

MIGS Case

More than Just Staging

Kristopher A. May, OD

CC, 79wf

- Long term history of POAG when first presented in 2011
 - Well controlled and compliant through 2015
 - CDs
 - .6 OD, .55 OS and stable
- Diagnosed and treated for early Alzheimer's Disease 2015
 - Husband able to help with drop compliance
 - Moderate control with PGA monotherapy
 - Multi-med therapy burden more than family and husband can manage
- Lost to follow up 2017 thru 2020
 - Husband diagnosed with Parkinson's Disease

CC, 2020

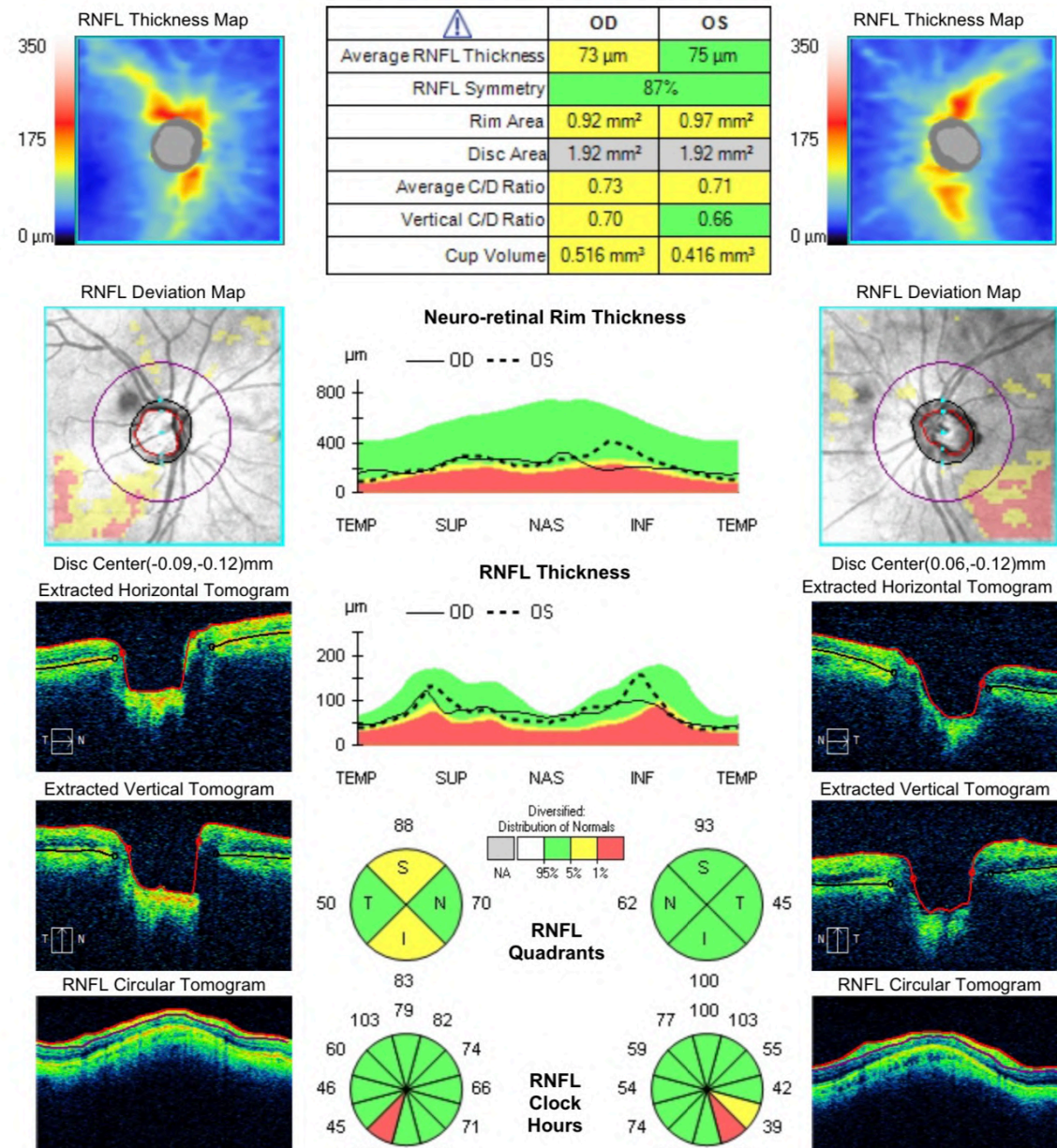
- CVC: Can't see anymore!
 - “Forgot about drops & hasn't had in a long time”
 - Husband could not consistently help with drops due to Parkinson's progression and progression of his dementia

