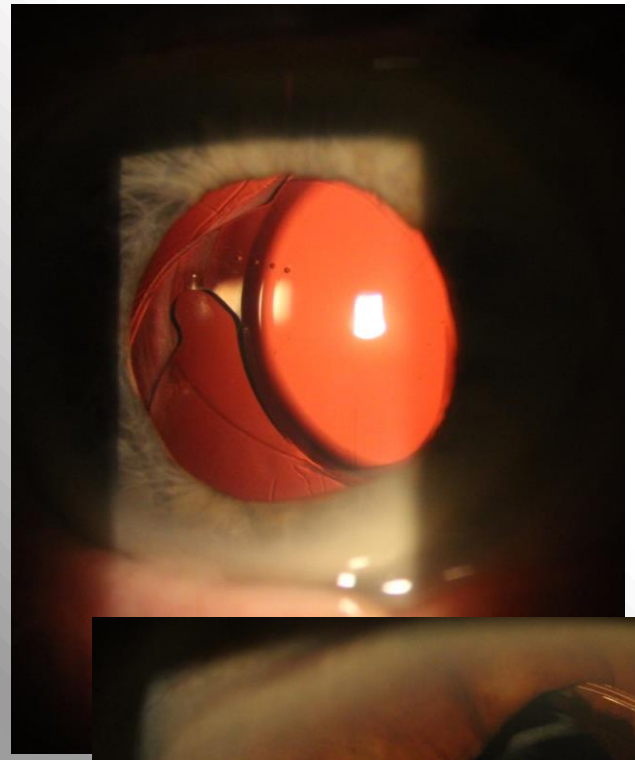
- The most common examples of angle closure in pseudophakpia are cases of angle closure secondary pupil block, often from uveitis.

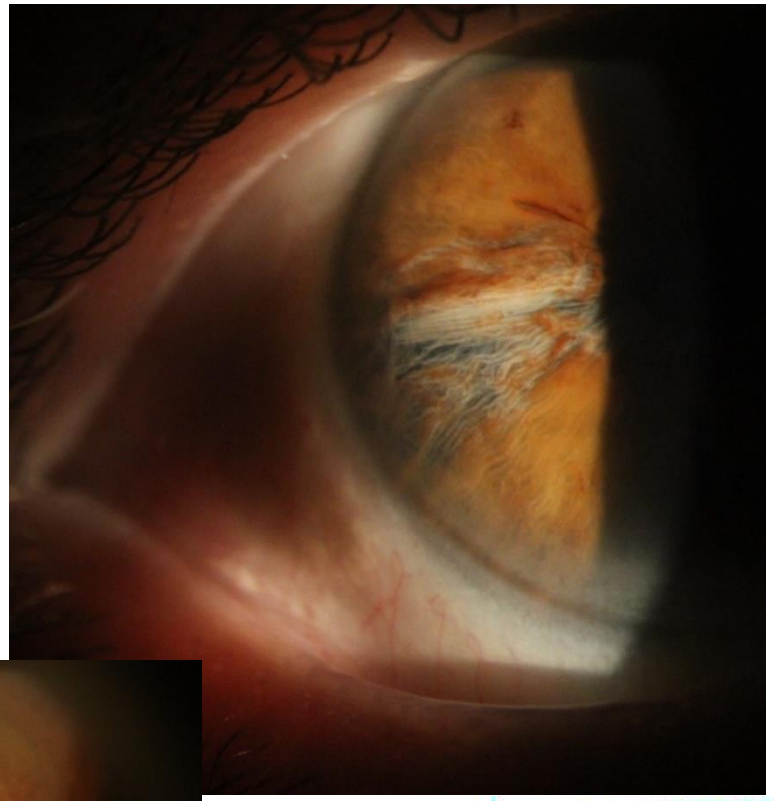
Late pseudophakic dislocation

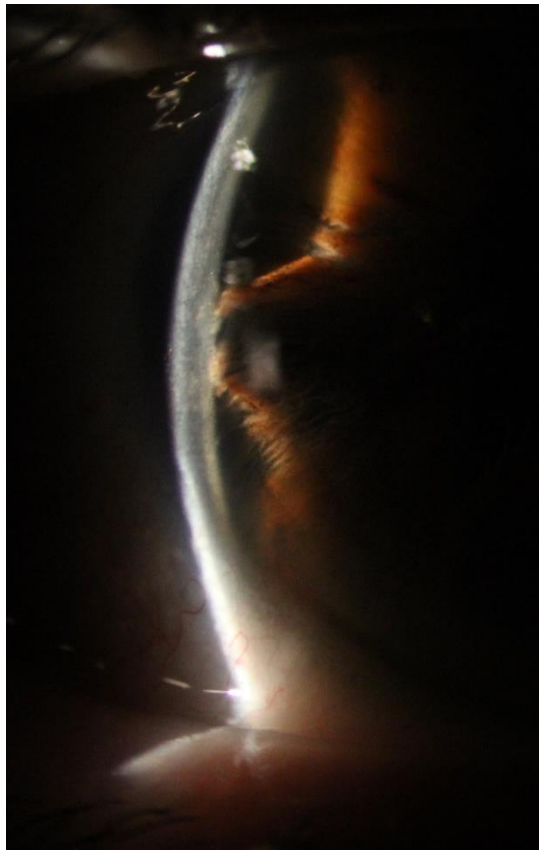
- late pseudophakic dislocation can also occur following cataract surgery. While it has been reported in the literature as an uncommon event there is a cumulative risk of late posterior chamber IOL dislocation estimated at 0.1% at 10 years after cataract extraction, increasing to 1.7% at 25 years.

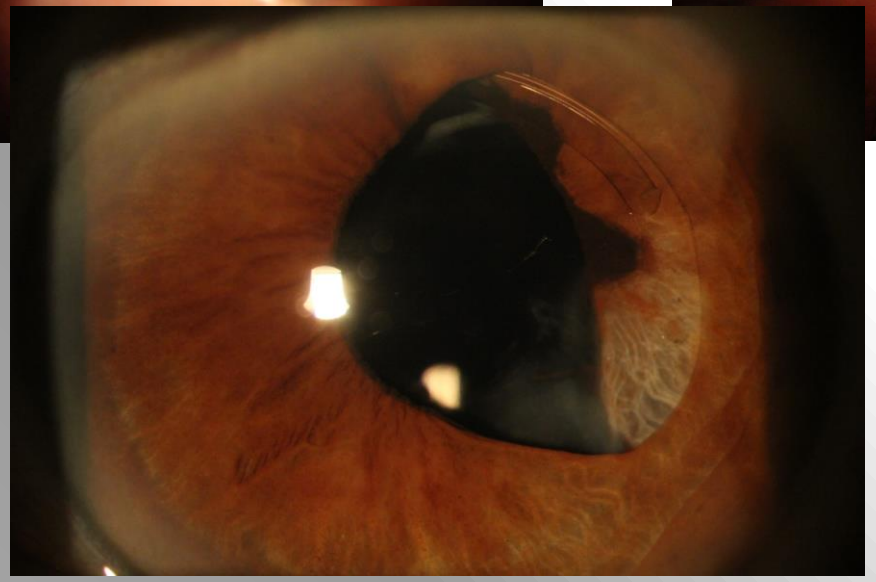
- This can be associated with pseudoexfoliation (44-60%) uveitis (16%) and trauma (16%) retinitis pigmentosa (10.7%).

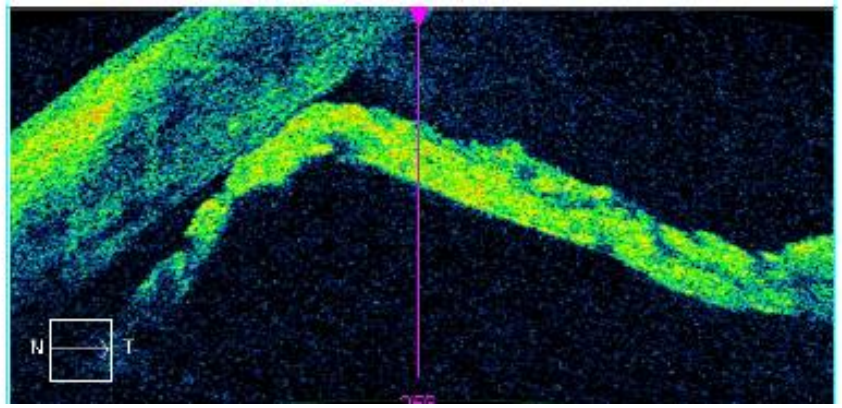
Mislocation of IOLs



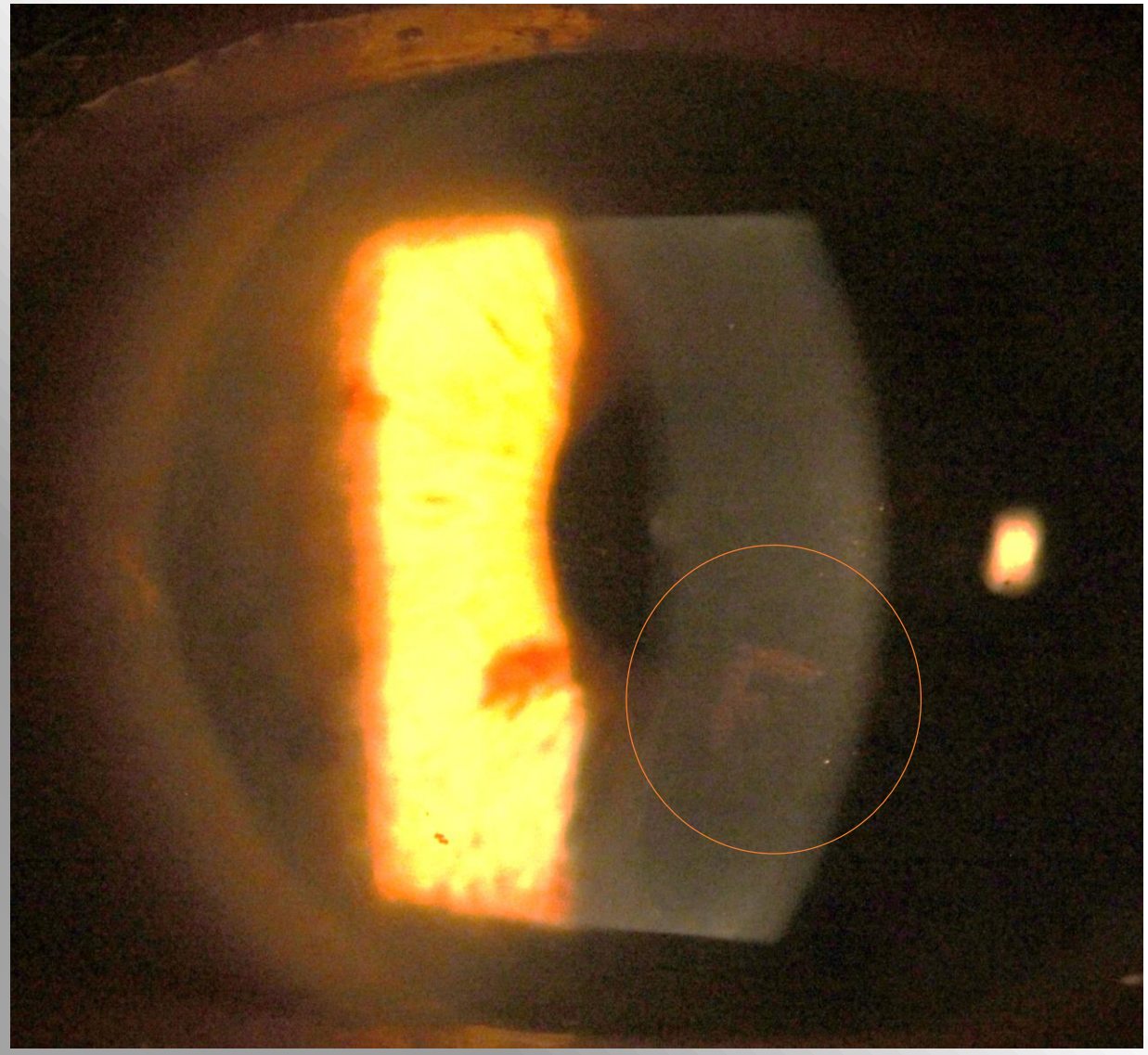


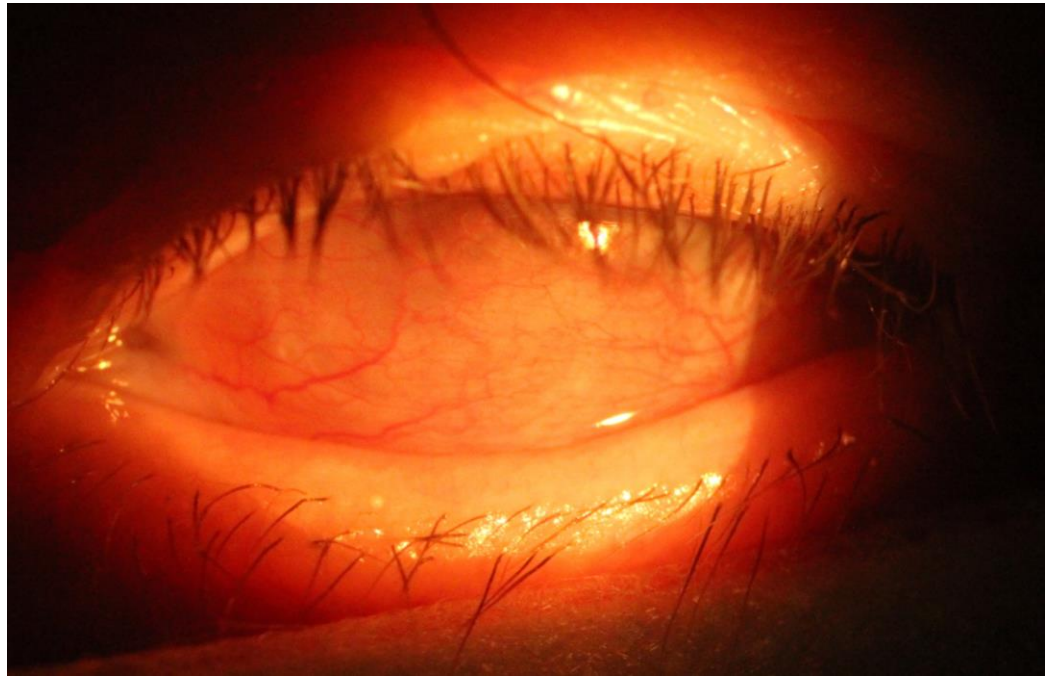






Interactive Session 2: What the “F”???

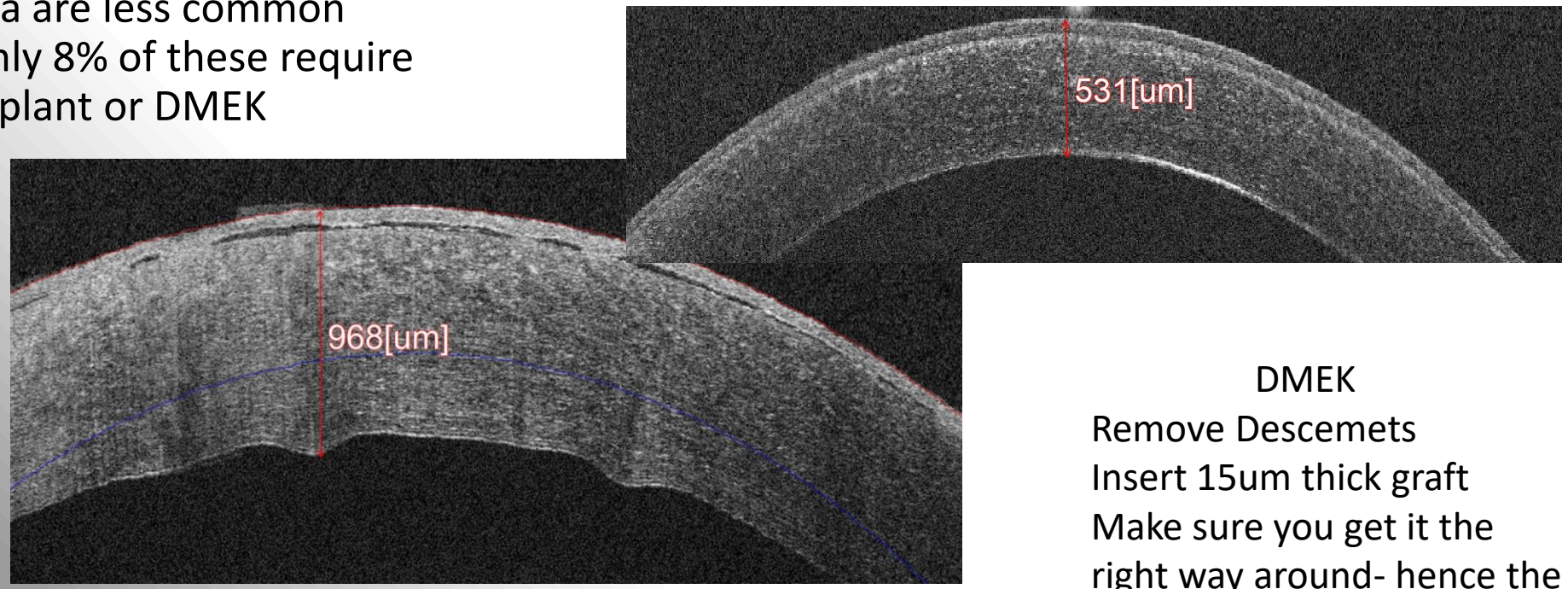




Descemet's Membrane Detachment

- Small detachments at the point of incision are common with cataract surgery (up to 45%)

- Large scale detachments involving central cornea are less common (0.5%) and only 8% of these require corneal transplant or DMEK



Int J Ophthalmol. 2016; 9(12): 1839–1842.
Descemet's membrane detachments post cataract surgery: a management paradigm
Chameen Samarawickrama,1,2 Jacqueline Beltz,2,3 and Elsie Chan

DMEK
Remove Descemets
Insert 15um thick graft
Make sure you get it the right way around- hence the "F" mark
Gas tamponade

Young healthy people have migraine, older people have TIAs…

and I write reassuring letters to GPs

“Many thanks for referring S. She presented this afternoon complaining of three episodes of metamorphopsia which have occurred in the last week. The initial episode was a paracentral scotoma, in which leading letters were missing on road signs. The latter two episodes gave the impression of water running over the vision. These episodes were painless and each one lasted for several minutes.

Pleasingly, S’s vision is excellent in all regards and there is no permanent visual damage. There are no optic nerve head or retinal vascular abnormalities detected. Specifically no emboli were seen.

S reports that she felt better after lying down, and that she had consumed a lot of red wine and chocolate prior to these events. S also can recall experiencing a migraine as a child.

I feel it is most likely that she has experienced ophthalmic migraine. I have asked her to return if she has any concerns.”

- Coffee shop consultation: “I need to see a specialist about my macula, who should I see?”
- Preceding Sx have led to further investigations
- Been placed on Gilenya

GILENYA™ (fingolimod) capsules 0.5 mg

GILENYA is the first once–daily* pill for relapsing forms of multiple sclerosis (MS).

While it does not cure MS, GILENYA gives people with MS something to talk to their doctor about – fewer relapses, a slowing down of the physical problems that MS causes, and freedom from injections.

Macular oedema occurred in 0.4% of patients. (0.1% controls) An adequate ophthalmologic evaluation should be performed at baseline and 3-4 months after treatment initiation.

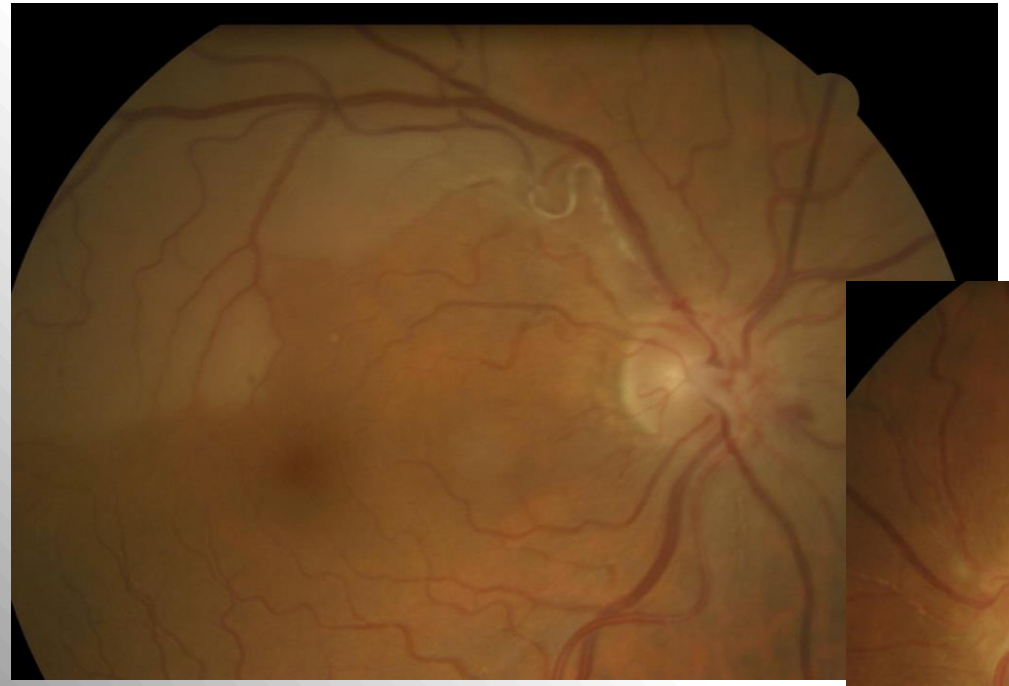
Macular oedema occurred predominantly in the first 3-4 months of therapy.

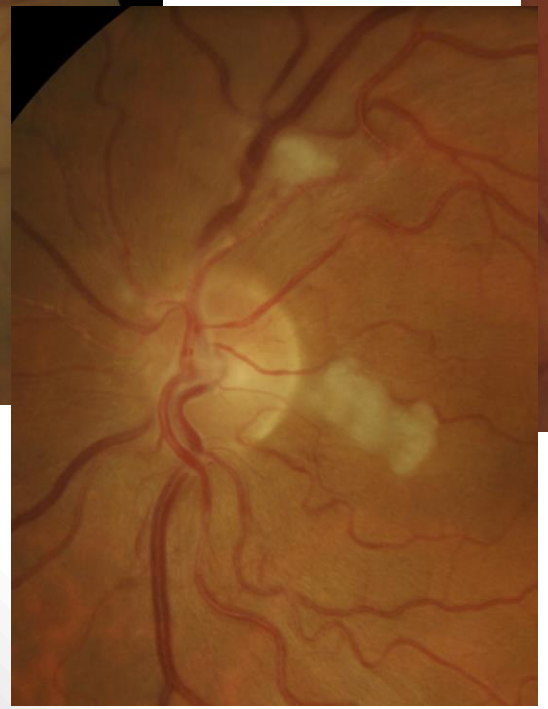
Gilenya: DM and uveitis

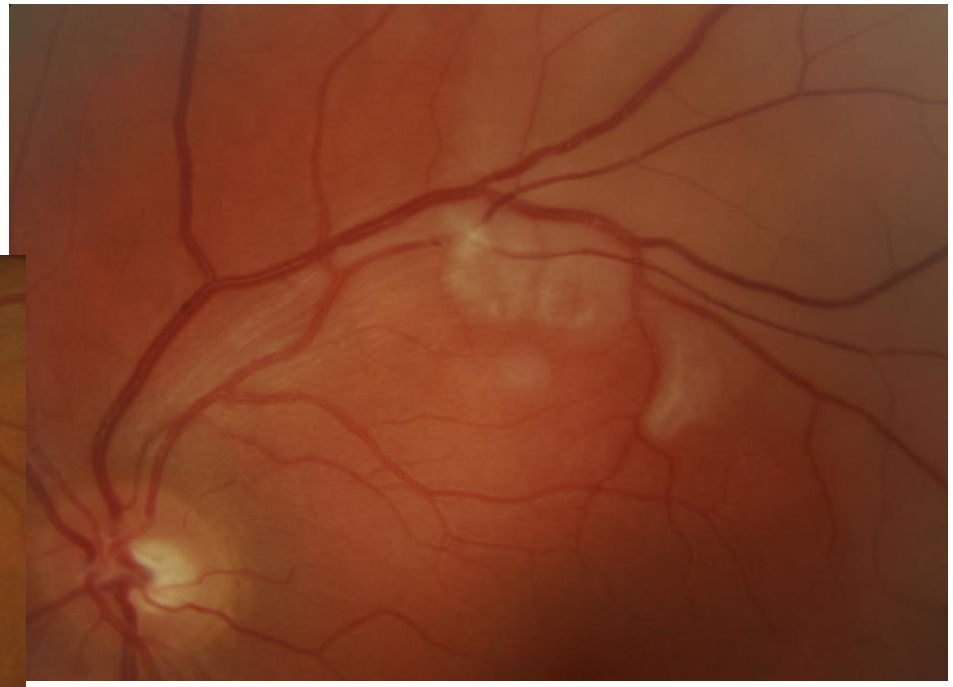
Patients with a history of uveitis and patients with diabetes mellitus are at increased risk of macular edema during GILENYA therapy.

The rate was approximately 20% in patients with a history of uveitis vs. 0.6% in those without a history of uveitis.

Retinal emboli come from the carotid bifurcation







40yo male

Fibrin defect

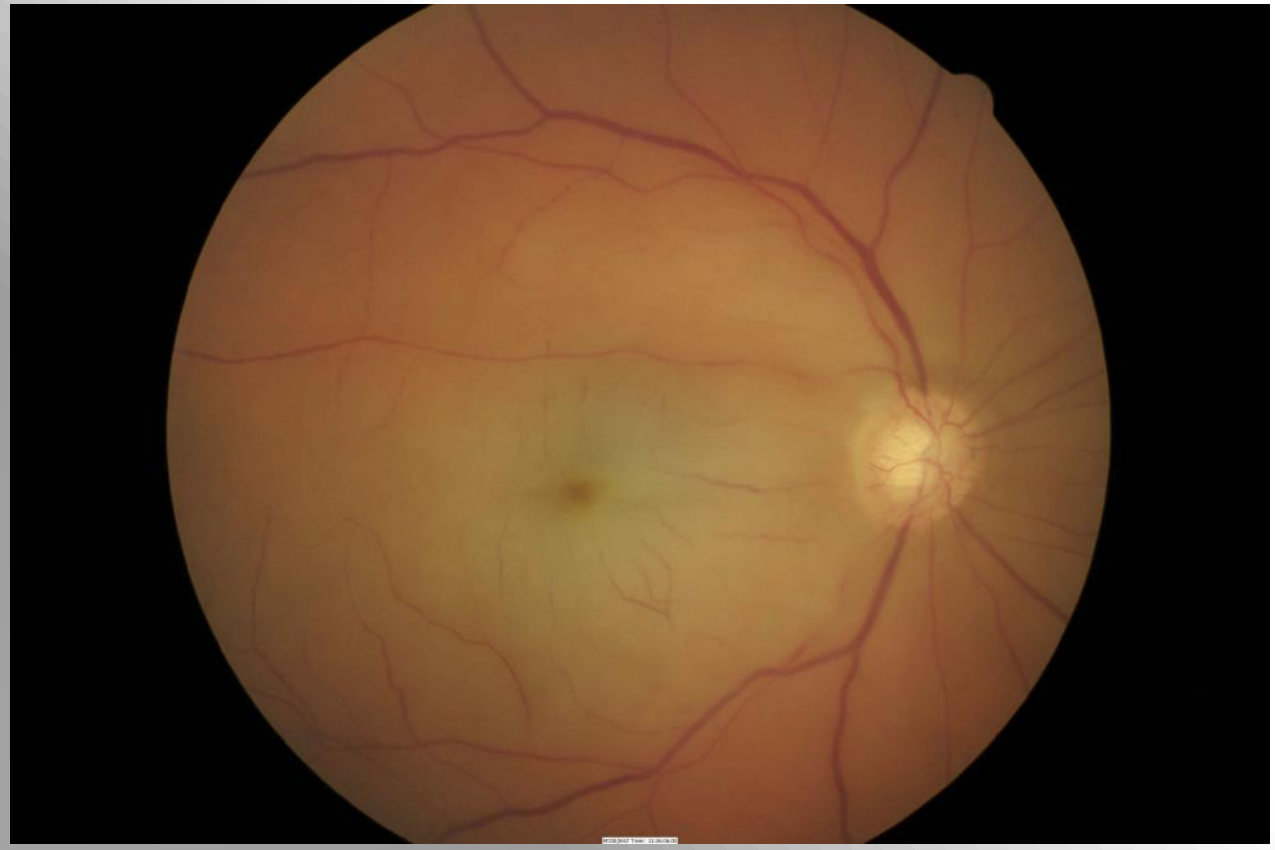
30 yo female

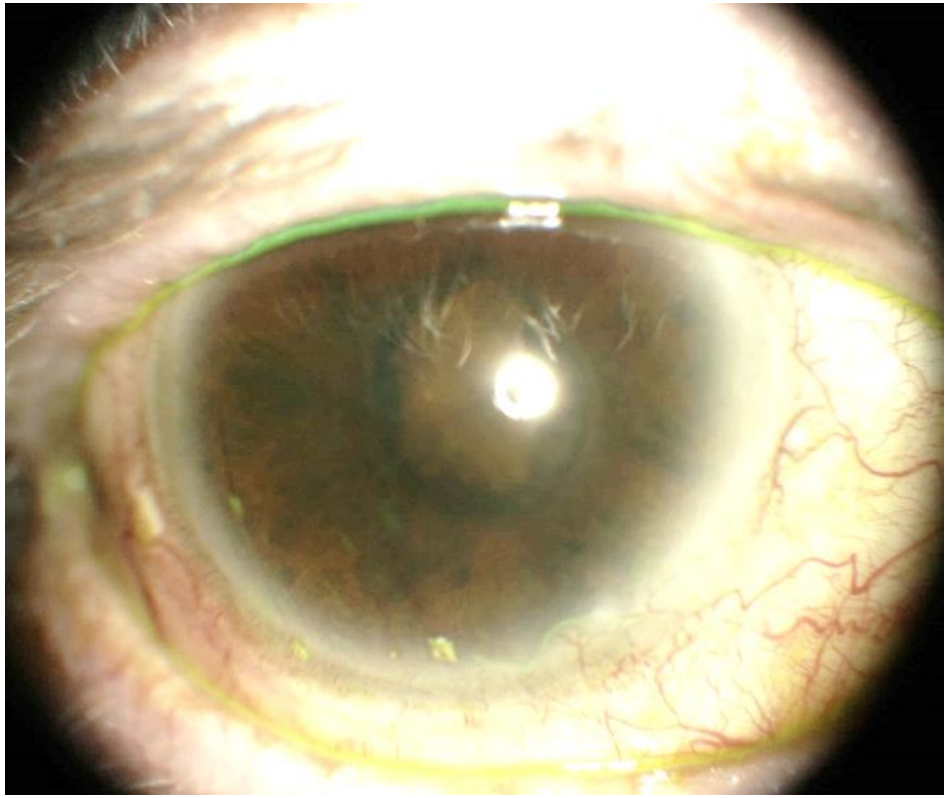
PFO

- Not all emboli come from the carotid bifurcation

Neovascularisation happens only with venous occlusions rather than arterial occlusions

88 year old
CRAO
Neovascular Glaucoma

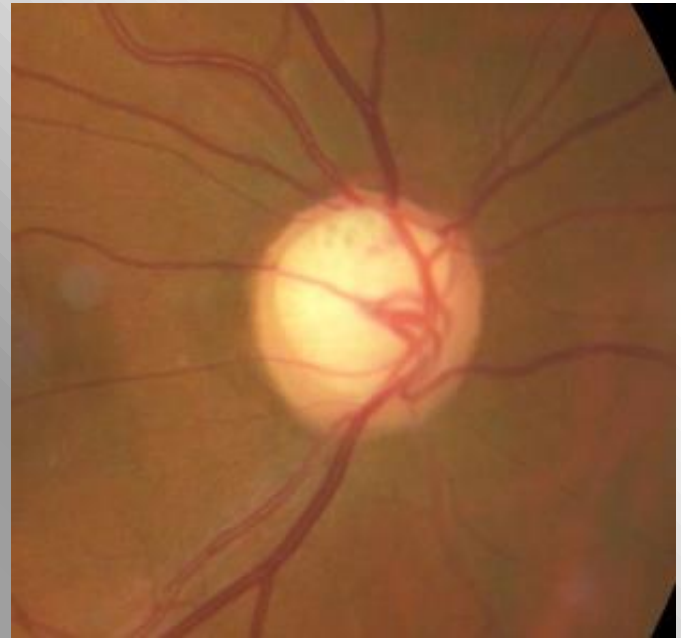


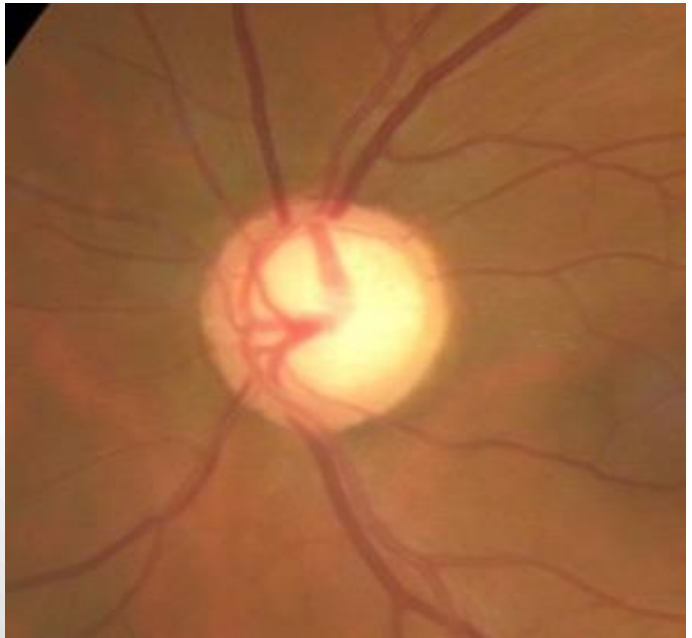


Iris neovascularization as a complication of central artery occlusion Klin Monatsbl Augenheilkd. 2005 Apr;222(4):

18% developed NVG

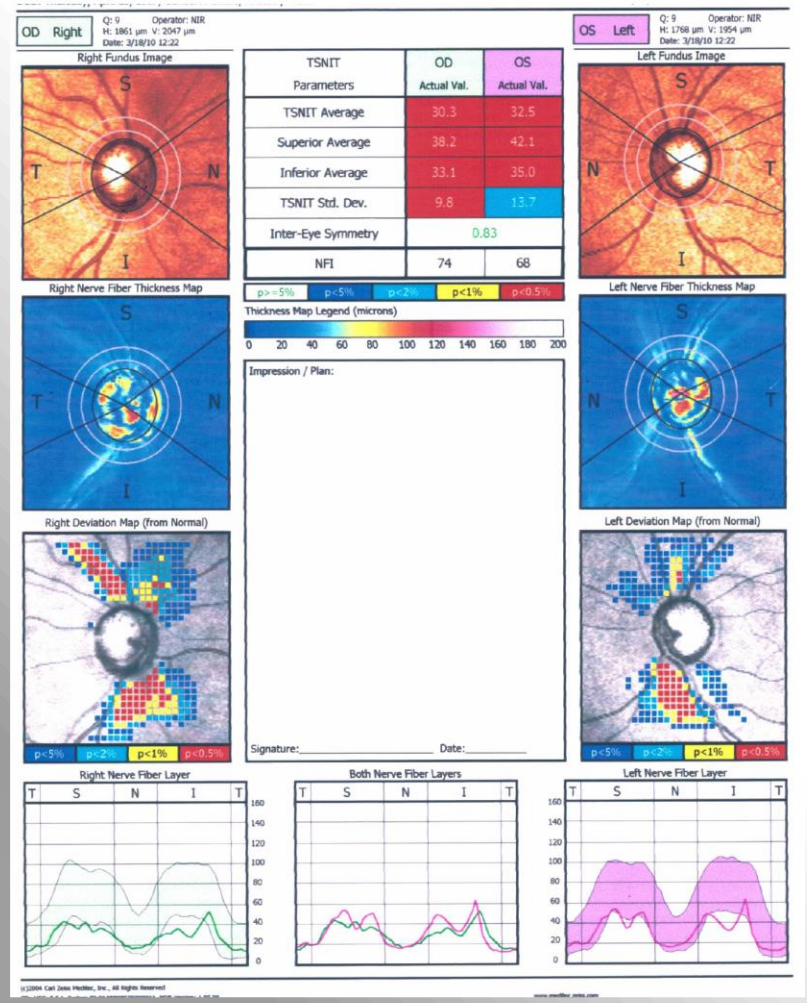
- 60 year old Asian female
- presented for glaucoma review having recently immigrated to Australia.
- At her initial presentation, she reported no relevant general health issues, no ongoing systemic medications
- diagnosed with glaucoma at age 52 and had been treated initially with Alphagan, then switched to Combigan at age 54.



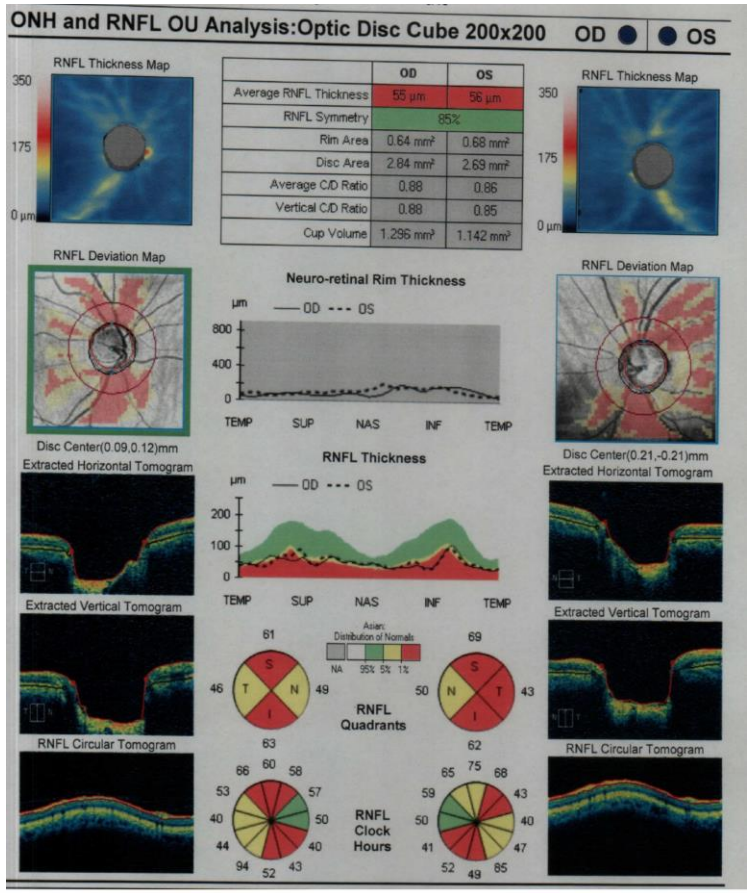


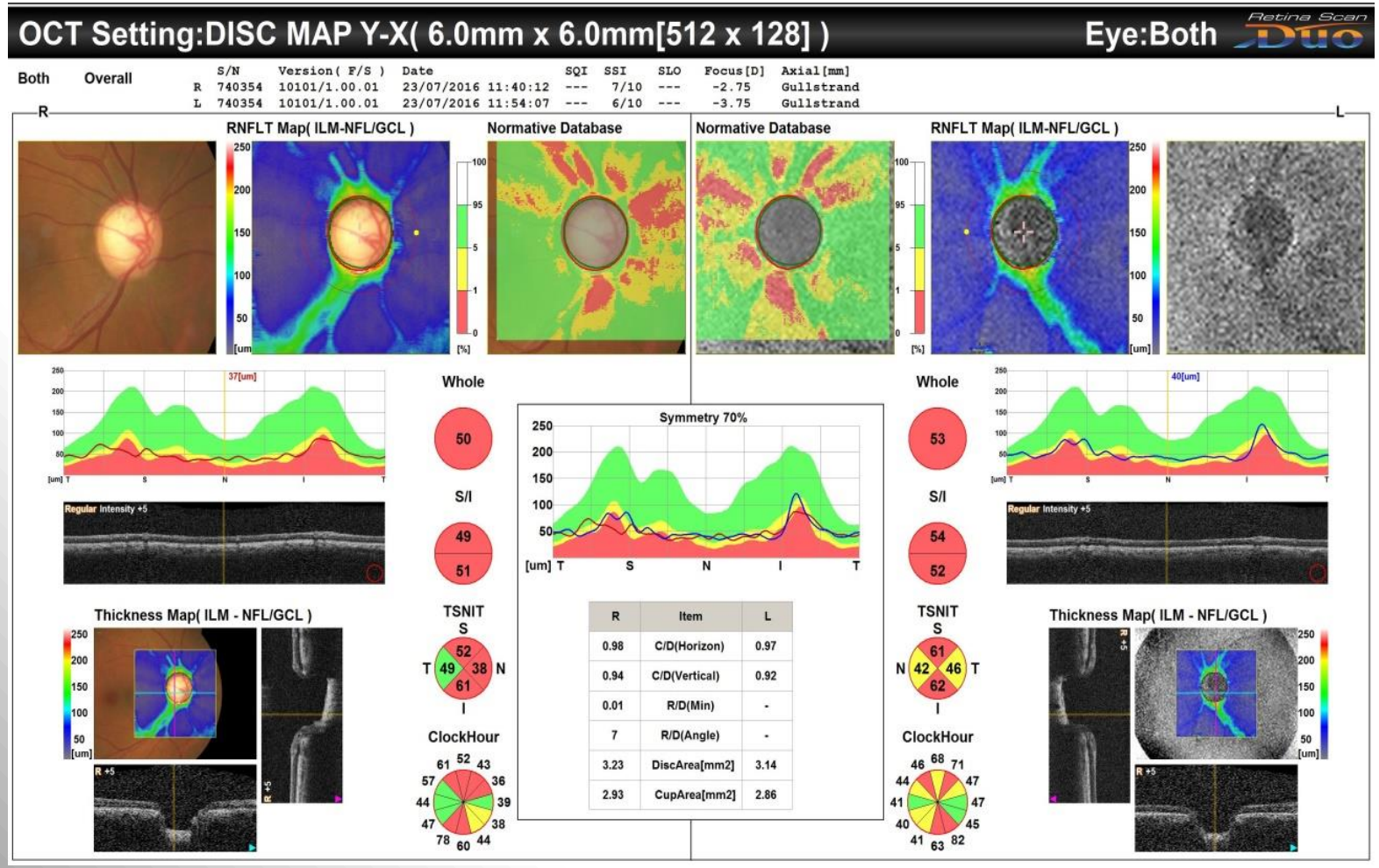
Old Records

GDx @ age 52

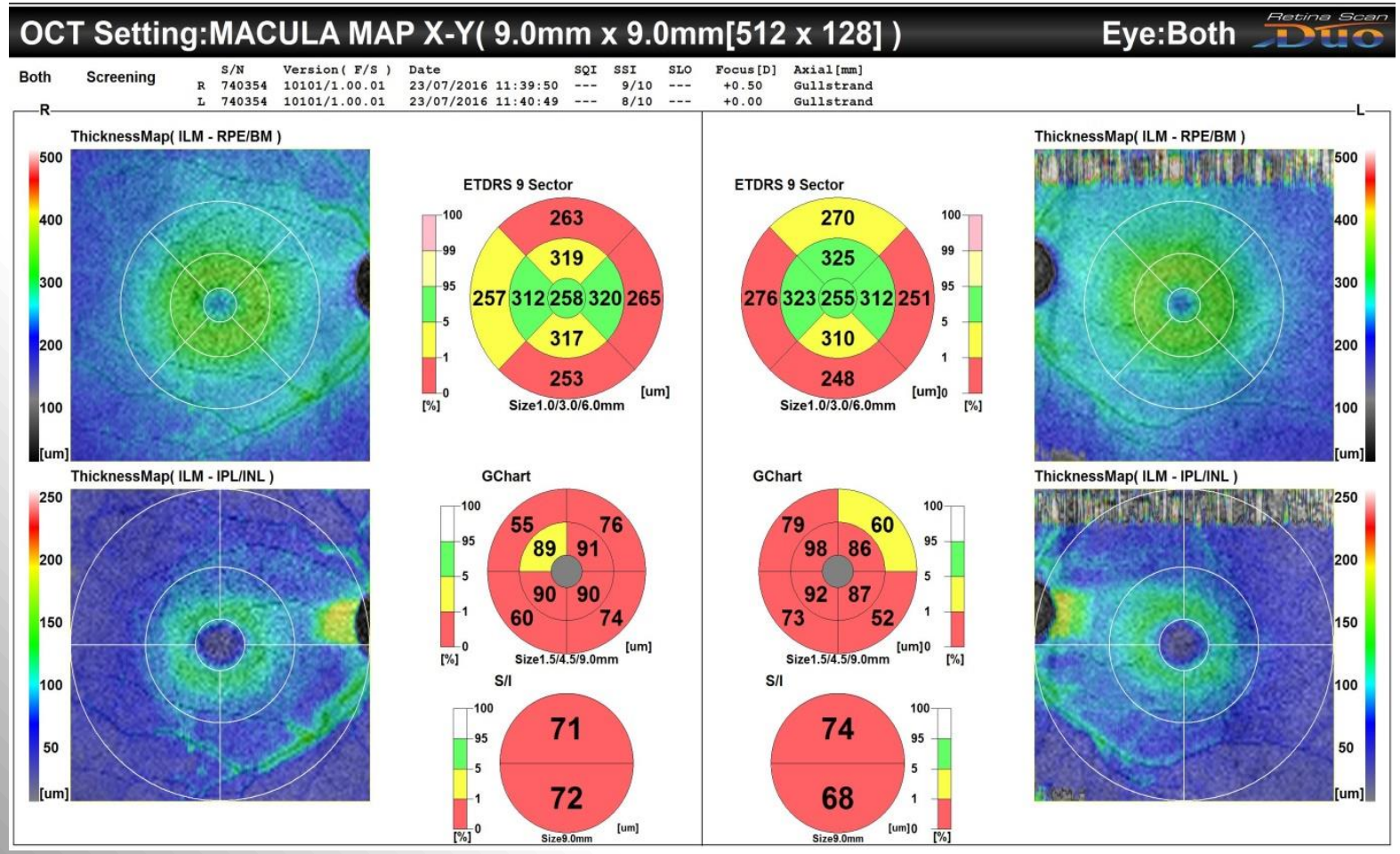


L&F Cirrus OCT @ age 57





Nidek RNFL OCT @ age 60


OCT Setting:MACULA MAP X-Y(9.0mm x 9.0mm[512 x 128])
Eye:Both
Retina Scan Duo
Both
Screening
S/N
Version(F/S)
Date
SQI
SSI
SLO
Focus[D]
Axial[mm]
R 740354 10101/1.00.01 23/07/2016 11:39:50 --- 9/10 --- +0.50 Gullstrand
L 740354 10101/1.00.01 23/07/2016 11:40:49 --- 8/10 --- +0.00 Gullstrand
R
L
ThicknessMap(ILM - RPE/BM)
500
400
300
200
100
[um]
ETDRS 9 Sector
263
319
257 312 258 320 265
317
253
100
99
95
5
1
0
[%]
[um]
Size1.0/3.0/6.0mm
ETDRS 9 Sector
270
325
276 323 255 312 251
310
248
[um]0
[%]
Size1.0/3.0/6.0mm
ThicknessMap(ILM - RPE/BM)
ThicknessMap(ILM - IPL/INL)
250
200
150
100
50
[um]
GChart
55 76
89 91
90 90
60 74
[um]
[%]
Size1.5/4.5/9.0mm
GChart
79 60
98 86
92 87
73 52
[um]0
[%]
Size1.5/4.5/9.0mm
ThicknessMap(ILM - IPL/INL)
S/I
71
72
[um]
[%]
Size9.0mm
S/I
74
68
[um]0
[%]
Size9.0mm

This is glaucoma

- The open-angle glaucomas are chronic, progressive optic neuropathies, that have in common characteristic morphological changes at the optic nerve head and retinal nerve fibre layer in the absence of other ocular disease or congenital anomalies. Progressive retinal ganglion cells death and visual field loss are associated with these changes.
- The dramatic cupping in context of relatively low pressures (average 12mmHg but pre-treatment mid teens), sound visual fields and lack of progression raised suspicion about the original diagnosis.

Normal Tension Glaucoma (NTG)

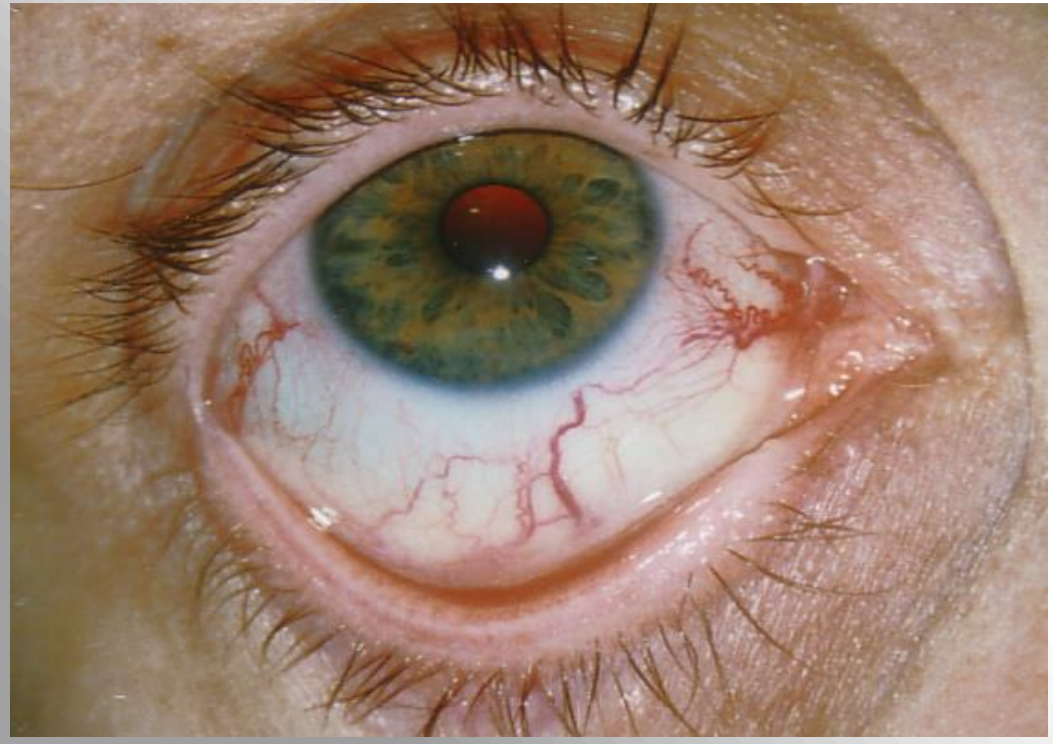
- is a diagnosis of exclusion. The presence of optic neuropathy without a documented history of preceding ocular hypertension should be considered a red flag to clinicians.
- There is a need to be cognisant of masquerading conditions such as previous arteritic or non-arteritic optic neuropathies, congenital colobomas of the disc, large myopic discs and compressive lesions such as pituitary tumours, as the late clinical picture of their presentations may be indistinguishable from NTG'.