CC, 2020

- VA
 - OD 20/400 PHNI
 - OS 20/40
- Moderate NS and PSC OD>OS
- IOP 16/13
 - Restarted on PGA qhs and Brimonidine bid

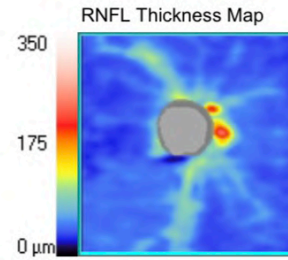
CC, 2017

ONH and RNFL OU Analysis: Optic Disc Cube 200x200 OD ● | ● OS

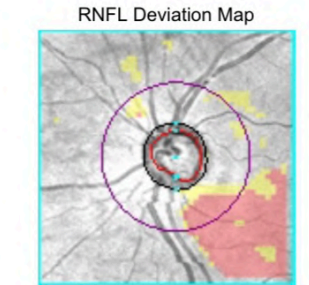
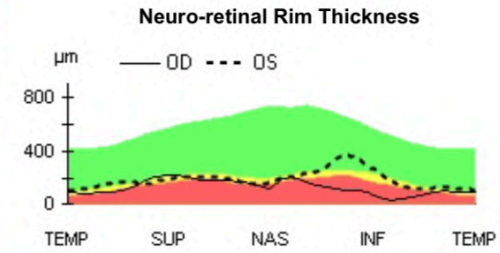
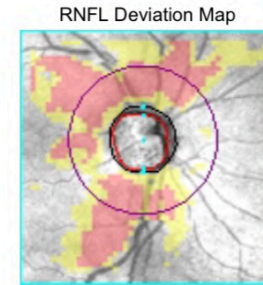
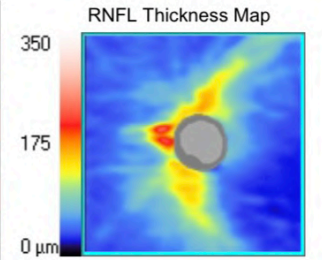


CC, 2020

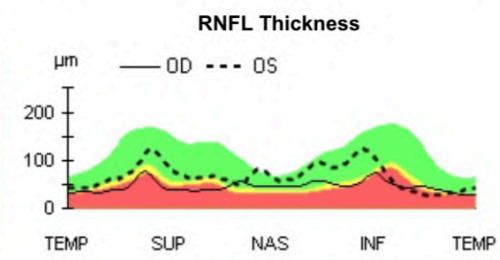
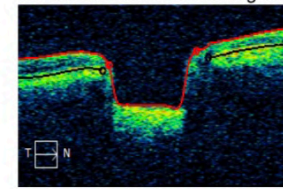
ONH and RNFL OU Analysis: Optic Disc Cube 200x200 OD ● OS ●



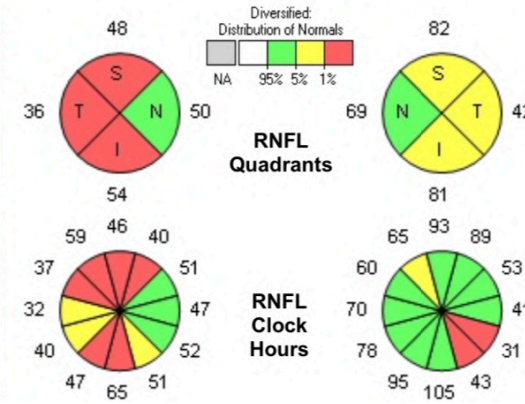
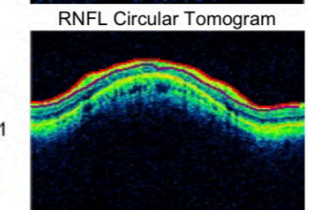
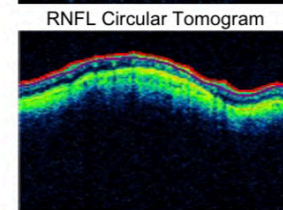
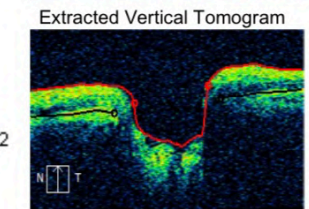
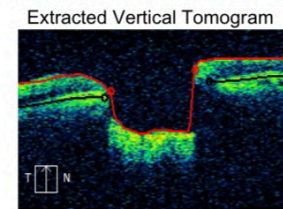
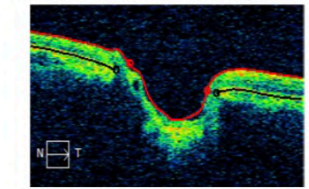
	OD	OS
Average RNFL Thickness	47 μm	69 μm
RNFL Symmetry	71%	
Rim Area	0.59 mm^2	0.80 mm^2
Disc Area	1.93 mm^2	1.84 mm^2
Average C/D Ratio	0.84	0.76
Vertical C/D Ratio	0.81	0.72
Cup Volume	0.722 mm^3	0.473 mm^3