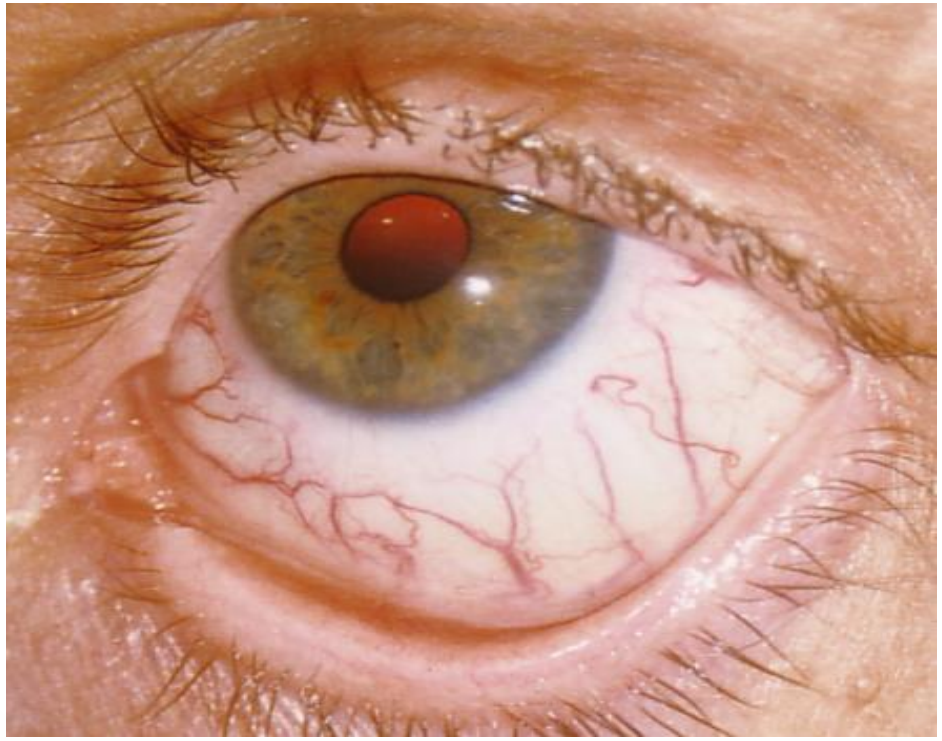
Blood loss

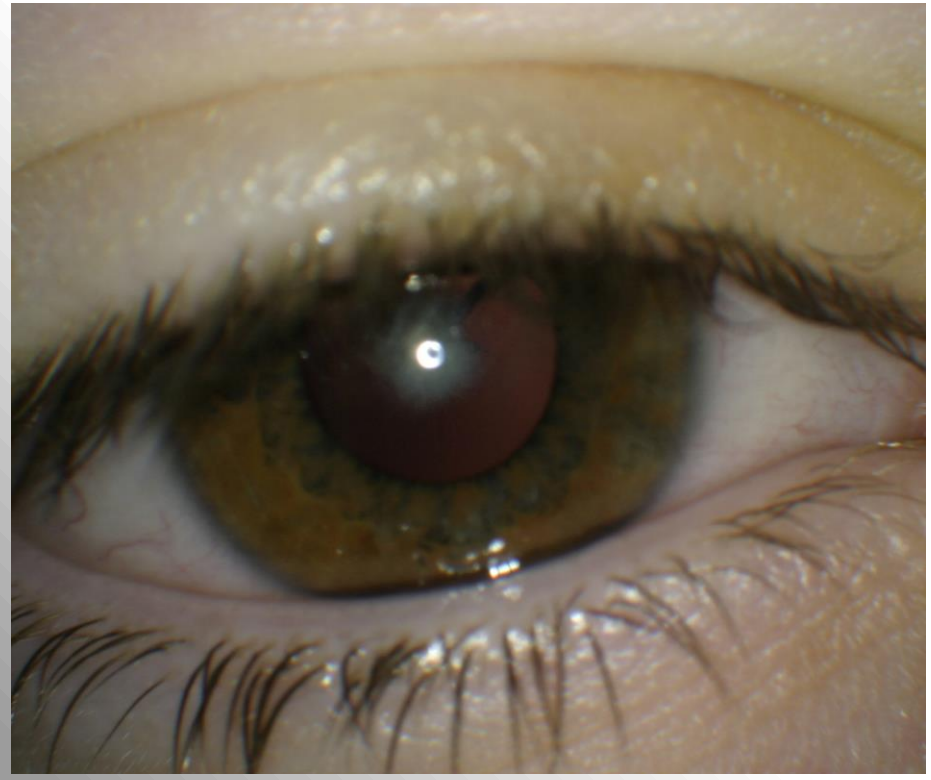
- There are a number of reports of optic neuropathy associated with exsanguination, dramatic hypotension and shock.
- The dilemma of differentiating NTG from optic neuropathy induced by dramatic blood loss was highlighted as long ago as 1977 by Drance, who stated that “the extensive cupping demonstrated in cases of exsanguination or shock is clinically indistinguishable from glaucomatous cupping, but the lack of progression of visual field is often telling”.

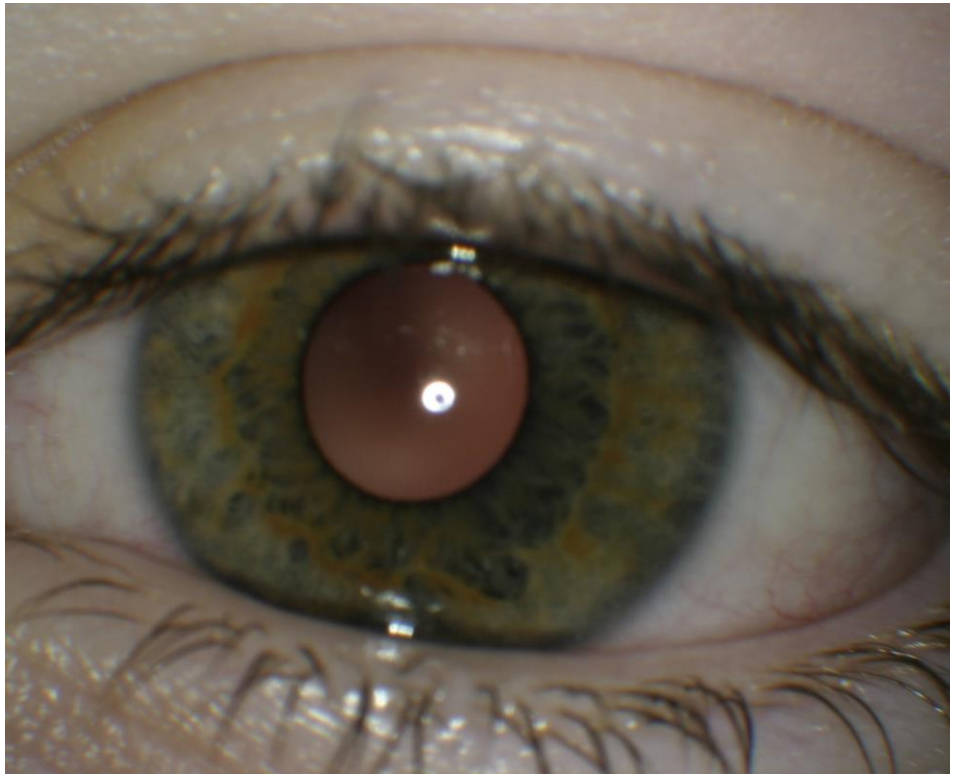
Glaucoma

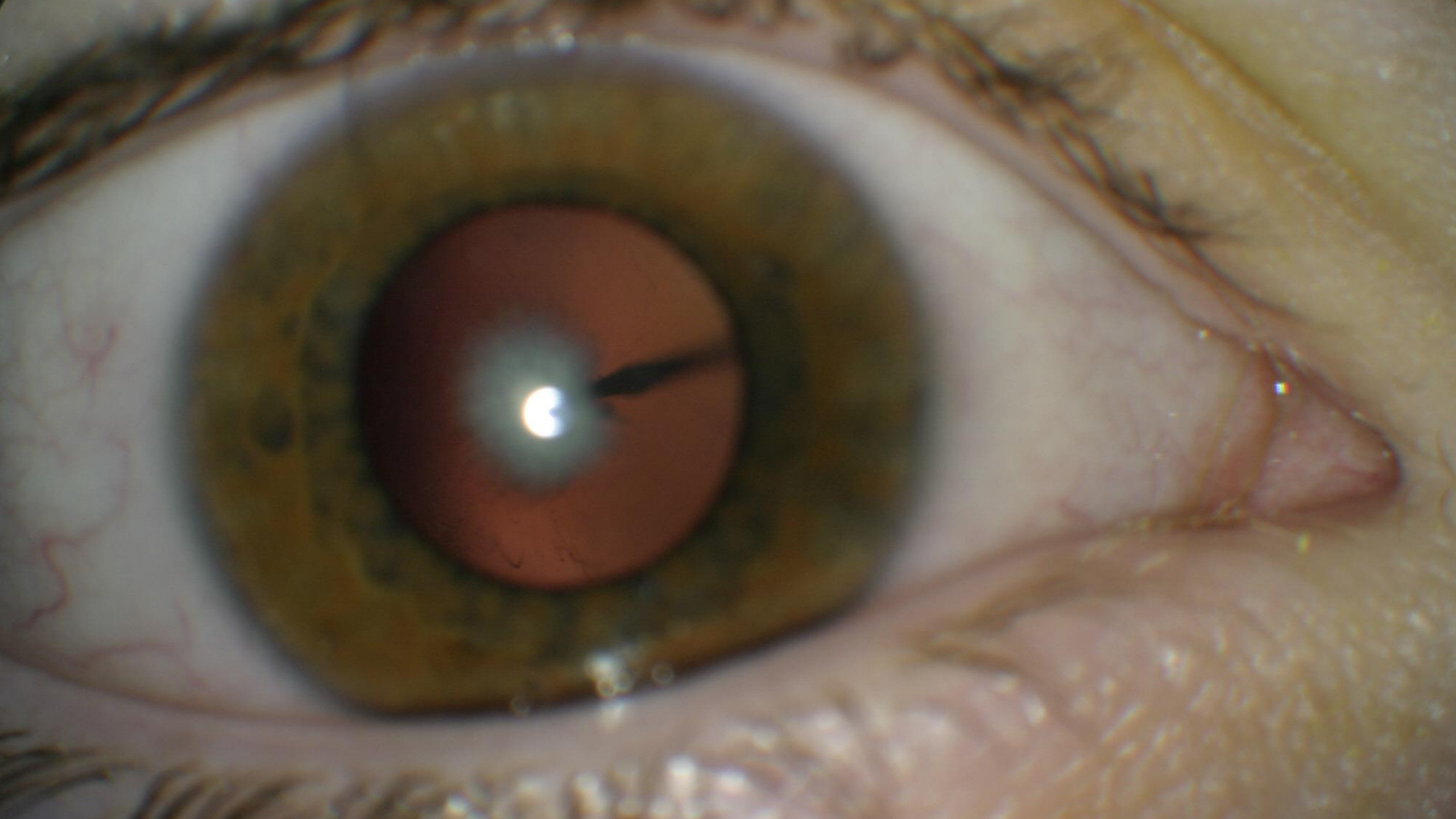
- secondary to low flow carotid fistula, Dx in her 40s









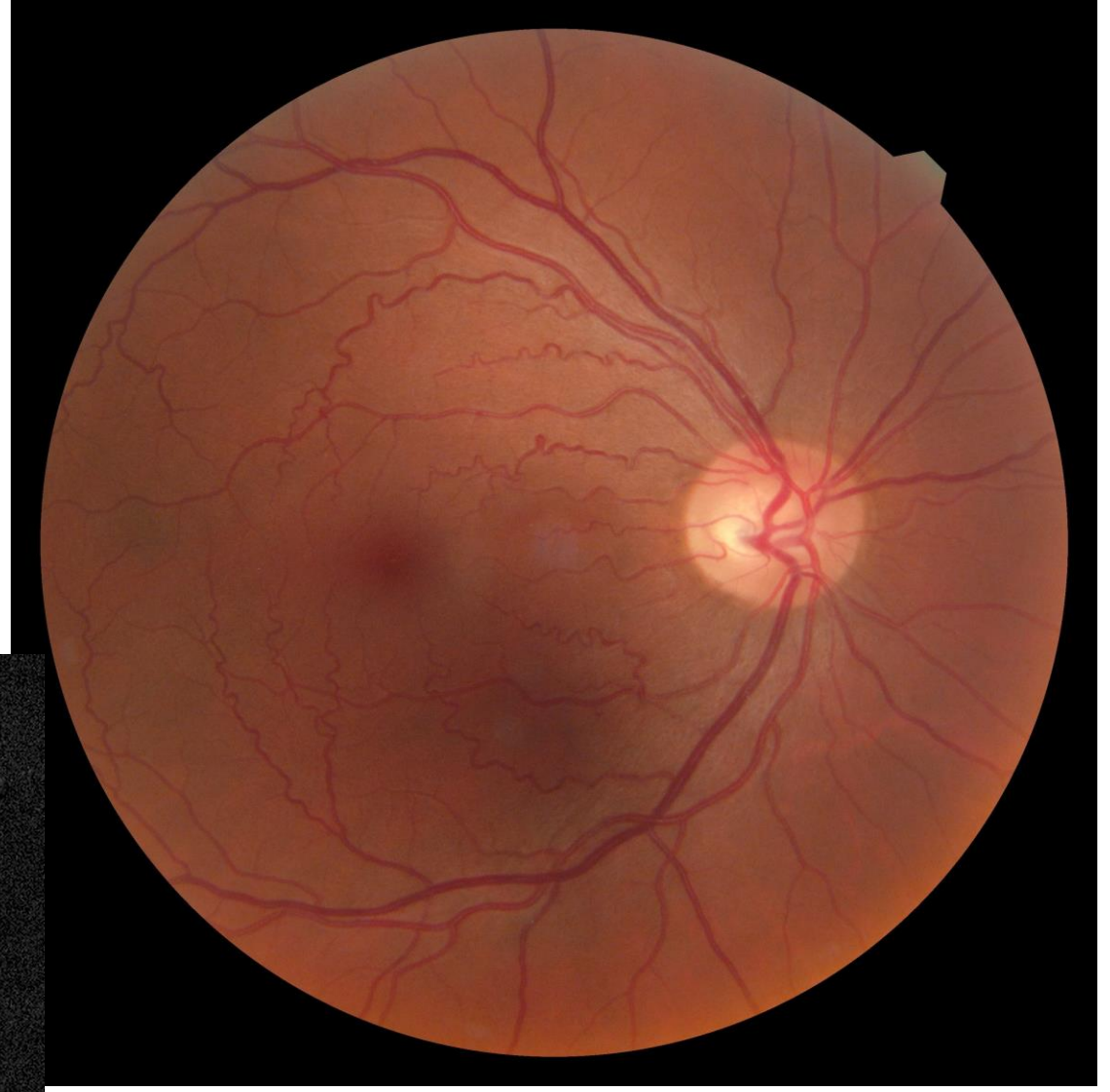


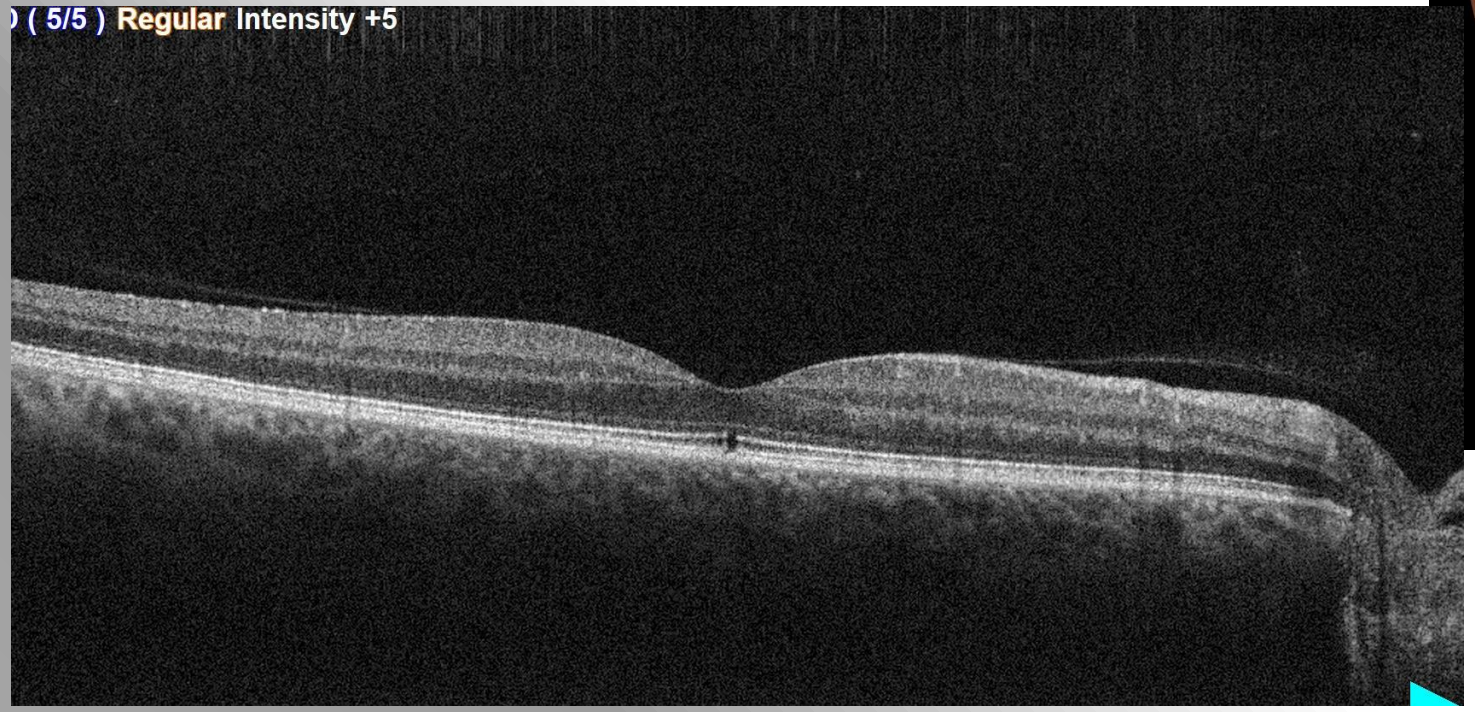
Getting hit in the head is a bad thing

Px MT

- Under neuro-ophthalmologist for MS and multiple EOM issues...until he gets hit in the head…

- Long term micro scotoma centrally right eye only





Right eyes are the same a[illegible] eye[illegible]

MISTAKE #19

Interactive Session 3

All of the below conditions have been demonstrated to have laterality bias (eg more likely to happen in right eyes than left eyes or vice versa)….except for one. Discuss!

Cataract

Solar retinopathy

Pterygia

Normal tension glaucoma

High tension glaucoma

Facial/lid lesions

Retinal detachment

Ametropia in anisometropia

Retinal vein occlusion

Retinal arterial occlusion

High Tension Glaucoma- no laterality

Normal Tension Glaucoma- L>R x2.1OR N=403

Comparative Study > Ophthalmology. 1998 Jun;105(6):988-91.
doi: 10.1016/S0161-6420(98)96049-3.

Frequency of asymmetric visual field defects in normal-tension and high-tension glaucoma

D Poinoosawmy [1], L Fontana, J X Wu, C V Bunce, R A Hitchings

Affiliations + expand

PMID: 9627646 DOI: 10.1016/S0161-6420(98)96049-3

Abstract

Objective: The purpose of the study was to evaluate the frequency of asymmetric visual field loss at presentation in patients with normal-tension glaucoma (NTG) and high-tension glaucoma (HTG).

Design: A retrospective cross-sectional study design was used.

Participants: Four hundred and three NTG patients and 337 consecutive HTG patients (consecutive diagnoses between 1986 and 1996).

Intervention: Analysis of the frequency of unilateral field loss presentations in NTG and HTG. The visual fields of fellow eyes were compared to determine the side of more severe field loss. For the NTG patients, the relationship between the side with greater field loss and corresponding intraocular pressure (IOP) was investigated.

"NTG population we studied, the left eye was more frequently the side of onset of field loss and 2.1 times more likely to present with a greater field defect than the right eye".

Asymmetric sleep behavior is common. Right-sided sleep was preferred and correlated with a lower VFI on the left.

Driving

Exp Dermatol. 2019 Feb;28 Suppl 1:72-74. doi: 10.1111/exd.13830.

Facial distribution of squamous cell carcinoma in Japanese

Hiroshi Kato [1], Takao Oda [1], Shoichi Watanabe [1], Akimichi Morita [1]

Affiliations + expand

PMID: 30698883 DOI: 10.1111/exd.13830

Drive on the Left- R side skin lesions

Drive on the right- L side skin lesions

J Dermatol. 2008 Mar;35(3):146-50. doi: 10.1111/j.1346-8138.2008.00434.x.

Preliminary study among truck drivers in Turkey: effects of ultraviolet light on some skin entities

Ayse Kavak [1], Ali Haydar Parlak, Nuray Yesildal, Ilker Aydogan, Huseyin Anul

Affiliations + expand

PMID: 18346257 DOI: 10.1111/j.1346-8138.2008.00434.x

If unilateral: N=172

R handed x 2.3 R pterygium

L handed x 5.7 L pterygium

•. 2021 Jan;19:63-67.
doi: 10.1016/j.jtos.2020.12.001. Epub 2020 Dec 10.

Handing it to pterygium: Explaining pterygium laterality

Minas T Coroneo [1], Lien Tat [2], Helen Chen [2], Dimitar I Grupchev [3], Christina N Grupcheva [3], Matthew H Ip [4]

Affiliations

•PMID: 33309855

•DOI: 10.1016/j.jtos.2020.12.001

Abstract

Purpose: To evaluate any correlation between pterygium laterality and patient handedness

Results: A total of 219 patients were recruited into our study. 172 patients possessed unilateral disease and in 47 patients, the disease was bilateral. A significant association was identified between handedness and pterygium laterality ($p < 0.001$). Patients with right-sided pterygia were more likely to be right-handed (OR 2.327) and left-sided presentations who were more likely to be left-handed (OR 5.717). For bilateral presentations, patients were found to have longer (mean increase 3.50 ± 0.47 mm) and larger (mean increase 4.38 ± 0.48 mm^2) pterygia in the eye ipsilateral to their dominant hand.

R arterial occlusions 8% higher N=798 089
L venous engorgement 6% higher

Ophthalmol Retina. Author manuscript; available in PMC 2022 Jun 9.

Published in final edited form as:

Ophthalmol Retina. 2022 Feb; 6(2): 161–171.

Published online 2021 May 12. doi: 10.1016/j.oret.2021.05.004

PMCID: PMC9178780

NIHMSID: NIHMS1812408

PMID: 33991710

Age, Gender, and Laterality of Retinal Vascular Occlusion

A Retrospective Study from the IRIS® Registry

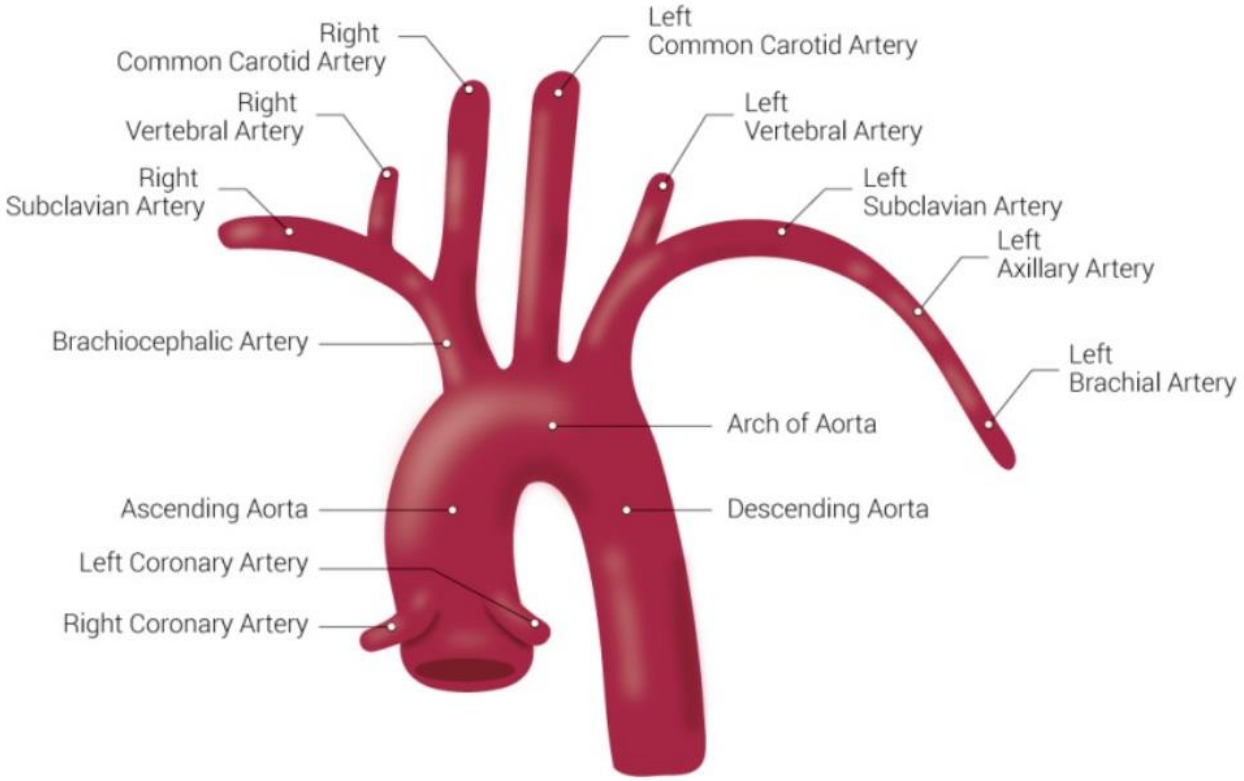
Yangjiani Li, MD, PhD,[1,3,*] Nathan E. Hall, MS,[1,2,*] Suzann Pershing, MD,[4] Leslie Hyman, PhD,[5] Julia A. Haller, MD,[5] Aaron Y. Lee, MD, MSCI,[8,9] Cecilia S. Lee, MD, MS,[9] Michael Chiang, MD,[6] Flora Lum, MD,[7] Joan W. Miller, MD,[2,+] Alice Lorch, MD, MPH,[2,+] and Tobias Elze, PhD[1,+]

Left-Sided Strokes Are More Often Recognized Than Right-Sided Strokes

The Rotterdam Study

Marileen L.P. Portegies, **Mariana Selwaness**, **Albert Hofman**, **Peter J. Koudstaal**, **Meike W. Vernooij** and **M. Arfan Ikram**

Originally published 9 Dec 2014 | https://doi.org/10.1161/STROKEAHA.114.007385 | Stroke. 2015;46:252–254



Conclusions—

Clinical ischemic strokes and TIAs are more frequently left-sided than right-sided, whereas this difference is not present for infarcts on MRI. This suggests that left-sided strokes and TIAs are more easily recognized. Consequently, there should be more attention for symptoms of right-sided strokes and TIAs.

Retinal Detachment N=259

J Opthalmol Res 2021; 4 (4): 294-300 *DOI: 10.26502/fjor.2644-00240048*

Research Article

Laterality of Rhegmatogenous Retinal Detachment

Carlos Sevillano[*1] , Eloy Viso[1], Santiago Moreira-Martínez[2], Alberto Parafita-Fernández[1], Marta Sampil[1], María José Blanco[3]

[1]Ophthalmology Department, Complexo Hospitalario Universitario de Pontevedra, Pontevedra, Spain
[2]Chemical Engineering Department. Computational Mathematics, Idener; Seville, Spain
[3]Ophthalmology Department, Complexo Hospitalario Universitario de Santiago de Compostela, Santiago de Compostela, Spain

[*]**Corresponding author:** Carlos Sevillano, Ophthalmology Department, Complexo Hospitalario Universitario de Pontevedra, Pontevedra, Spain

Received: 20 October 2021; **Accepted:** 05 November 2021; **Published:** 09 November 2021

Citation: Carlos Sevillano, Eloy Viso, Santiago Moreira-Martínez, Alberto Parafita-Fernández, Marta Sampil, María José Blanco. Laterality of Rhegmatogenous Retinal Detachment. Journal of Ophthalmology and Research 4 (2021): 294-300.

R eye 11% more likely than L

Cataract in dominant eye N=56

› Laterality. 2007 Mar;12(2):167-71. doi: 10.1080/13576500600939082.

The formation of cataract is earlier in the dominant eye

Senol Dane [1], Murat Aslankurt, Ahmet Taylan Yazici

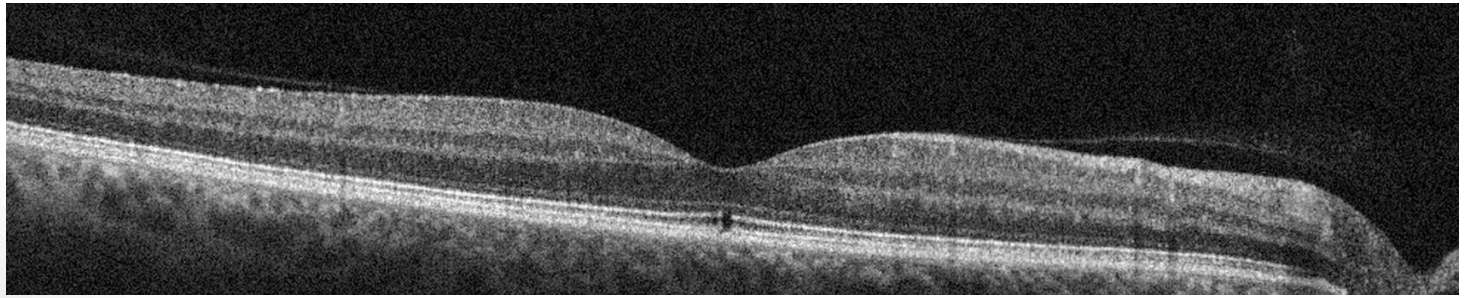
Affiliations + expand

PMID: 17365632 DOI: 10.1080/13576500600939082

Abstract

Relations among handedness, eye dominance, and lateralisation in the formation of cataract were investigated in 35 male and 21 female patients with cataract. In right-handed patients, cataracts formed earlier in the right eyes than in the left eye; this was reversed in left-handed patients. For both right- and left-eye dominant patients, cataracts formed earlier in the dominant eye.

Solar Retinopathy R>L 14-28% N=25



Statistically significant higher rate of right eye laterality for anisometropia >2.5 D

N=493

Acta Ophthalmologica

Free Access

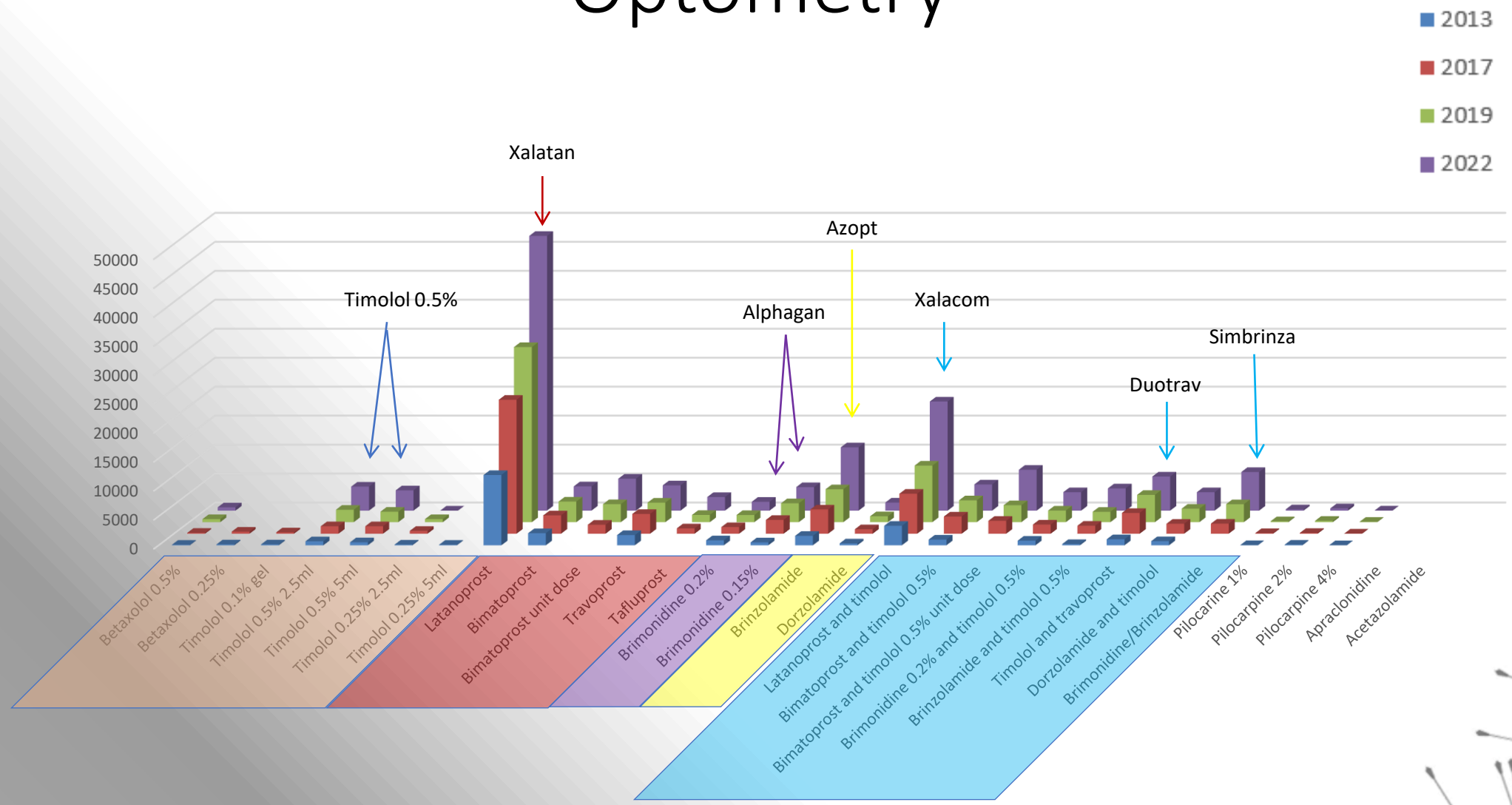
Eye laterality: a comprehensive analysis in refractive surgery candidates

Stephan J. Linke, Vasyl Druchkiv, Johannes Steinberg, Gisbert Richard, Toam Katz

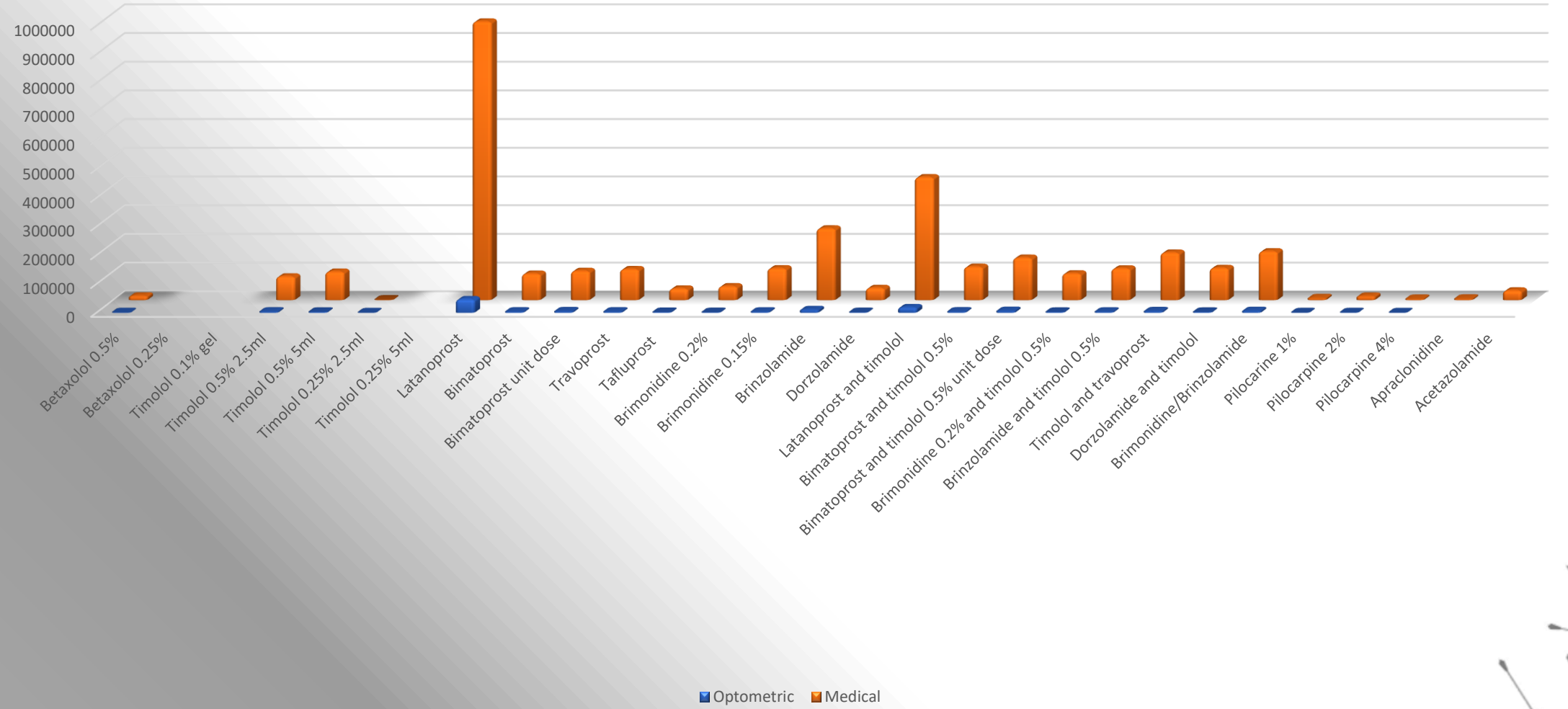
First published: 07 February 2013 | https://doi.org/10.1111/aos.12040 | Citations: 3

Optometrists are fascinated by PBS data

PBS Glaucoma Prescriptions Optometry

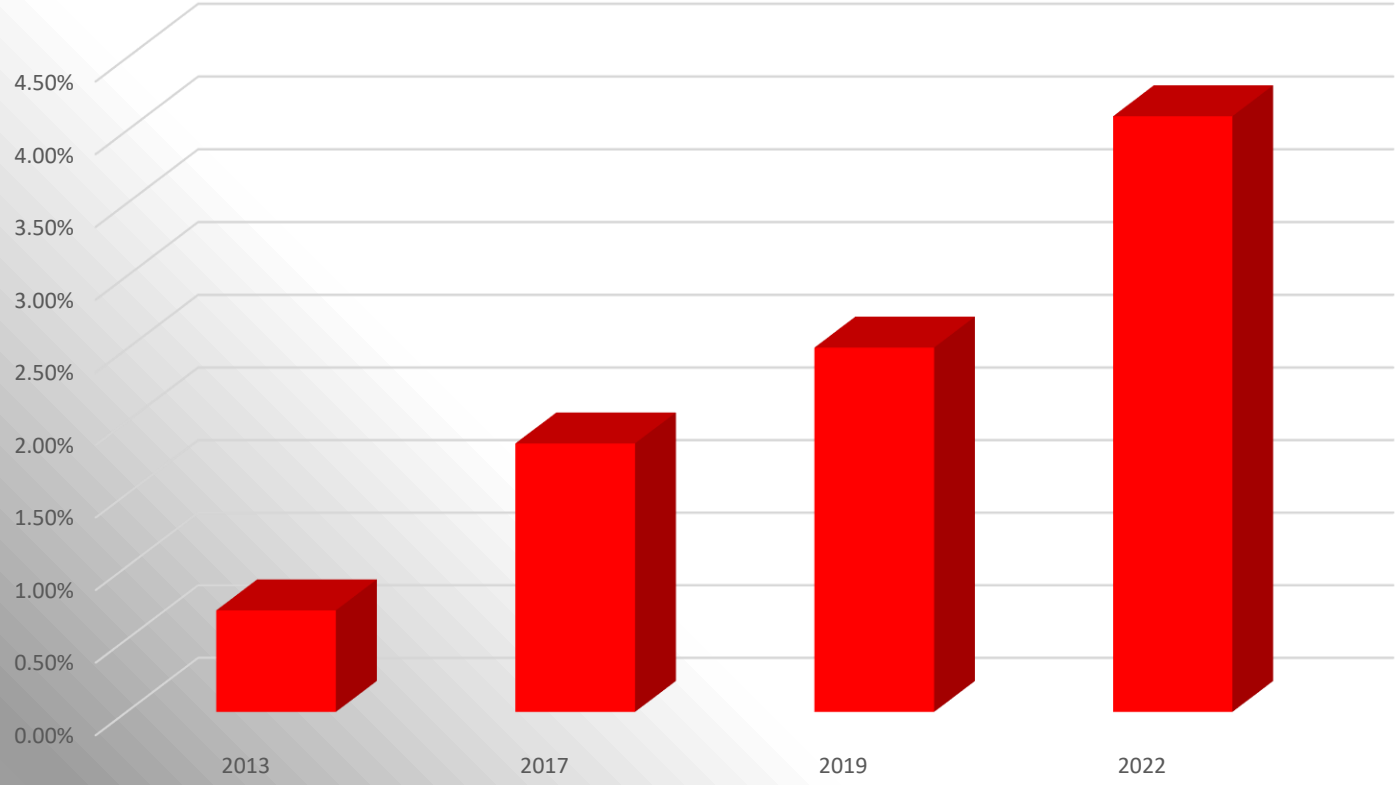


PBS Glaucoma Prescriptions 2022 Medical vs Optometric

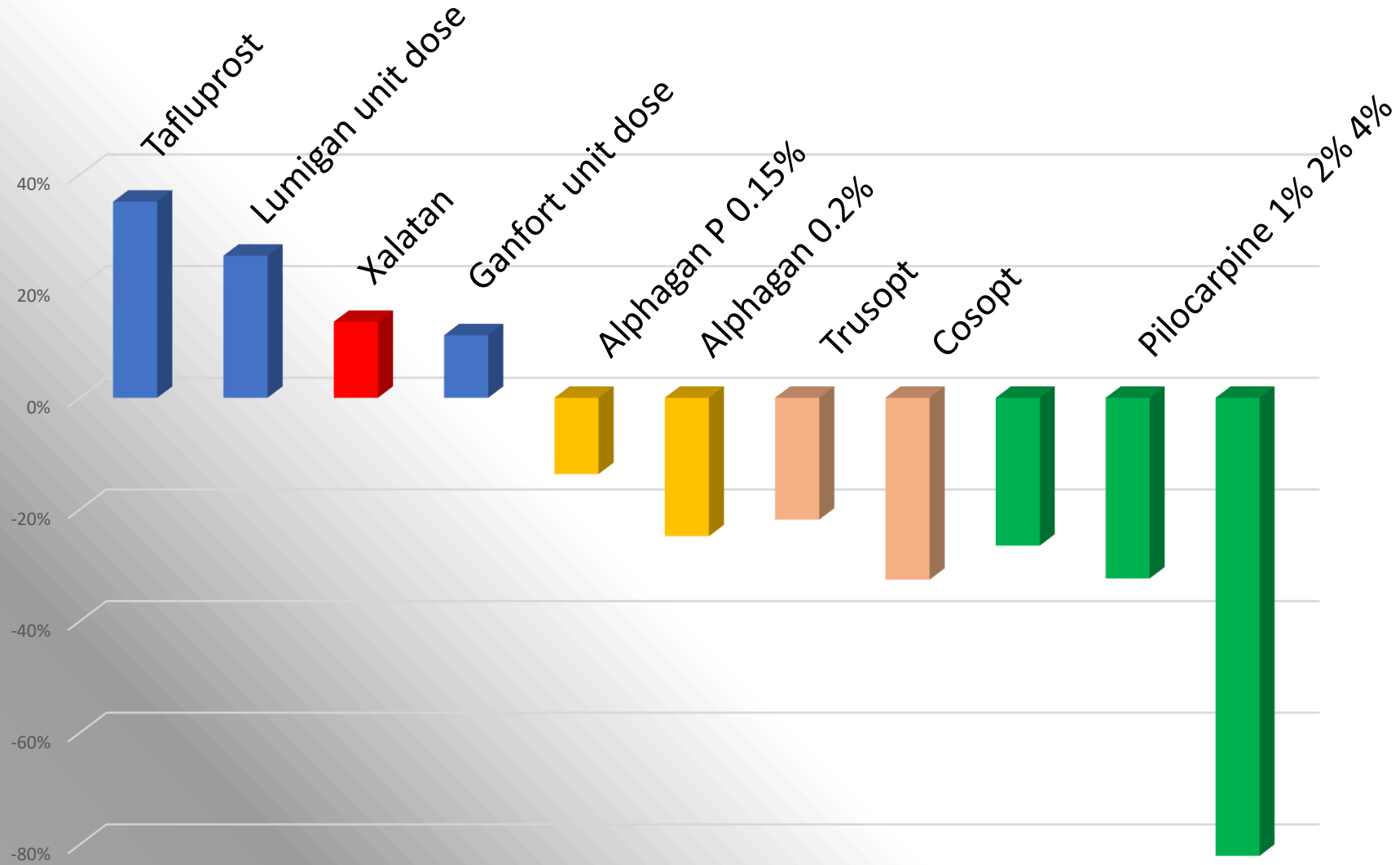


PBS Glaucoma Prescriptions
Medical vs Optometric

4.1% of glaucoma prescriptions are generated by optometrists

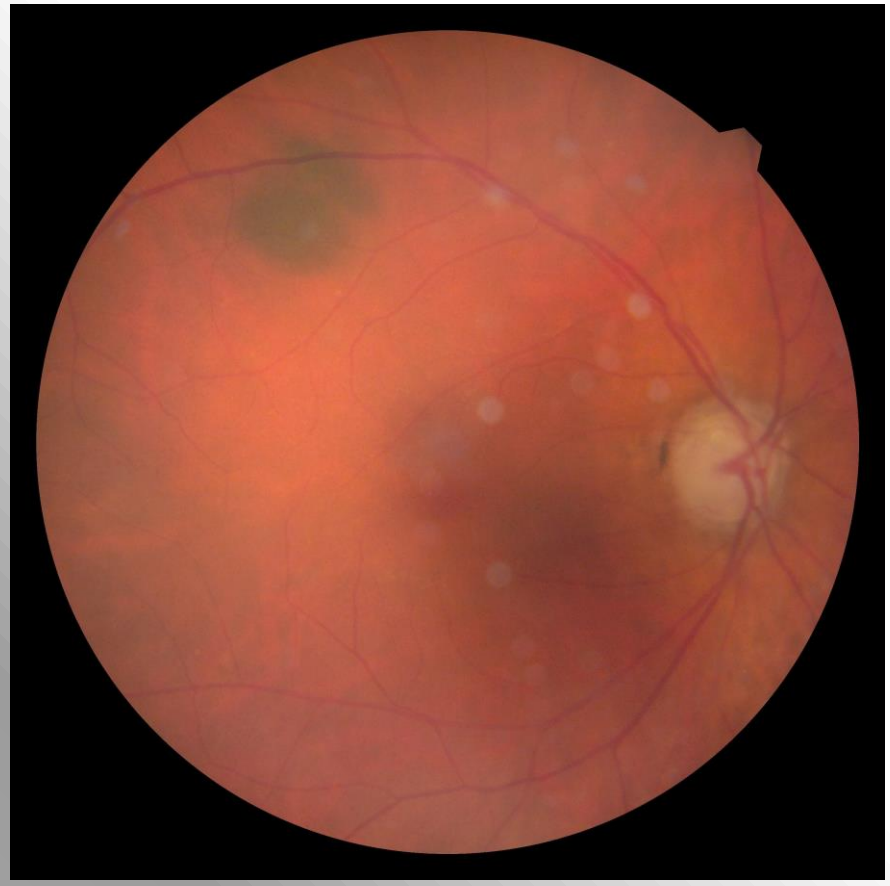


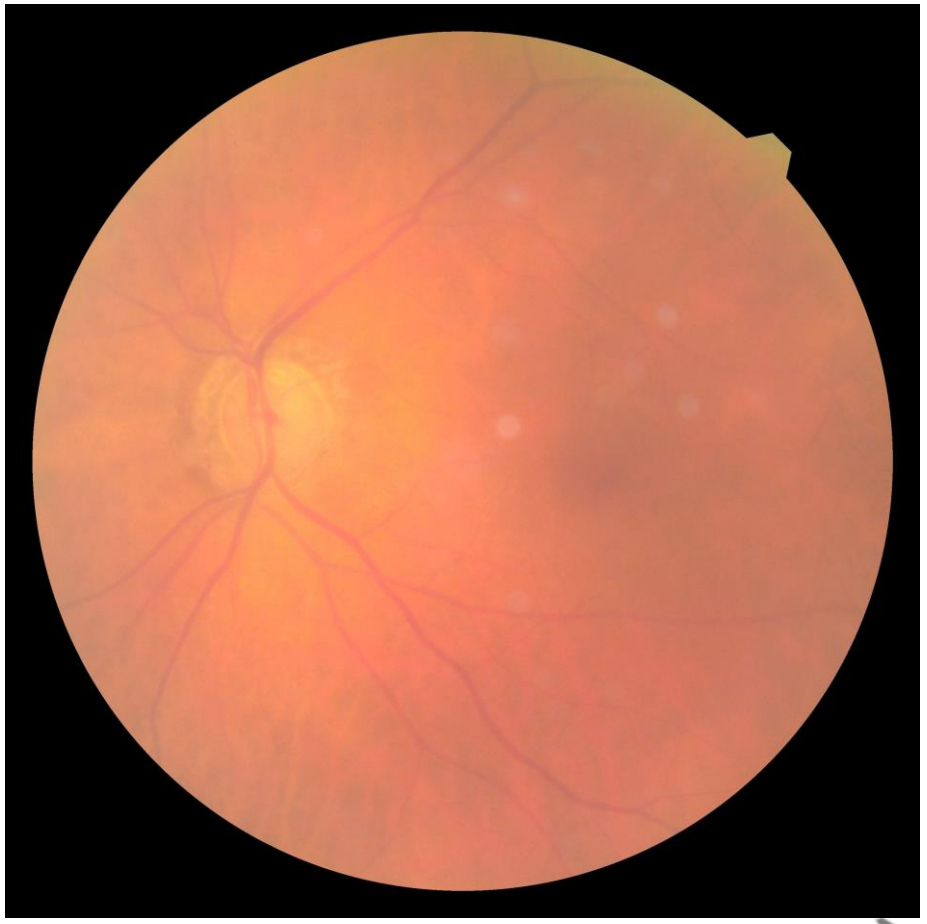
PBS Glaucoma Prescriptions
Medical vs Optometric Anomalies



Friedlieb Ferdinand Runge

Patients who see me more regularly receive better care than others





250 visits since 2006

- “Inherited” RGP fit commencing age 12
- Ultimately R: -11.25/-3.00x175 L: -9.00/-3.00x10
- 41 visits up to age 23

I can fit RGPs

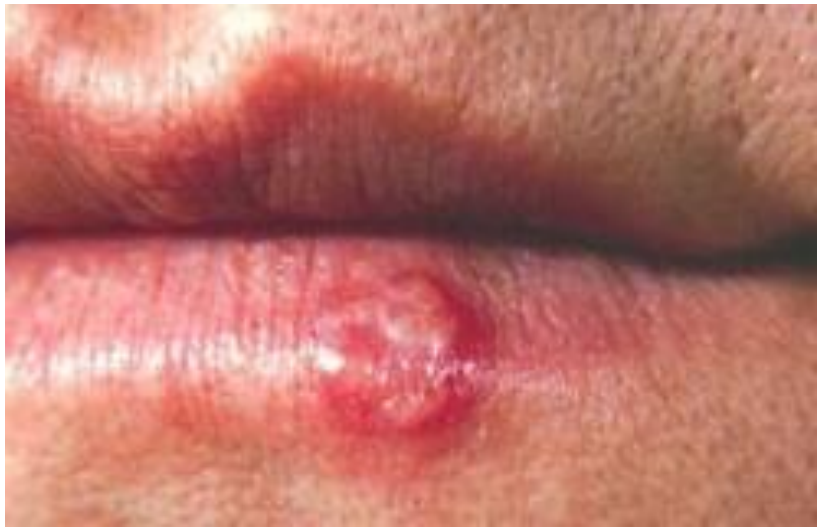
Age 23

- R VA drops from habitual 6/9.5 to 6/24
- RAPD
- IOPs 32mmHg R&L
- R disc pale and saucerised

- No previous posterior pole examination on file

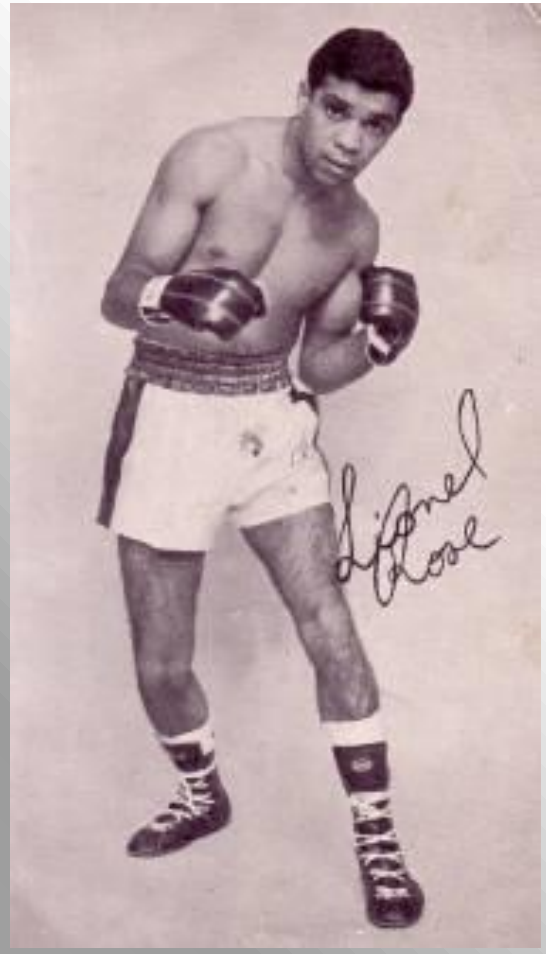
Iris lesions occur on the iris

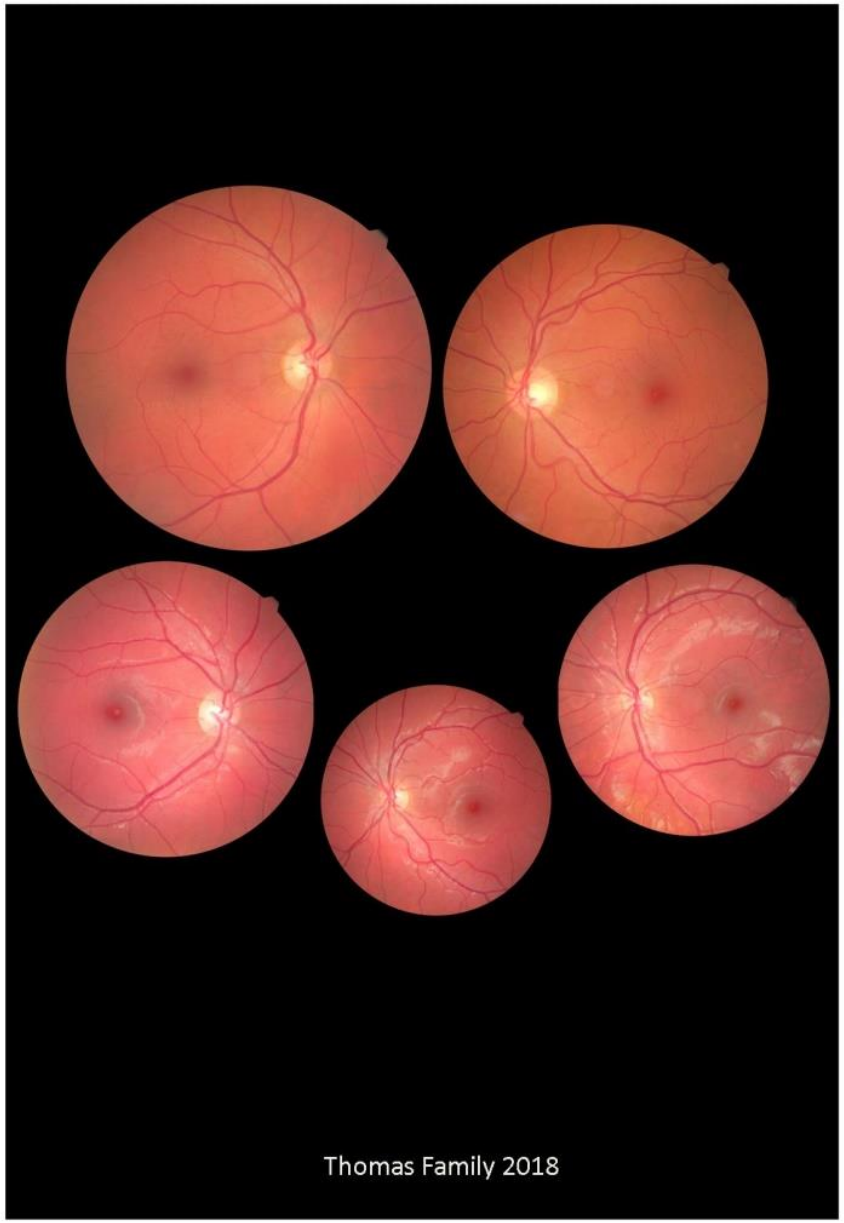
Case History

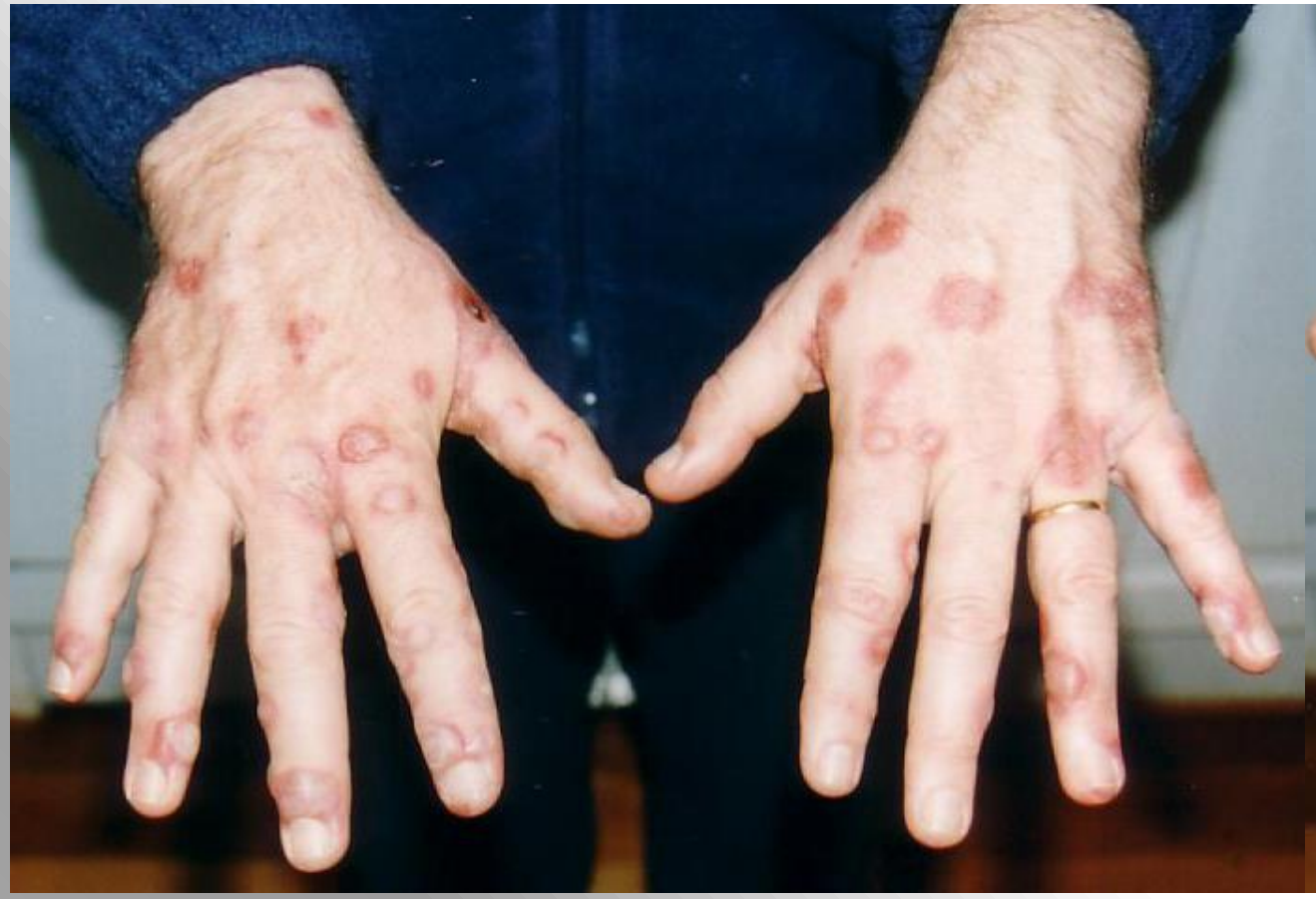


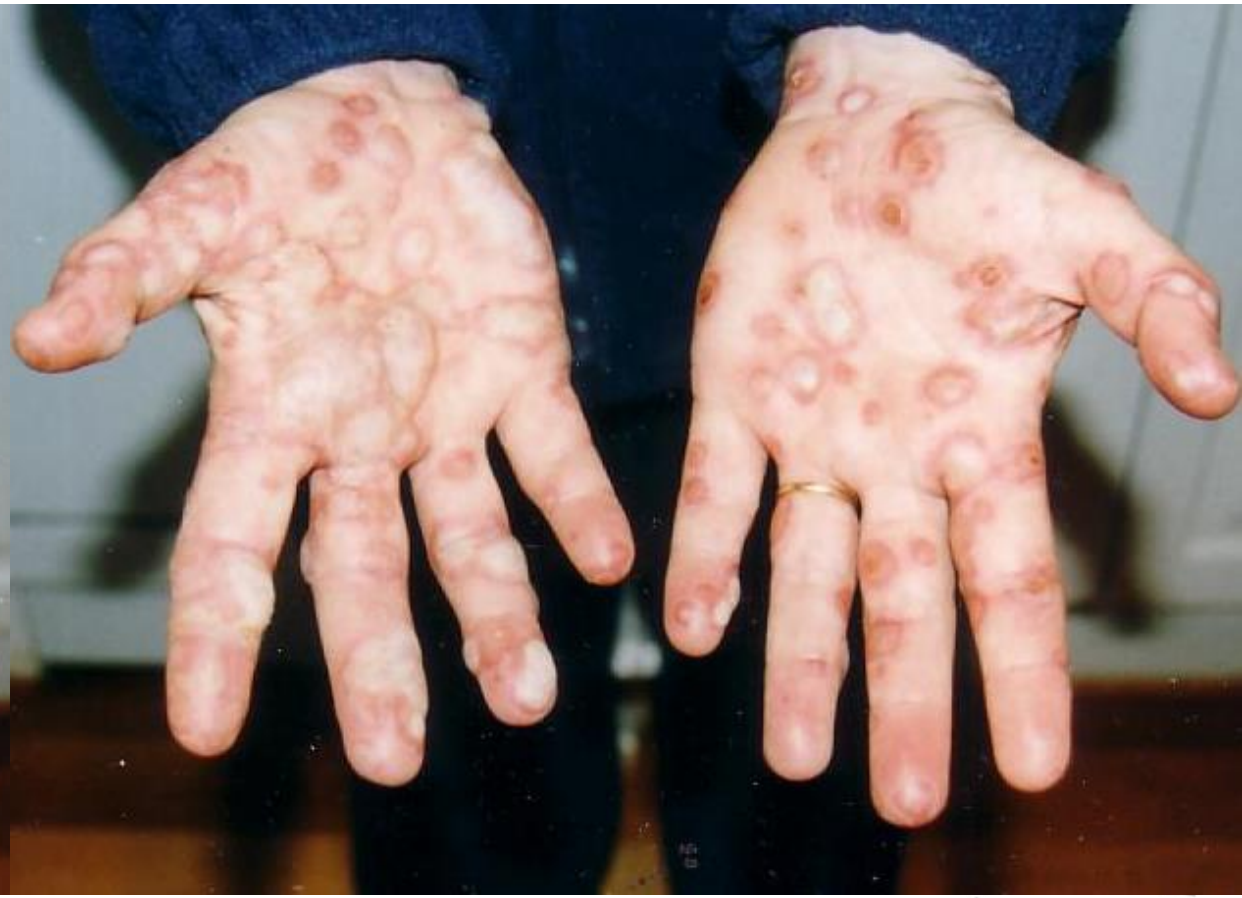
- Mr KT
- 41 year old male optometrist
- 10 day history of HSV-lip cold sore
- Aggravated by high UV exposure

- Induced Erythema Multiforme
- Target or iris lesions on hands, knees, elbows feet, face, lip and palate
- Unlike Mistake #1, a comprehensive social history was taken:




Thomas Family 2018





Erythema multiforme (EM)

- EM minor represents a localized eruption of the skin with mild or no mucosal involvement.
- EM major and Stevens-Johnson syndrome (SJS) are more severe mucosal and skin diseases and are potentially life-threatening disorders.

Aeitology

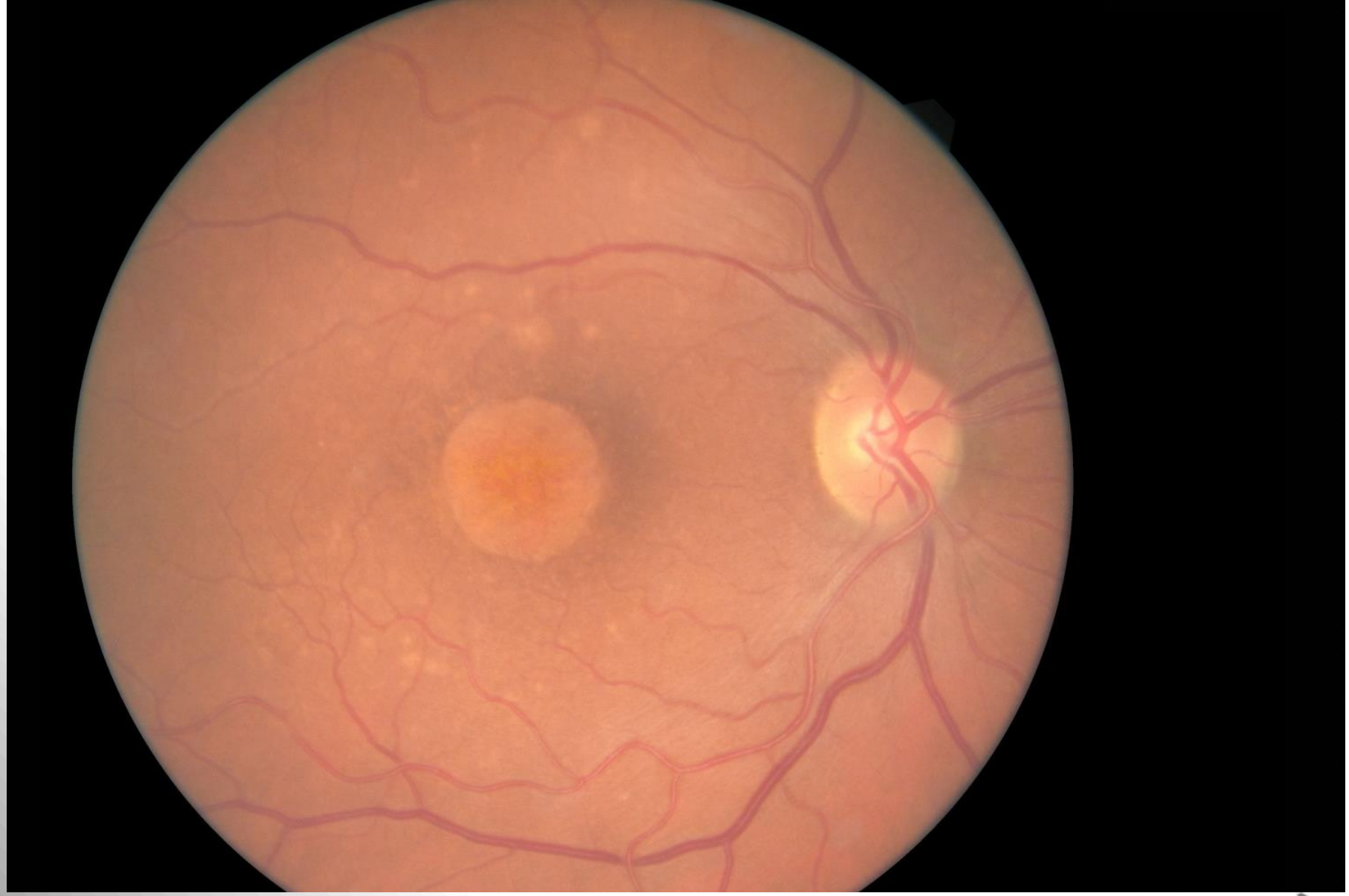
- EM minor is regarded as being triggered by HSV in nearly 100% of cases; many instances of idiopathic EM minor may be precipitated by subclinical HSV infection.
- A herpetic etiology also accounts for 55% of cases of EM major.
- Drugs are reported in many documented cases of SJS and EM major. Sulphur drugs are the most common triggers.

Drugs linked to EM/SJS

- In excess of 260 listings in APP Guide
- Aceopt, Bleph 10, Ocuflox, Erythromcin
- Diamox
- Plaquenil, chloroquin
- NSAIDS: voltarin, naprosyn, brufen aspirin
- Corticosteroids

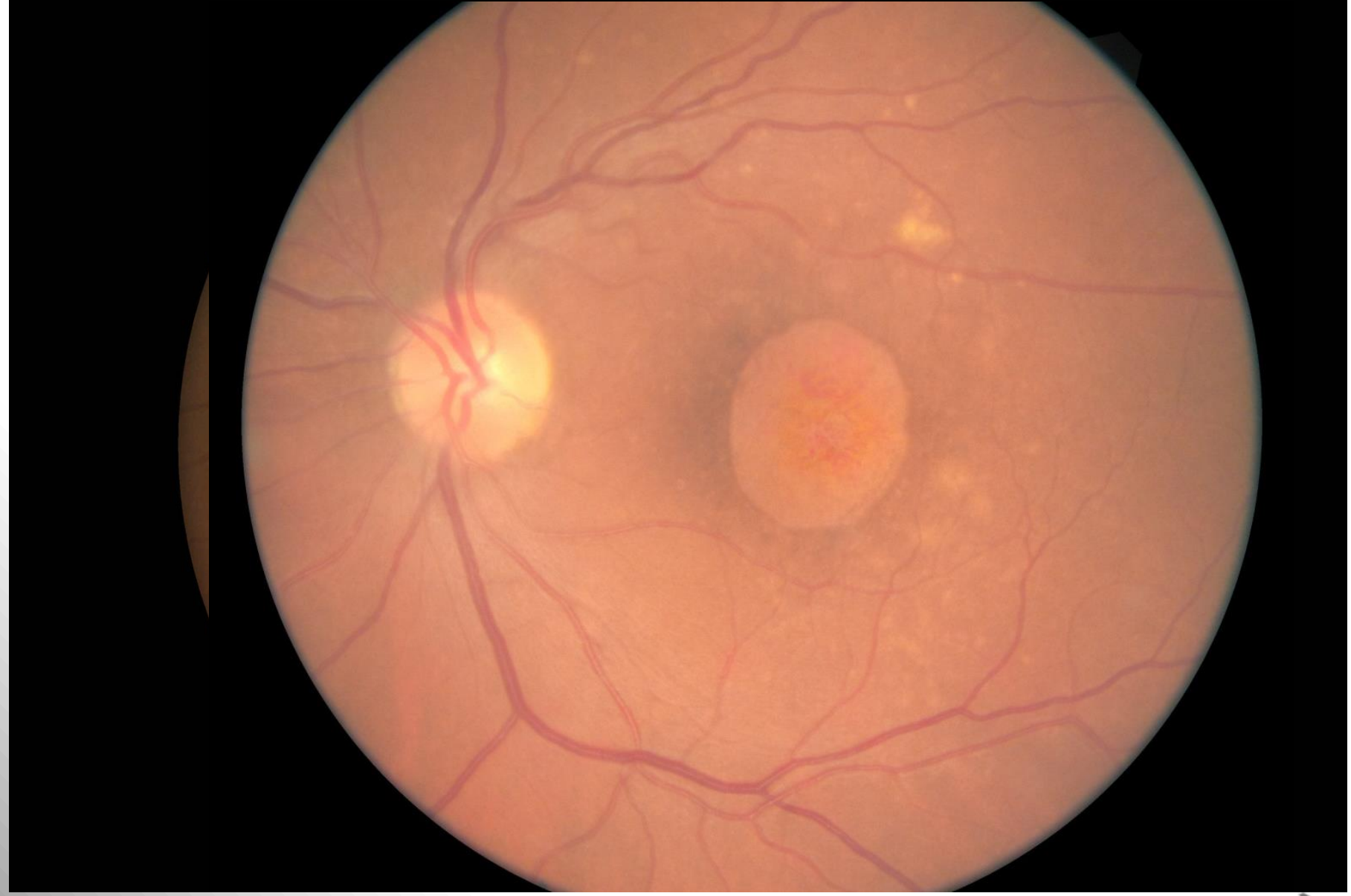
Frequency

- **In the US:** The exact incidence of EM is unknown; as many as 1% of dermatologic outpatient visits are for EM.
- **Mortality/Morbidity:** Most cases of EM minor subside completely within 2-3 weeks without any complications. The mortality rate of EM major is reportedly less than 5%, and clearing requires a longer time than EM minor. EM major usually takes 3-6 weeks to heal.
- **Severe eye complications** may result in permanent blindness
- **Age:** The highest incidence is in the second to fourth decades of life, with 20% of cases occurring in children and adolescents.
- **Sex:** Not likely to happen when you have this condition



Time Lapse 2004- 2016

6/12 to 6/60

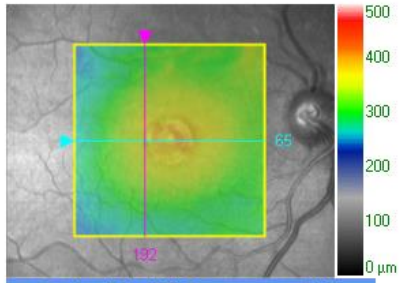


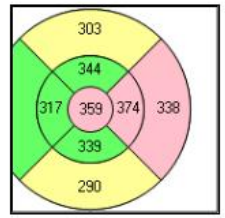
Time Lapse 2004- 2016

6/12- 6/60

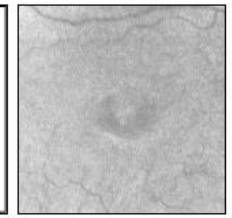
ID:	3222	Exam Date:	8/04/2010	Leunig & Farmer Optometrist
DOB:	8/02/1947	Exam Time:	5:07 PM	
Gender:	Female	Technician:	Operator, Cirrus	
Doctor:		Signal Strength:	6/10	

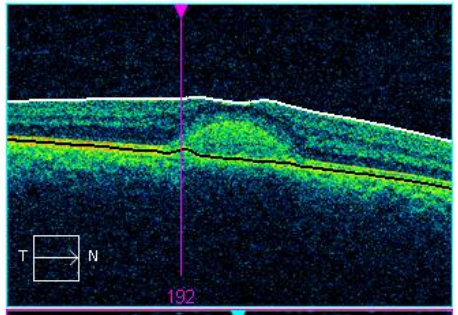
Macula Thickness : Macular Cube 512x128 — OD ● ○ OS

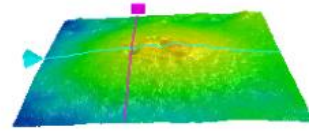


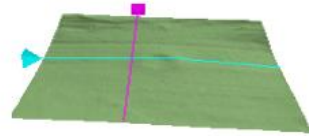


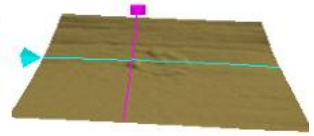
ILM-RPE Thickness (µm)

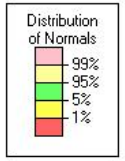

Fovea: 192, 65




ILM - RPE


ILM


RPE



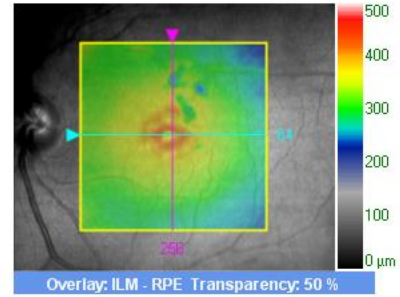
	Central Subfield Thickness (µm)	Cube Volume (mm³)	Cube Average Thickness (µm)
ILM - RPE	359	11.2	311

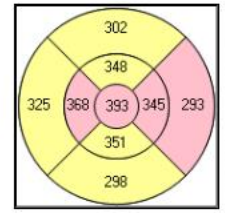
Comments	Doctor's Signature	Cirrus HD-OCT SW Ver: 4.5.1.11 Copyright 2009 Carl Zeiss Meditec, Inc All Rights Reserved

Page 1 of 1

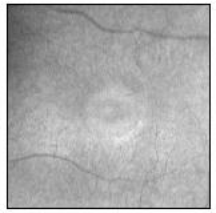
ID:	3222	Exam Date:	8/04/2010	Leunig & Farmer Optometrist
DOB:	8/02/1947	Exam Time:	5:09 PM	
Gender:	Female	Technician:	Operator, Cirrus	
Doctor:		Signal Strength:	8/10	

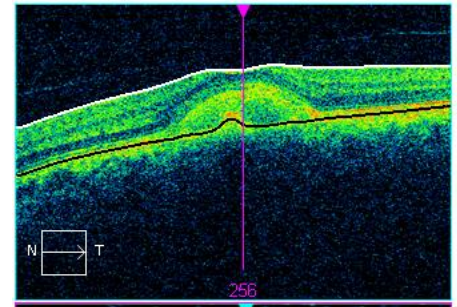
Macula Thickness : Macular Cube 512x128 — OD ○ ● OS

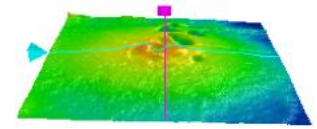


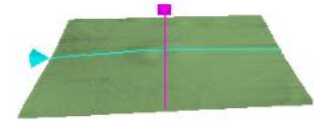


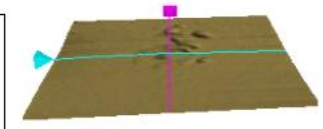
ILM-RPE Thickness (µm)

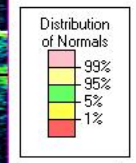

Fovea: Fovea not found




ILM - RPE


ILM

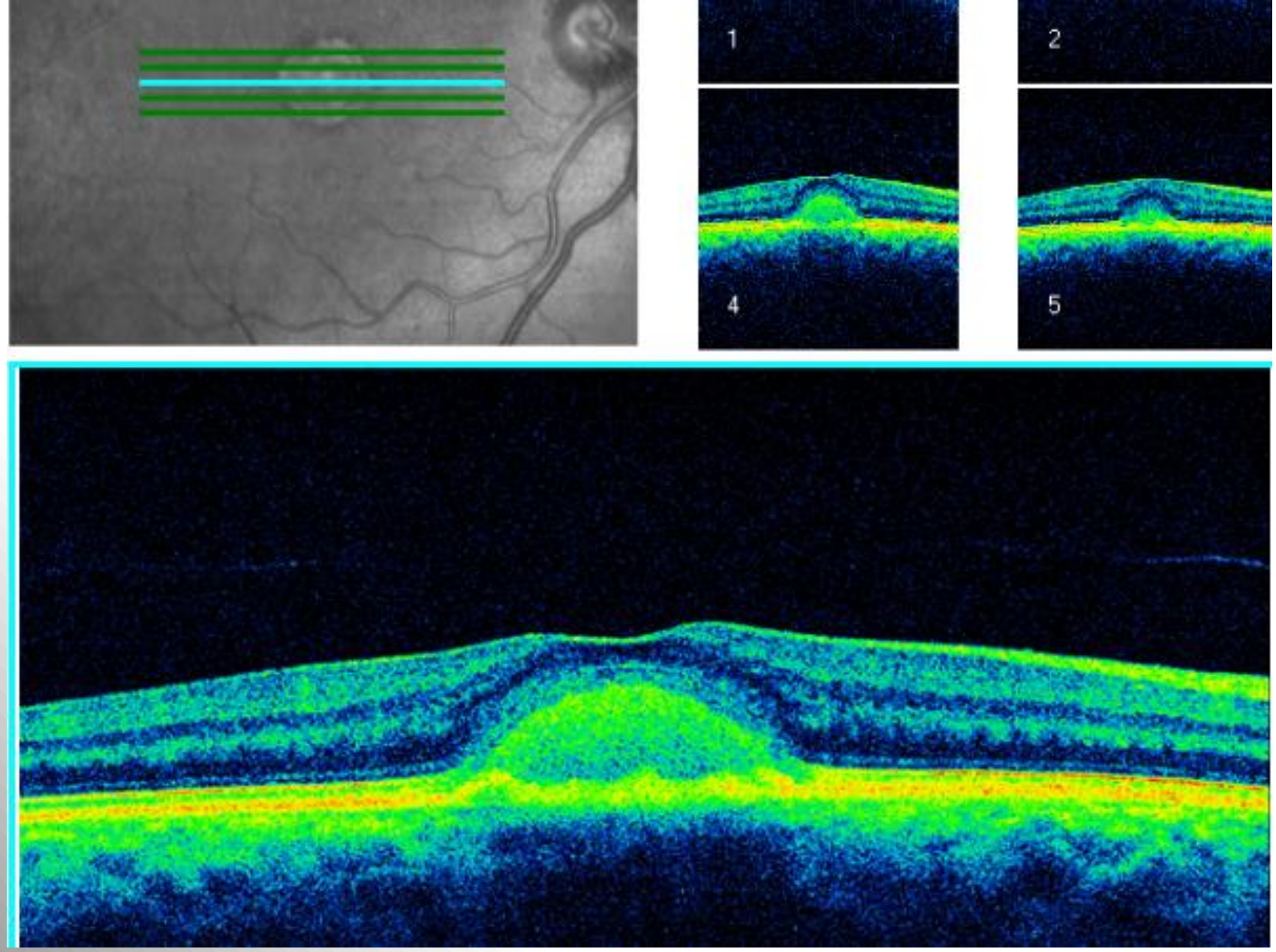

RPE



	Central Subfield Thickness (µm)	Cube Volume (mm³)	Cube Average Thickness (µm)
ILM - RPE	393	11.1	309

Comments	Doctor's Signature	Cirrus HD-OCT SW Ver: 4.5.1.11 Copyright 2009 Carl Zeiss Meditec, Inc All Rights Reserved

Page 1 of 1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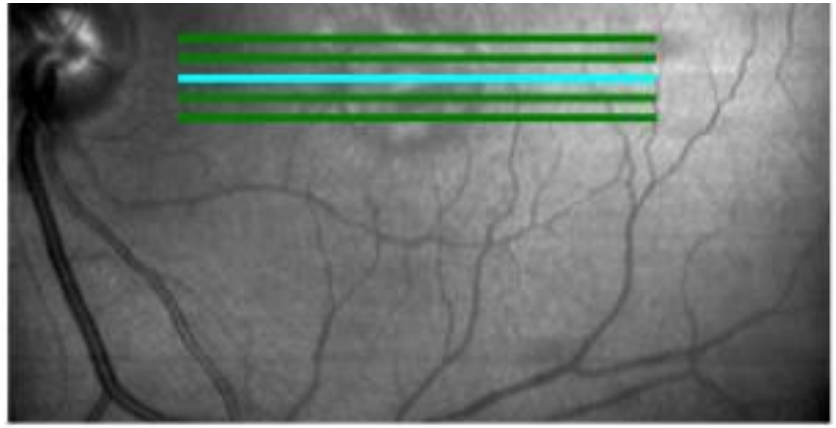

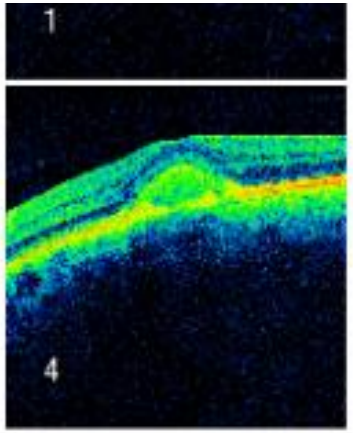
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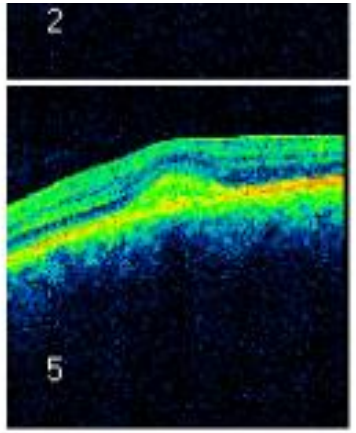
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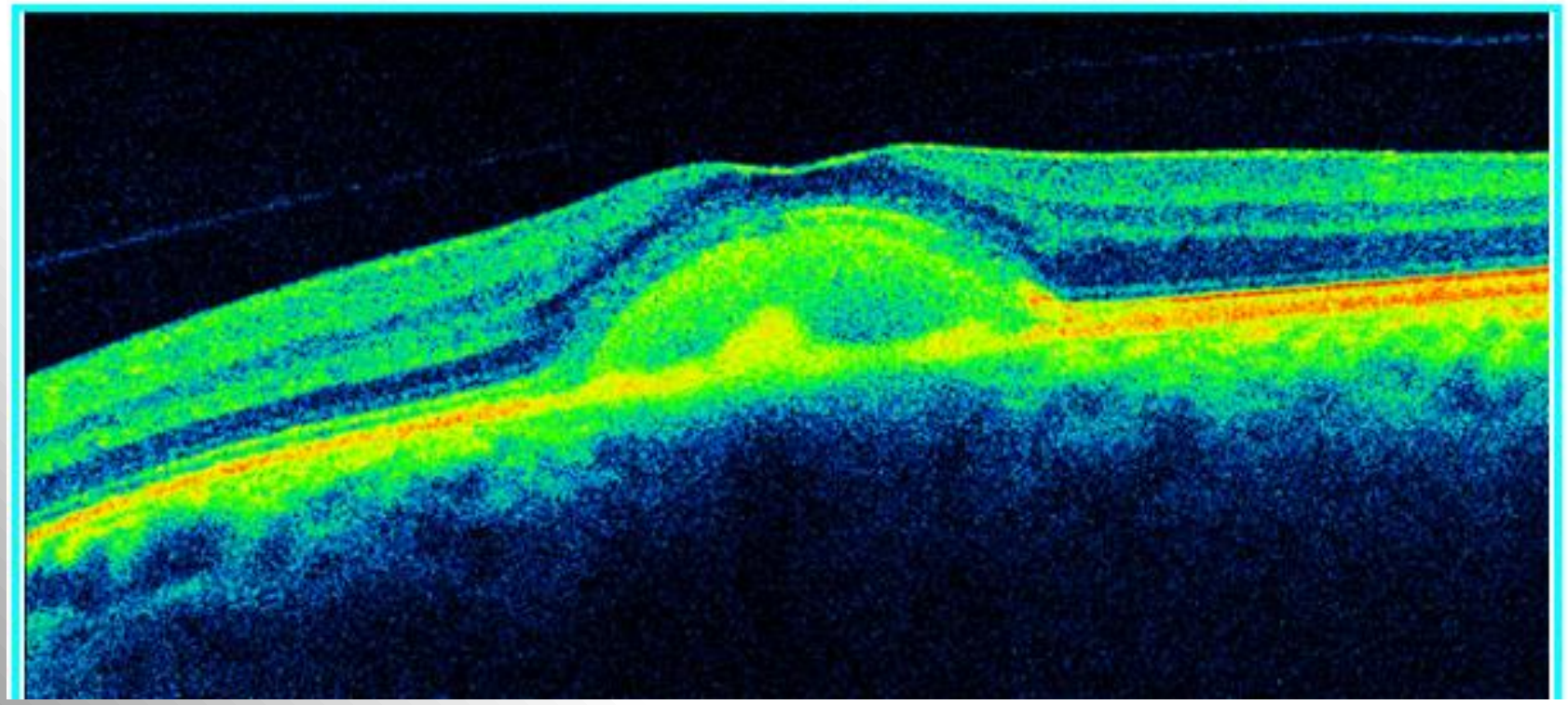
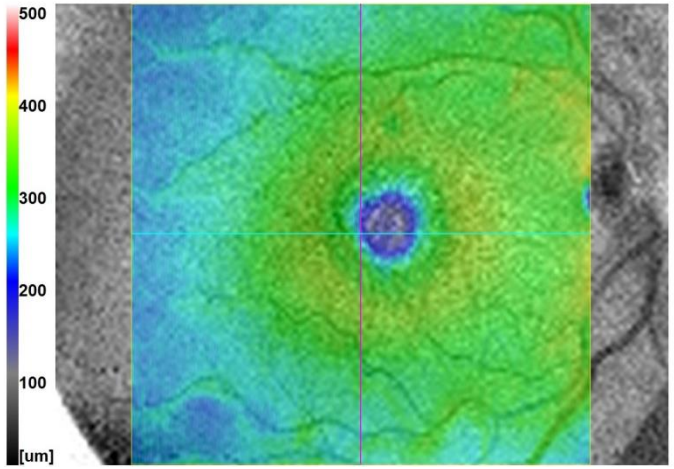
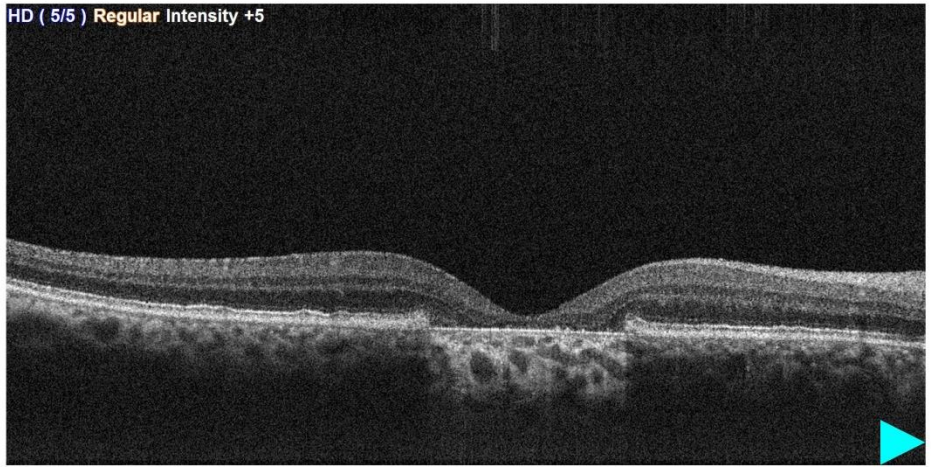


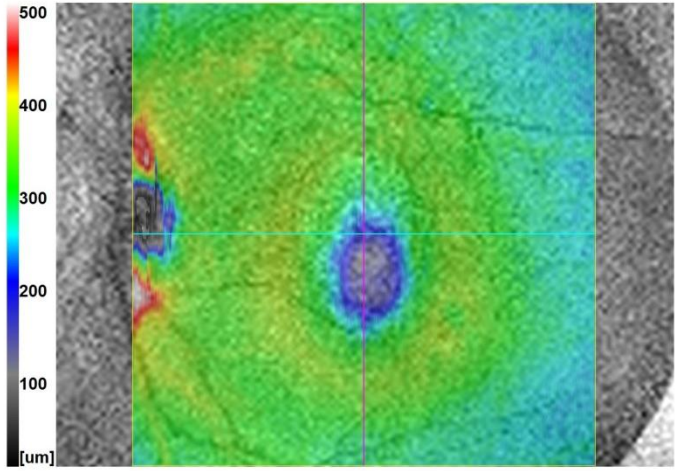
Thickness Map(ILM - RPE/BM)



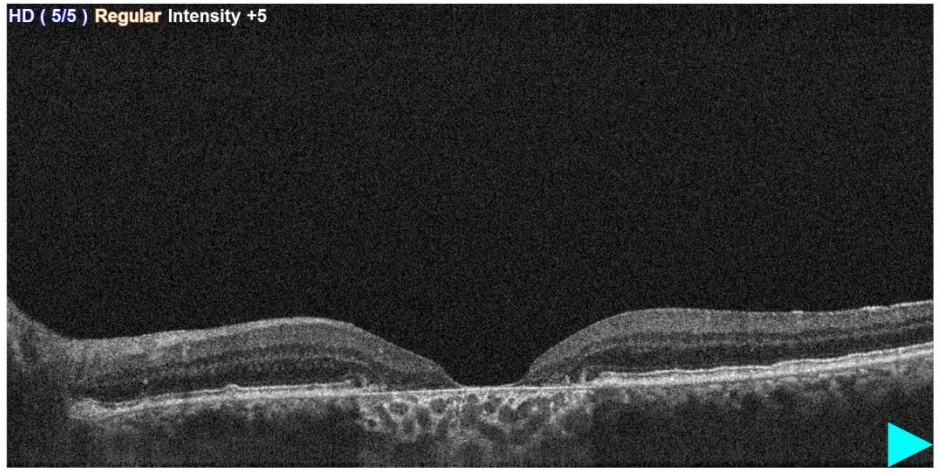
OCT(Horizontal Cross)



Thickness Map(ILM - RPE/BM)



OCT(Horizontal Cross)



Best's (Described by Dr Franz Best 1905)

- Juvenile onset (3-15 years, with an average age of 6 years)
- Autosomal dominant-variable penetrance
- Bilateral
- Abnormal EOG
- Stages: Egg yolk 1/3-3 DD
  Psuedo hypopyon
  Scrambled
  Atrophy
  Neovascularisation

Best’s prognosis

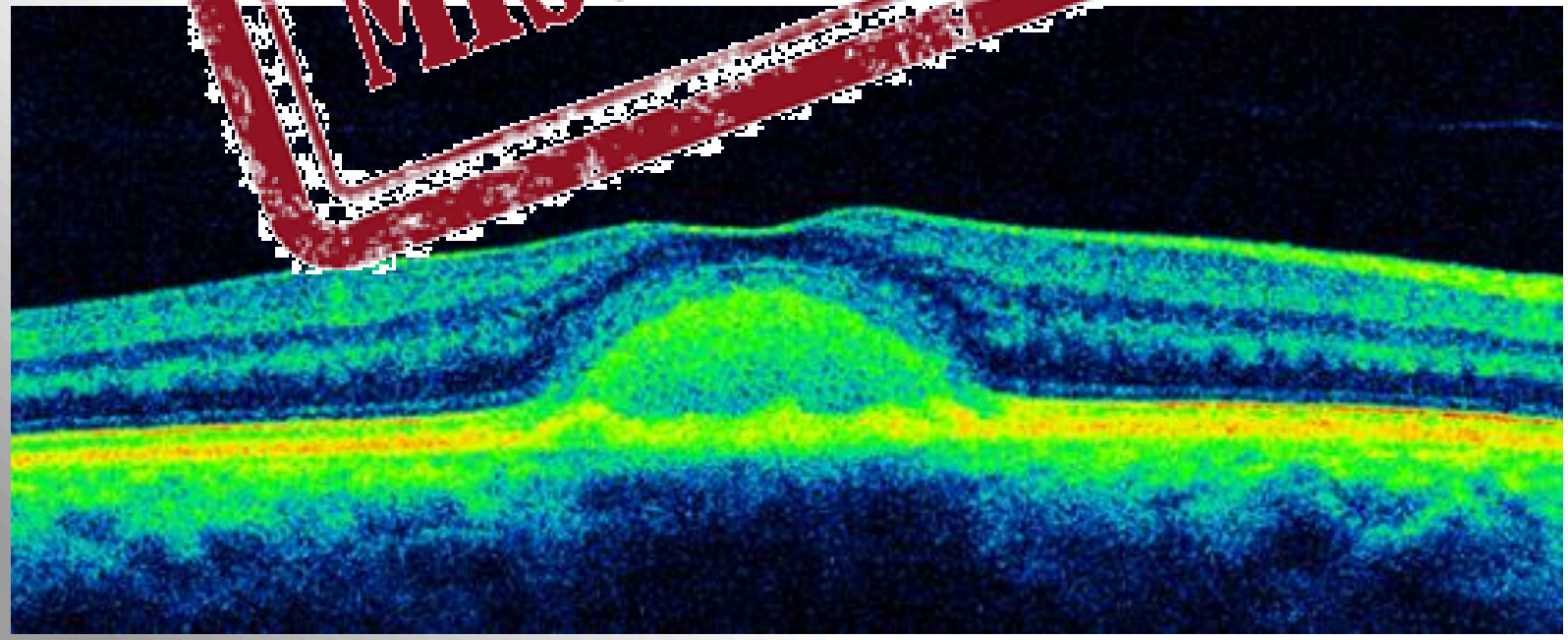
- Visual acuity is good in the previtelliform stage. Even with the egg-yolk appearance, visual acuity is maintained in the range of 20/20 to 20/50 (6/6 to 6/15) for many years.
- The breakup of the vitelliform stage, leading to the scrambled egg stage, may be accompanied by visual acuity deterioration. It is the final stages of geographic RPE atrophy with possible development of choroidal neovascular
- most individuals retain reading and driving vision in at least 1 eye into adulthood (88% have 20/40 or better vision). Only 4% of these individuals develop vision less than 20/200 in the better eye.

Adult Best's

- Age at presentation 30-50 years
- Bilateral
- Autosomal dominant: mixed
- EOG may be normal
- Egg yolk 1/3 DD
- Slower progression, better prognosis than Best's

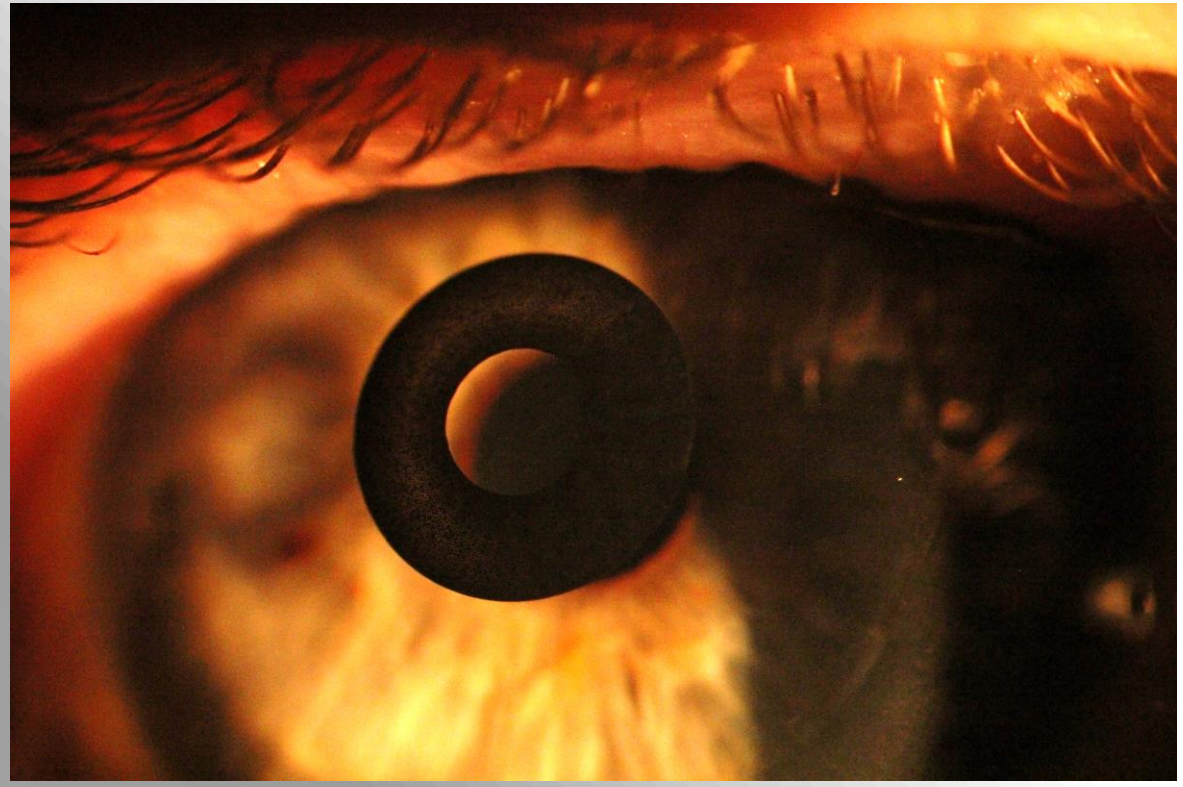
When I see [illegible], I see Best

MISTAKE #23



Pinholes improve your vision

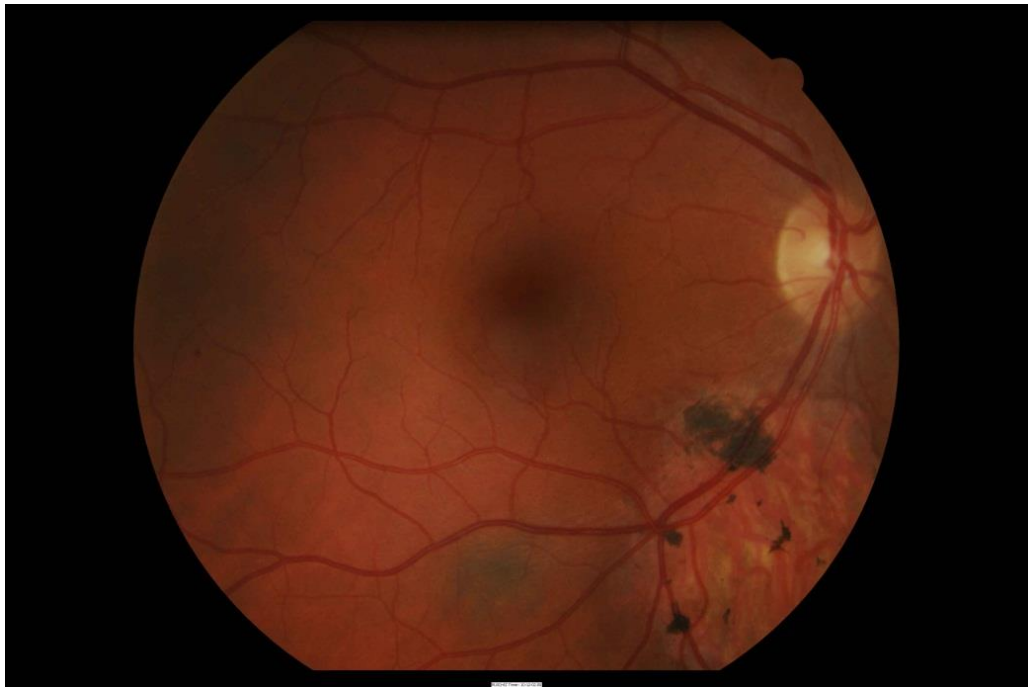
KAMRA Inlay



PROPORTION OF SUBJECTS REPORTING NO SYMPTOM BEFORE SURGERY THAT REPORTED THE SYMPTOM AT 6 MONTHS OR LATER POSTOPERATIVELY FOR ALL SUBJECTS

	At 6 months or later Postoperatively
Blurry/Fluctuating Vision	296/407 (73%)
Color Disturbances	114/495 (23%)
Distortion	171/483 (35%)
Dryness	336/444 (76%)
Glare	245/432 (57%)
Halos	286/481 (59%)
Night Vision Problems	247/412 (60%)
Pain/Burning	152/482 (32%)
Double Vision	136/498 (27%)
Ghost/Overlapping Images	192/494 (39%)

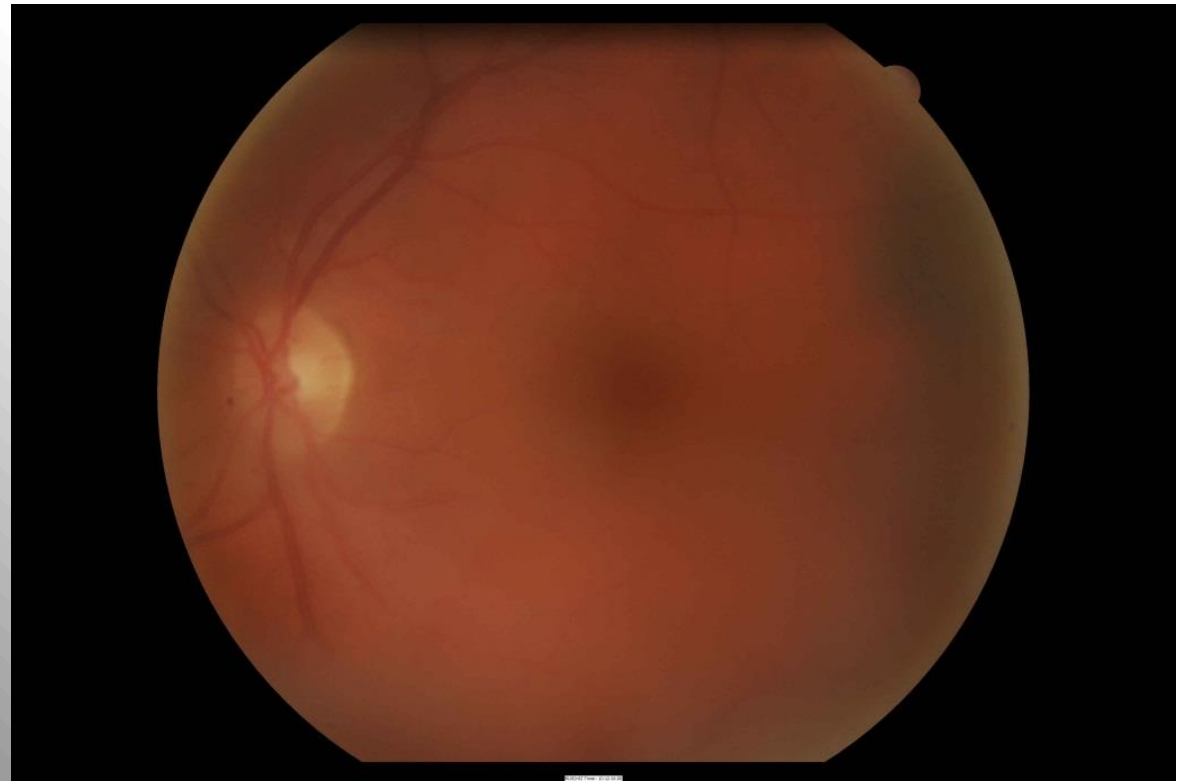
Idiopathic Panuveitis



- Caucasian male
- first presented age 25
- Asymptomatic, but noted to have right chorioretinal scarring inferior to the disc and extensive mutton fat KP on the left cornea.
- No recollection of ocular trauma or pain and achieved unaided vision of 6/4.8- in each eye.
- No relevant general health concern and no family ocular history of note.

Age 28

- Complains of blurred left vision 6/7.5.
- IOP 8mmHg OU. The KP were unaltered and there were no new cells in the anterior chamber. Dilated fundus examination showed vitritis, but no other fundus abnormalities in this eye.



Referral

- Fluorecein angiography demonstrated no evidence of vasculitis, disc leakage or macular oedema. An orbital floor injection of Depo-medrol was given and topical steroids were used for two months.

- The vision returned to 6/4.8-, but cells remained in the vitreous, causing some mild glare symptoms. Systemic investigations including blood tests were negative for uveitis linked conditions.

Age 32

- dramatic increase in the level of vitritis.
- An additional orbital floor injection of steroid was administered and blood tests were repeated, which still were negative.

Age 42

- Trace posterior subcapsular cataract noted, but corrected acuity was 6/6 and the intraocular pressures were 10mmHg.

Age 50

- Sudden drop in acuity to 6/19 occurred with dense posterior subcapsular cataract.
- IOP R: 8mmHg and L: 24mmHg and referral to a cataract surgeon was made.
- At that appointment the IOP was measured as L: 37mmHg,
- Prescribed Simbrinza bd and Xalacom q, resulting in pressures of L: 15mmHg.
- At this time the posterior subcapsular cataract has progressed to the point that there is no fundus view possible.

Discussion

- The propensity for uveitis to cause elevated intraocular pressure is well known.
- 10% of acute anterior uveitis cases demonstrated elevated intraocular pressure elevation,
- 22% of chronic uveitic eyes developed elevated intraocular pressure.

Differentials

- The absence of a definitive diagnosis from blood tests in this case has resulted in the designation of idiopathic panuveitis.
- It is worth considering several alternative diagnoses, such as Fuch's Heterochromic Cyclitis (FHC), Posner-Schlossman Syndrome and infectious causes such as CMV, HSV, Helicobacter pylori, varicella zoster virus, toxoplasmosis and rubella. It is also noteworthy that there appears to be potential for substantial overlap between these conditions.

Fuch’s Heterochromic Iridocyclitis is heterochromic

Fuch's Heterochromic Iridocyclitis

- Chronic condition that accounts for 2-3% of uveitis. It typically presents in the 3rd or 4th decade of life as painless, unilateral blurred vision without posterior synaeakia formation.
- The presence of vitritis, cataract and glaucoma is strongly suggestive of FHC as 20% of cases do not exhibit heterochromia.
- Our case does not exhibit iris nodules, but even without that finding there is a 50% probability of FHC. The presence of large granulomatous KP in our case rather than smaller stellate KP is a possible flaw in this diagnosis.

Posner-Schlossman syndrome

- or Glaucomatocyclitic Crisis is also an uncommon, relatively painless unilateral uveitis that presents in a similar age group. It is seen more frequently in males.
- In this condition periodic spikes of IOP are recorded as the uveal inflammation flares. The IOP spikes are out of proportion with the degree of uveitis present.
- The absence of observed corneal oedema, large rather than small stellate KP and dramatic vitritis with no active anterior chamber reaction make this an uncomfortable fit with our case.

Infection

- There have been several studies that have confirmed the presence of aqueous humour antibodies to several viruses by polymerase chain reaction (PCR) analysis.

- In particular, CMV has been implicated in 50% of PSS cases and 40% of FHC cases. This implies that possible anti-viral therapy may be a potentially useful adjunct in the therapeutic management of many chronic uveitis cases.

Summary

- Glaucoma is far more common in chronic uveitis than in acute uveitis
- Steroid induced glaucoma is an unlikely contributor in many of these cases.
- Many chronic uveitic conditions may have little or no pain and the only symptoms may be photophobia or blur.
- Glaucoma progression may progress in the absence of discomfort.
- Clinicians are advised to monitor chronic uveitis cases carefully to detect and manage secondary glaucoma more effectively even in the asymptomatic patient with no history of recent steroid use.

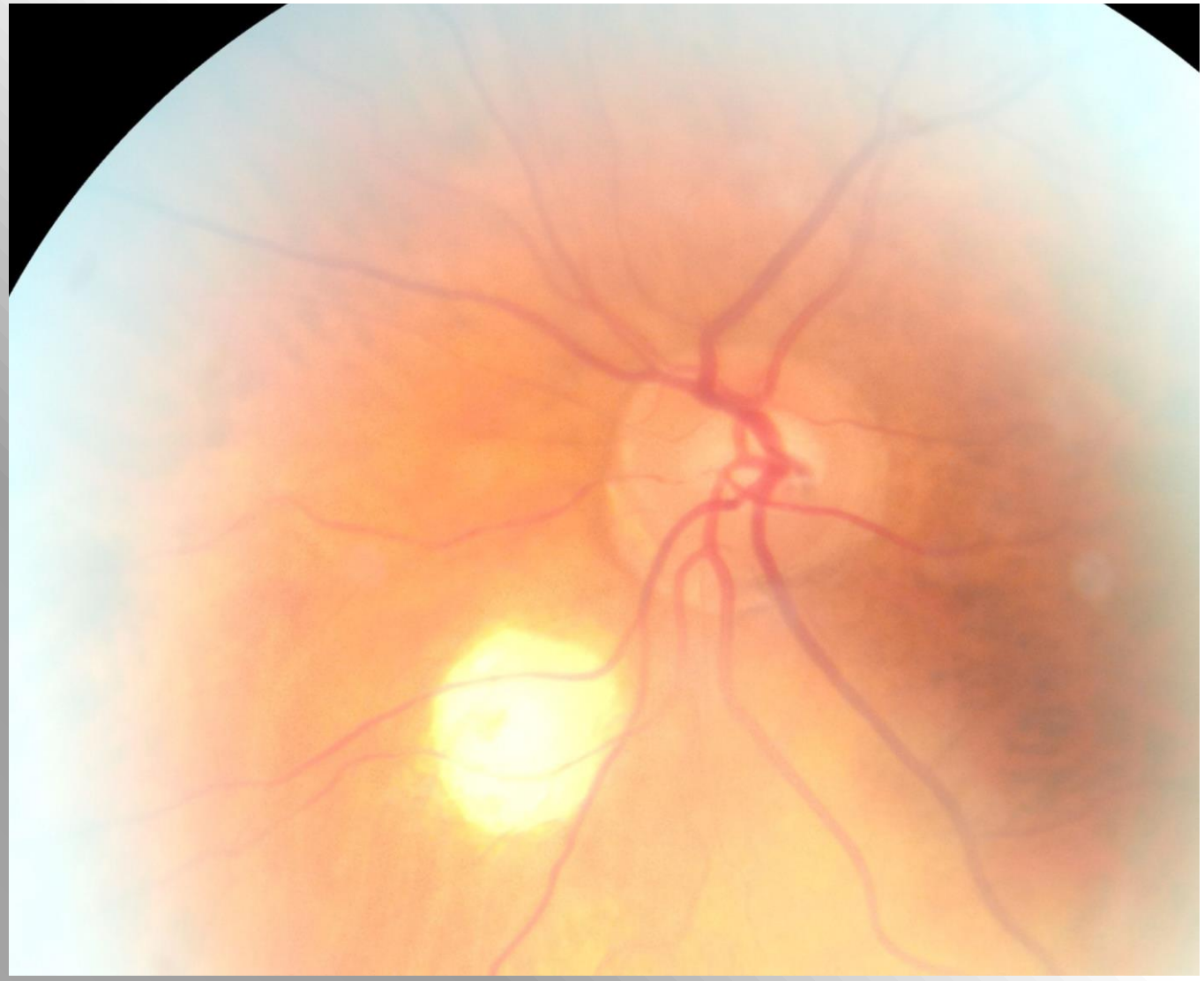
Anatomy revision #1

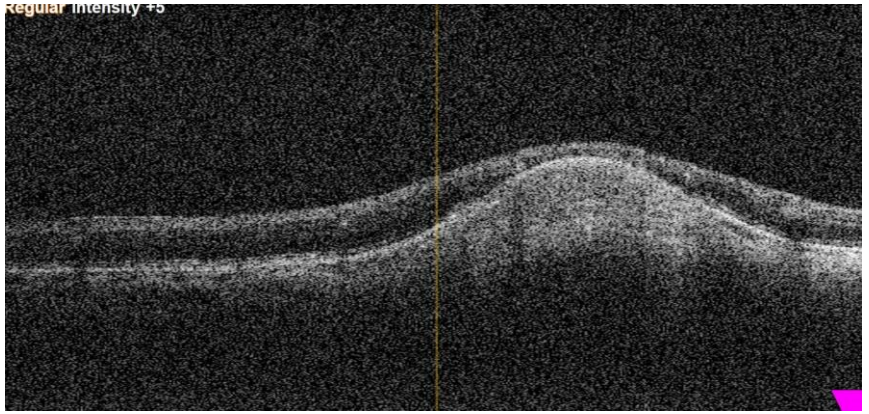
The neck bone is connected to the head bone

The head bone is connected to the eye bone

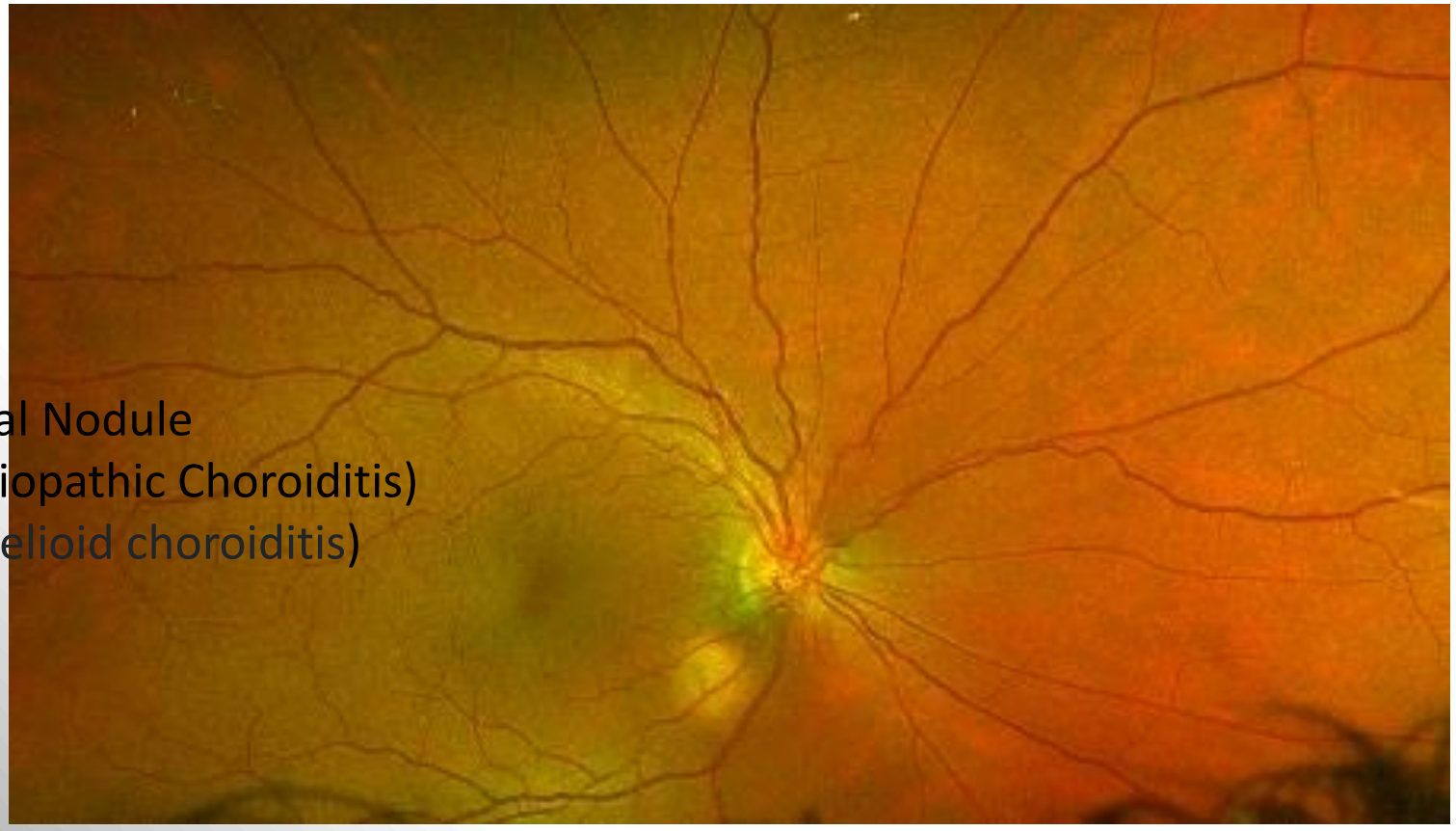
…hang on, there is no eye bone!

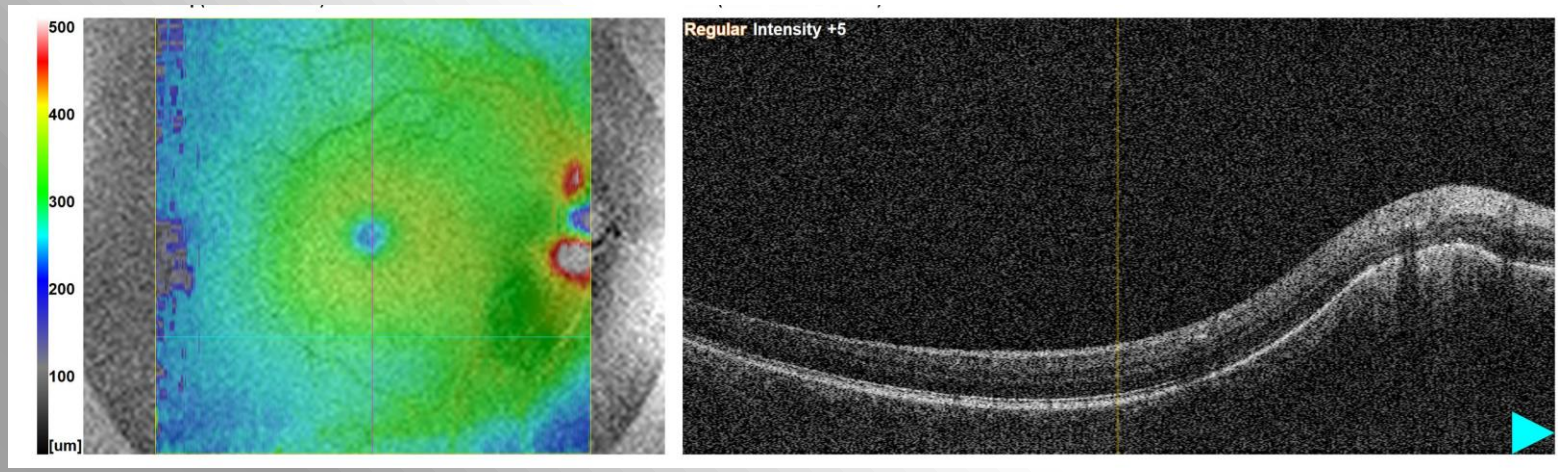
Choroidal Osteoma



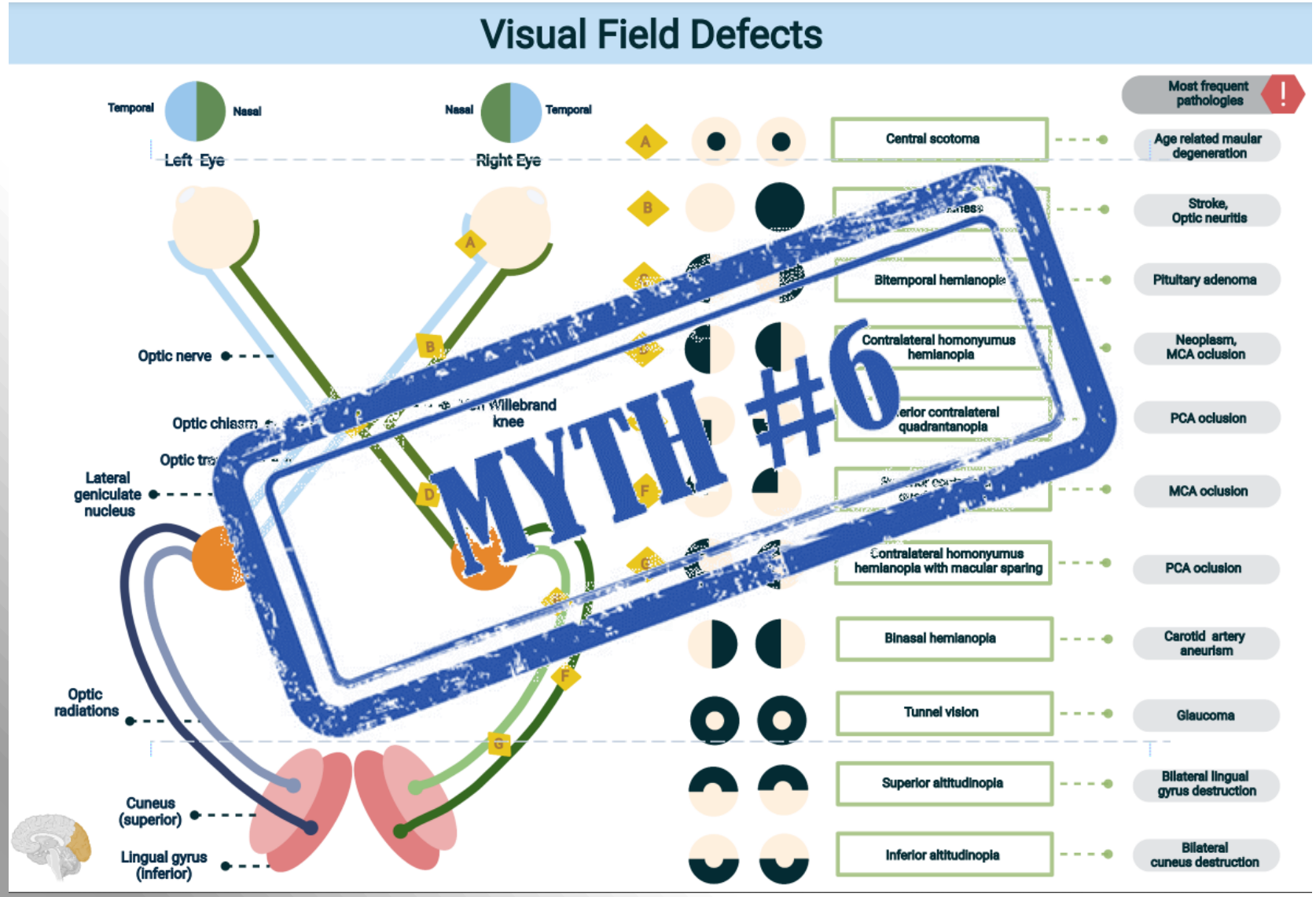


Focal Scleral Nodule
(Solitary Idiopathic Choroiditis)
(Unifocal helioid choroiditis)

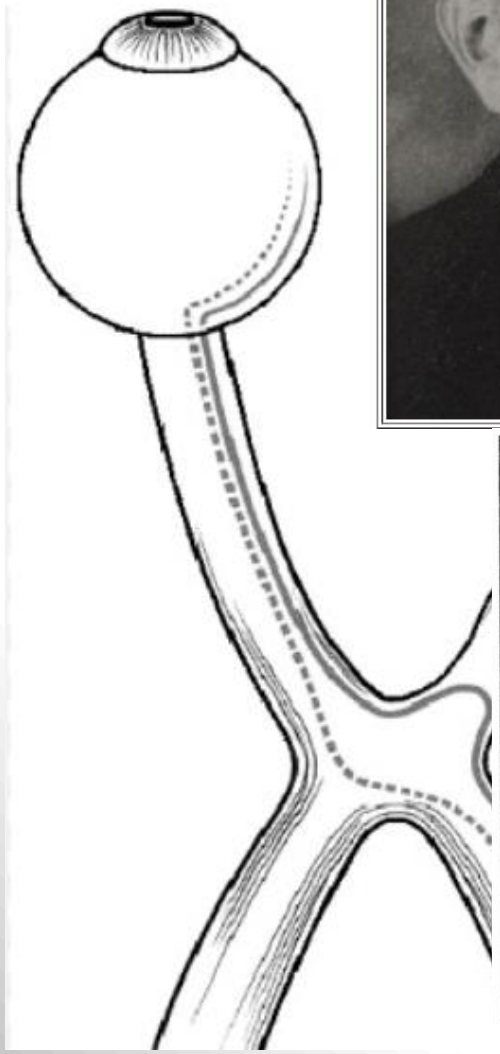


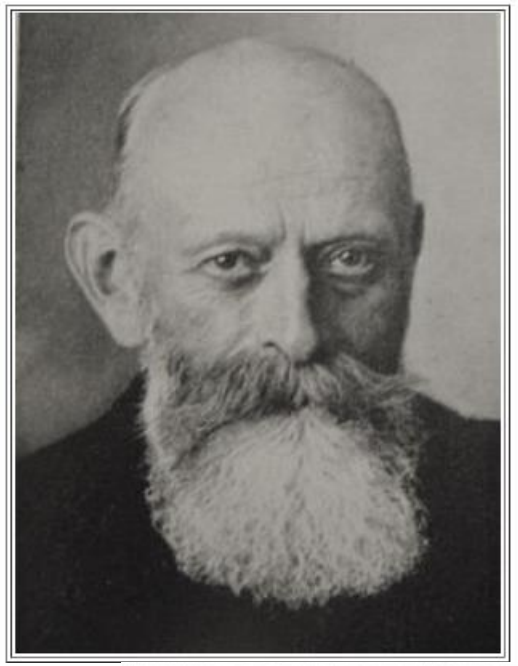


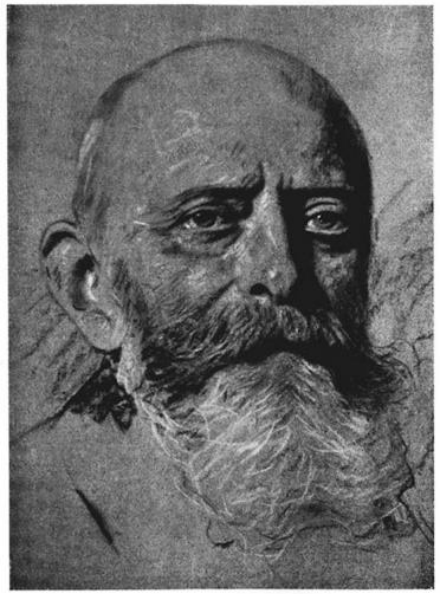
Willebrand's Knee



Willebrand's Knee



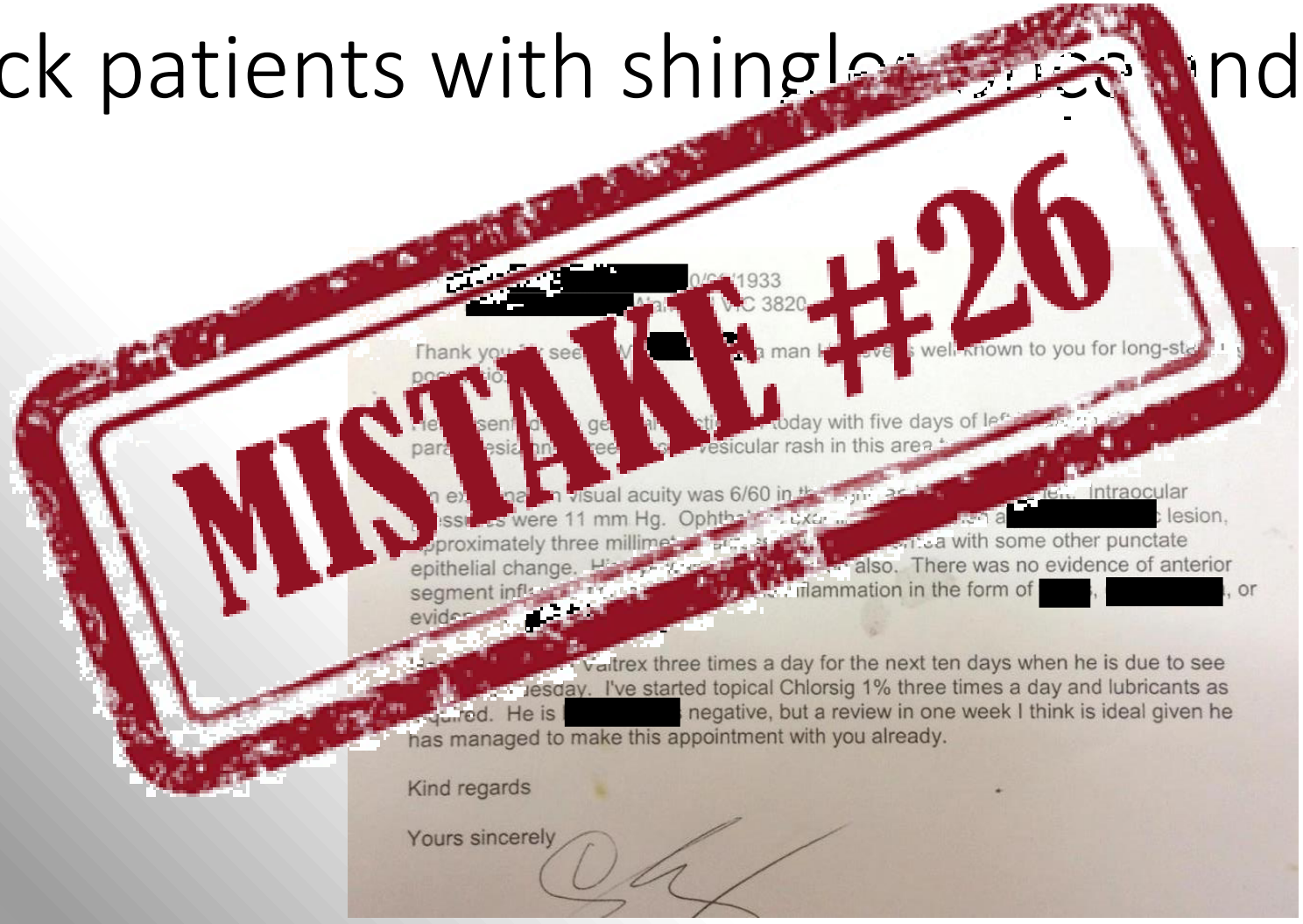


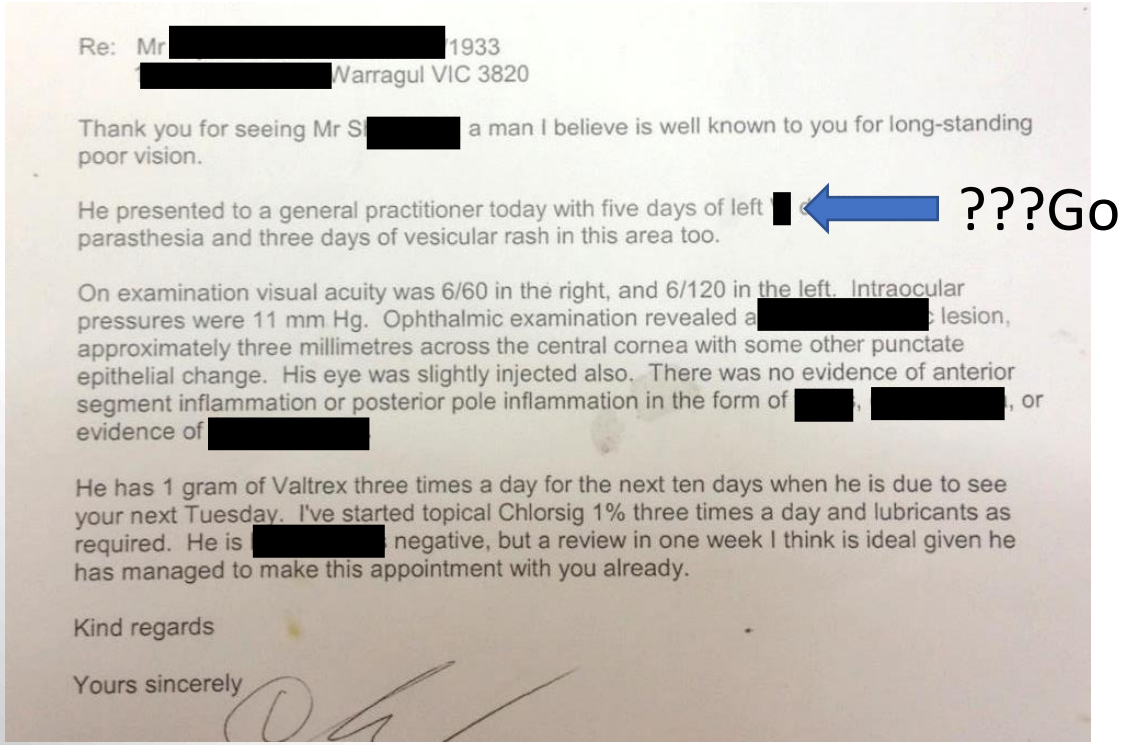


Shingles

- Reactivation of the chicken pox virus (varicella-zoster virus)
- Estimated 1/3 people will develop shingles in their lifetime
- Severity and incidence increase with age and in the immuno-compromised
- The most common sites are the thoracic nerves and the ophthalmic division of the trigeminal nerve. Herpes zoster ophthalmicus, which occurs in 10% to 25% of HZ episodes
- Why do viruses remain dormant in neural ganglia?

I check patients with shingles [illegible] and carefully





Re: Mr [redacted] 1933
[redacted] Warragul VIC 3820

Thank you for seeing Mr S[redacted] a man I believe is well known to you for long-standing poor vision.

He presented to a general practitioner today with five days of left [redacted] parasthesia and three days of vesicular rash in this area too.

On examination visual acuity was 6/60 in the right, and 6/120 in the left. Intraocular pressures were 11 mm Hg. Ophthalmic examination revealed a[redacted] lesion, approximately three millimetres across the central cornea with some other punctate epithelial change. His eye was slightly injected also. There was no evidence of anterior segment inflammation or posterior pole inflammation in the form of [redacted], or evidence of [redacted]

He has 1 gram of Valtrex three times a day for the next ten days when he is due to see your next Tuesday. I've started topical Chlorsig 1% three times a day and lubricants as required. He is [redacted] negative, but a review in one week I think is ideal given he has managed to make this appointment with you already.

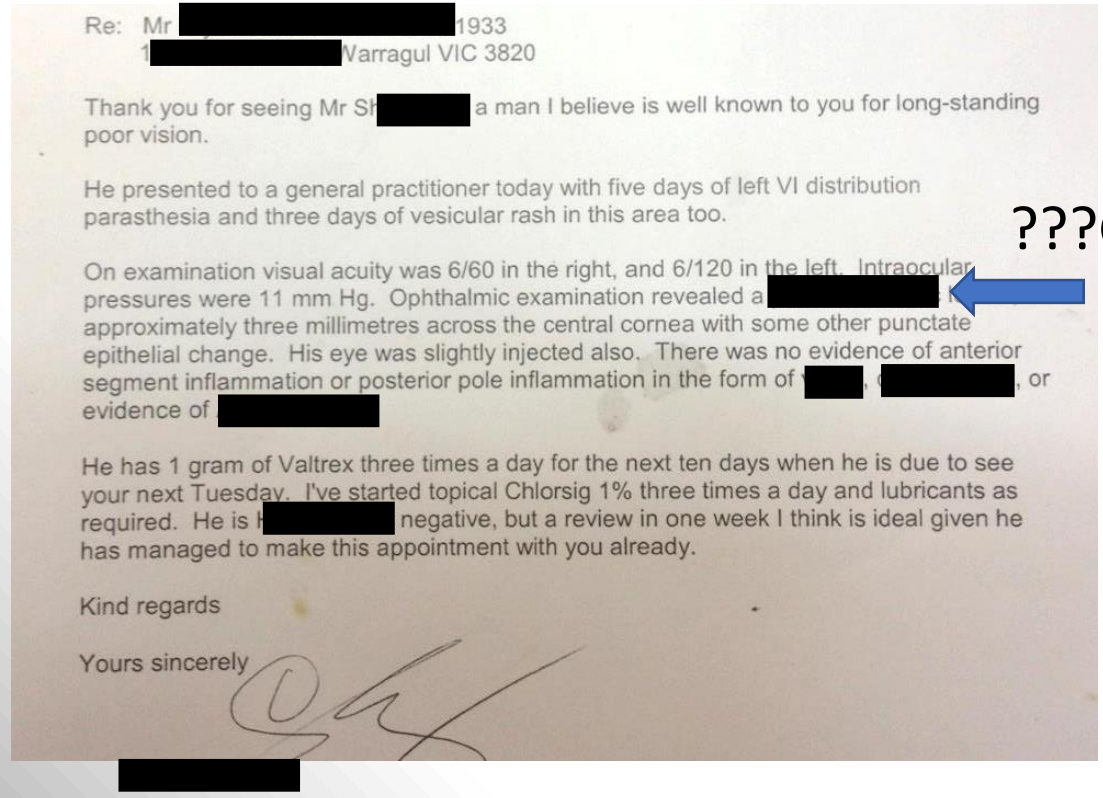
Kind regards

Yours sincerely

???Google this!

EOM palsy from zoster

- 7 to 31% of patients developed third, fourth, or sixth cranial nerve palsy
- The third nerve appears to be the most commonly affected, and the fourth nerve, the least.
- In herpes zoster ophthalmicus, extraocular muscle palsies usually appear **2 to 4 weeks after a rash**, but sometimes occurs simultaneously with a rash or more than 4 weeks later.
- Usually a transient, self-limited condition



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[redacted]

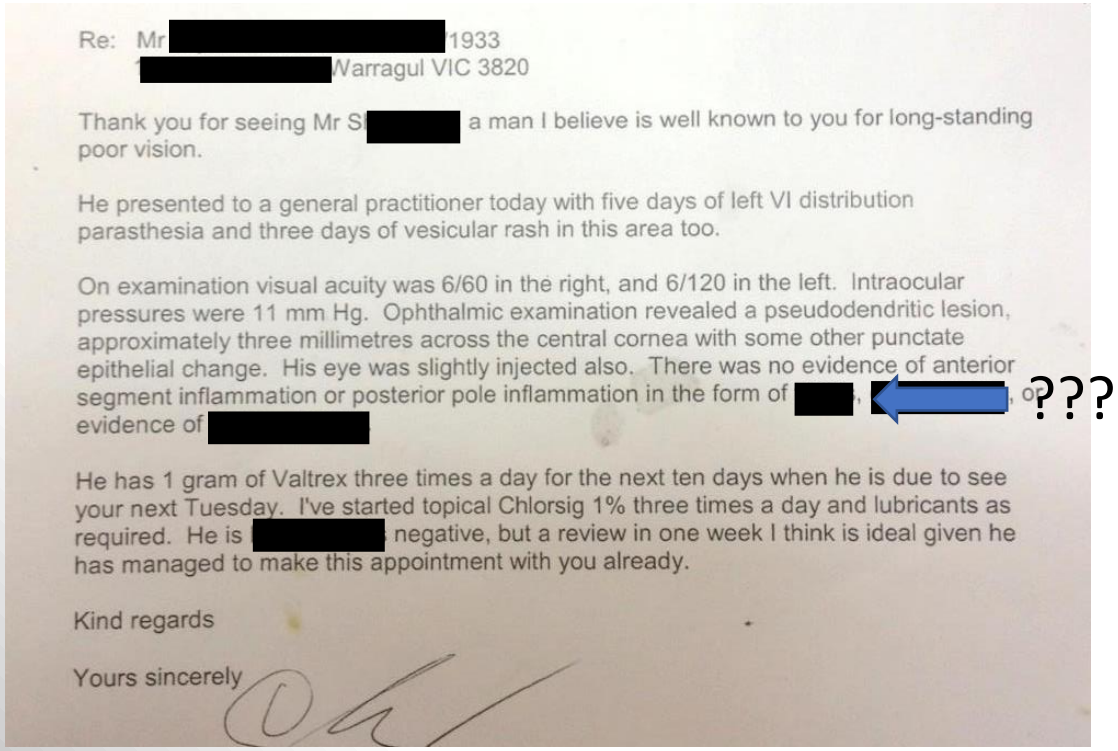
???Google this!

Pseudodendrites

- Punctate keratitis and pseudodendrites consist of swollen, poorly adherent epithelial cells and are usually seen in the corneal periphery and appear “stuck on”.
- In contrast to HSV dendrites, these pseudodendrites lack terminal bulbs and dichotomous branching and stain poorly with both fluorescein and RB.
- Although VZV has been cultured out of these lesions, they do not respond to topical antivirals.

Keratitis

- Acute keratitis can occur up to **1 month** following the onset of dermatitis.
- Sclerokeratitis occurs as a crescent-shaped corneal infiltrate adjacent to an area of scleritis.
- Chronic/Relapsing Keratitis This form occurs up to **several months** following the initial HZO infection.
- Mucous plaques
- Disciform keratitis is similar to the disciform keratitis seen in HSK.
- Interstitial keratopathy



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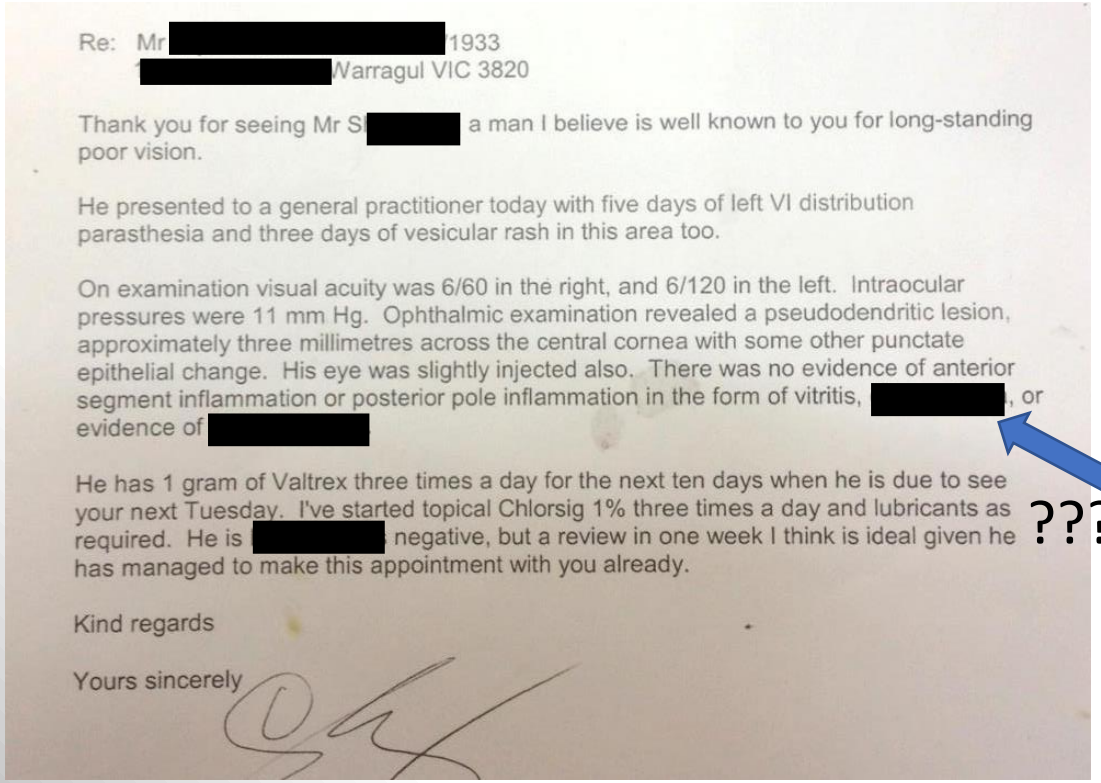

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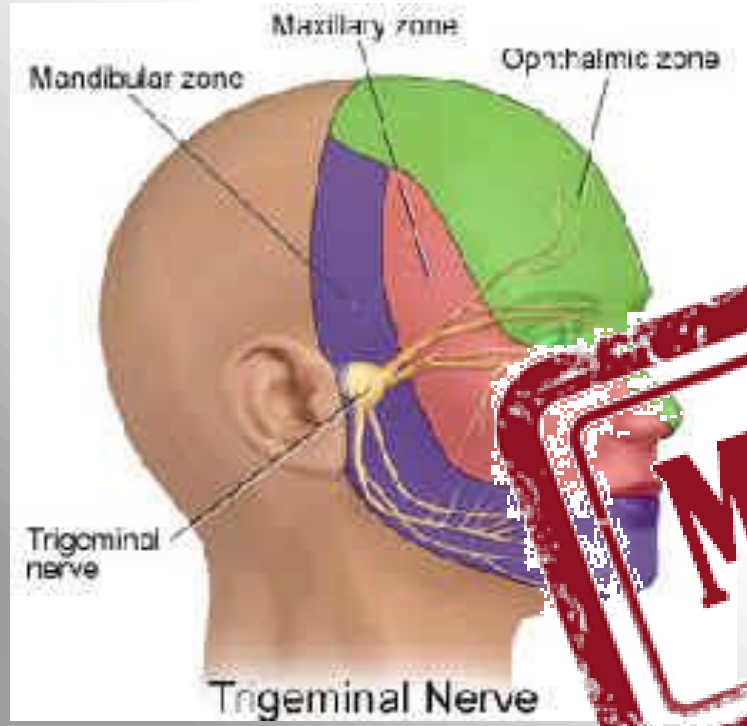
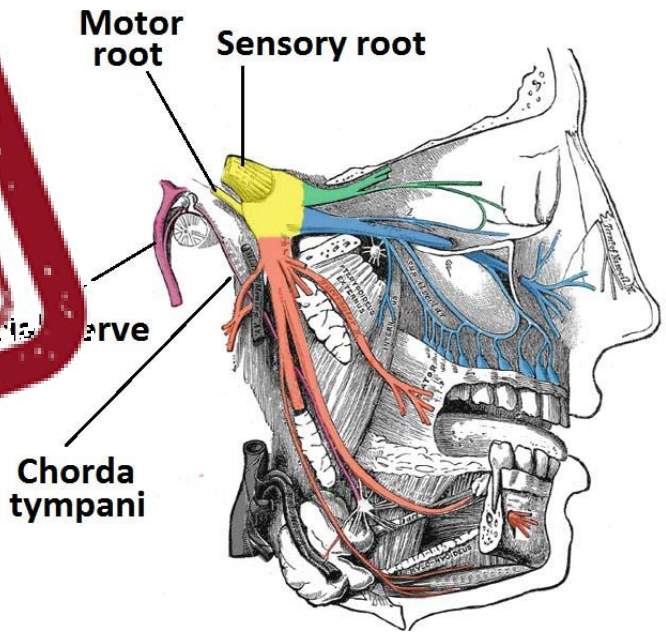
Anatomy revision #2



Hutchin[illegible]

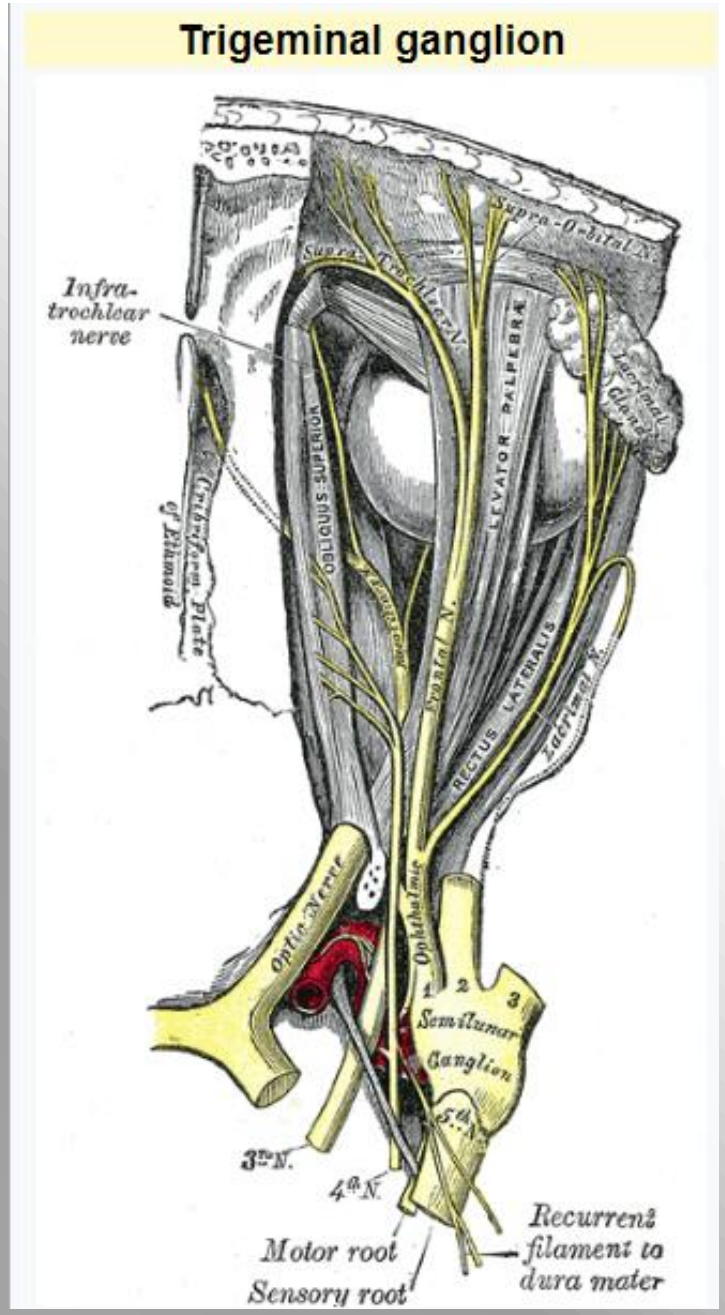
- Overall, 50% [illegible] trigeminal zoste[illegible] develop ocular [illegible]
- Hutchinson's sign can [illegible] 100% ocular in[illegible]
- Up to [illegible] develop ocular [illegible]ions without [illegible]inson's sign

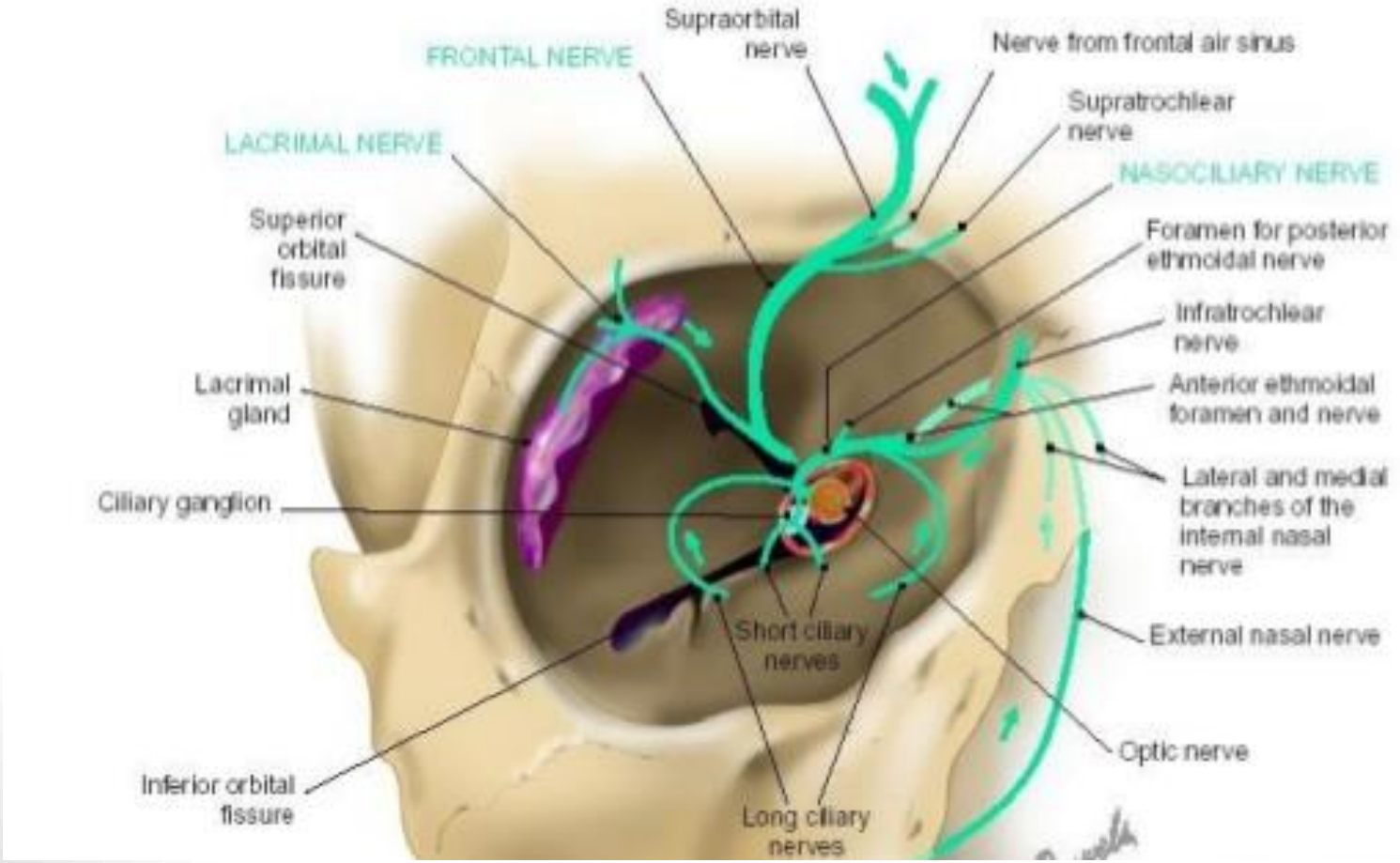
MISTAKE #27



The Trigeminal ganglion is near the surface of the skin, just in front of the ear

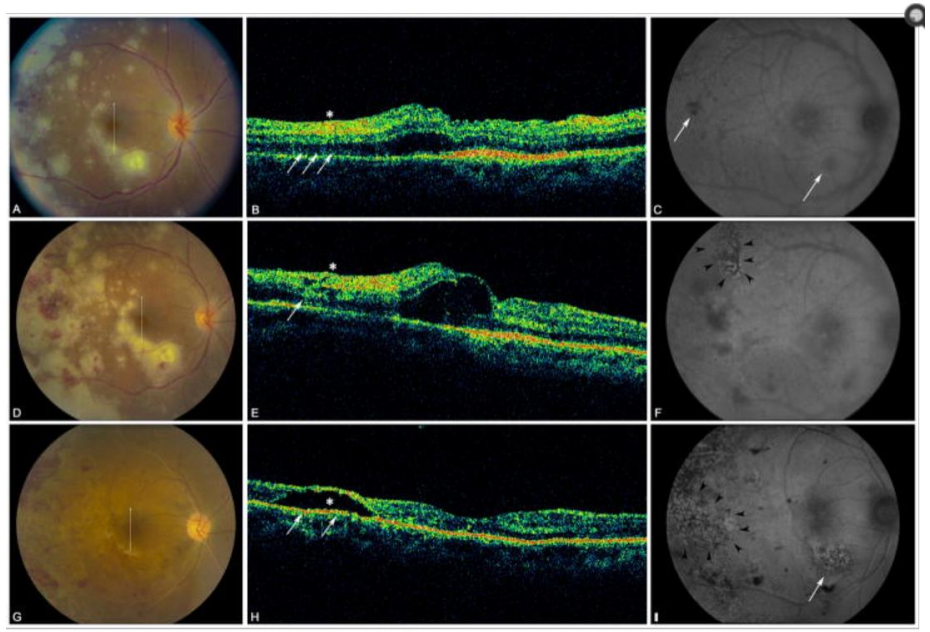
Trigeminal ganglion

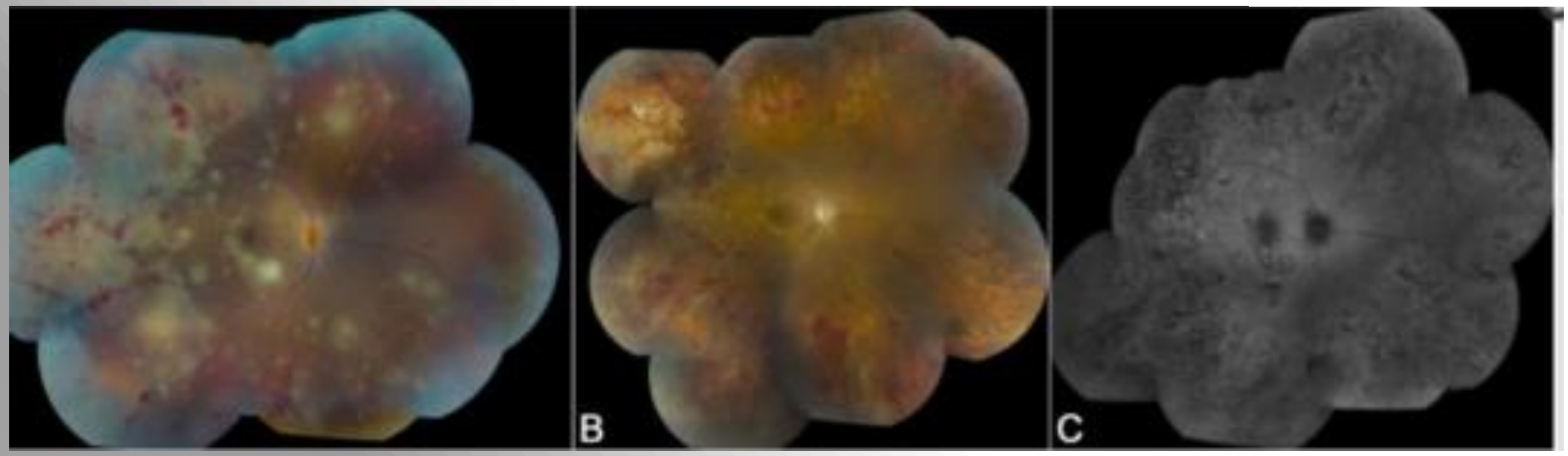




I can Google t[illegible]

PORN, OCT and Autofluorescence





- Dx presumed zoster by KT 19/2
  - No lesions, stabbing pain, radiating back through scalp
  - Slit-lamp and DFE NAD
- Put on oral antivirals, Chloro and Cellufresh by GP
- Pseudodendrite by day 12
- Anterior stromal haze by day 20
  - Flarex qid
- Vision sl down by day 30
- Cornea clear and Flarex taper by day 40

Practice Points

- Patients are considered infectious until the lesions have crusted
- They should avoid pregnant women and the immuno-compromised
- Vaccination of adults reduces the risk of Zoster by 50%
- Increasing rates of zoster are due to the aging population and childhood immunisation (lessens secondary exposure boosting adult T cell immunity)
- Up to 7% of people have a recurrence within 10 years

Conclusion

- The scarier complications of HZO may take weeks to months to develop
- Most of the dramatic cases will involve pain, unless severely immuno-compromised
- Wills Eye Manual
  - Full exam including DFE initially
  - With no ocular involvement, review 1-2 weeks, then every 3-6 months
  - With ocular involvement, review 1-7 days depending on severity

Artificial Intelligence is already helpful in clinical decision making

ARCHWAY
LADDER

SUSTAIN
PrONTO
EXCITE
TREND

HAWK
HARRIER
CATT

M
ANC
SAILO
PIER
HARBOR
COAST

CEDAR
SEQUOIA
MAPLE

LUCAS
IVAN

TREX-AMD

Take Home Messages

- Beware of confirmational bias
- Beware of changes in routine for “sweaty palm” presentations
- Beware the patients that you know
- Don’t google PORN
- Turn off the fan before you jump on the bed