Disc Center(-0.15,0.45)mm
Extracted Horizontal Tomogram



Disc Center(0.18,0.06)mm
Extracted Horizontal Tomogram



CC

- Daughter is having to go to home 3x a day to instill drops before work, after work, and before bed
 - Husband cannot help at all
- Recommend phaco with MIGS due to vision, orientation, progression, severity, noncompliance, & lack of home support
 - Extensive discussion that existing damage cannot be restored

CC

- Bilateral phacoemulsification with 360 canaloplasty and inferior 180 goniotomy performed
- Post op VA
 - OD 20/20
 - OS 20/25
- Stabilized post-operative IOPs without drops
 - 9mm OD
 - 10mm OS

Case Discussion

Justin Schweitzer, OD

65-year-old, Caucasian female seeking an opinion on her glaucoma. She states compliance with her current drops but was recently told that her glaucoma is getting worse in her right eye. She wants to know what her options are.

Ocular History

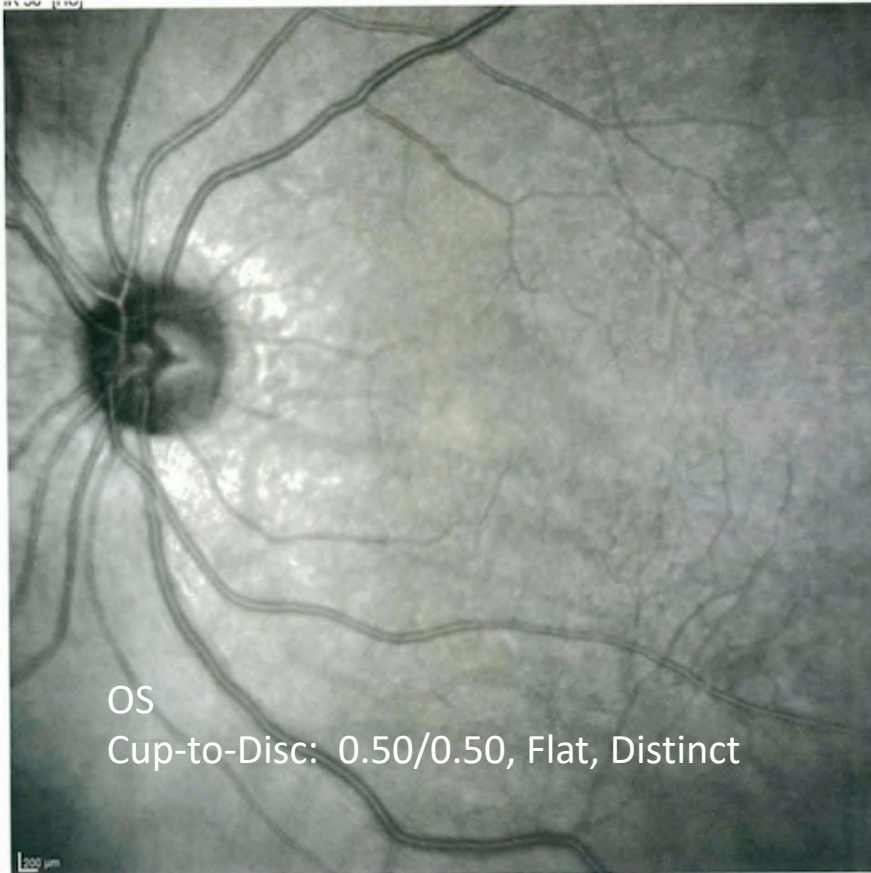
- POHX: POAG OD>OS, Pseudophakic OU
- FHX:
 - Mother – glaucoma, age-related macular degeneration
- Previous Treatment Regimen: None
- Current Treatment Regimen:
 - bimatoprost 0.01% qd OU
 - brimonidine tartrate/timolol maleate bid OU
- IOP max
 - OD: 23 mm Hg
 - OS: 23 mm Hg

Medical History

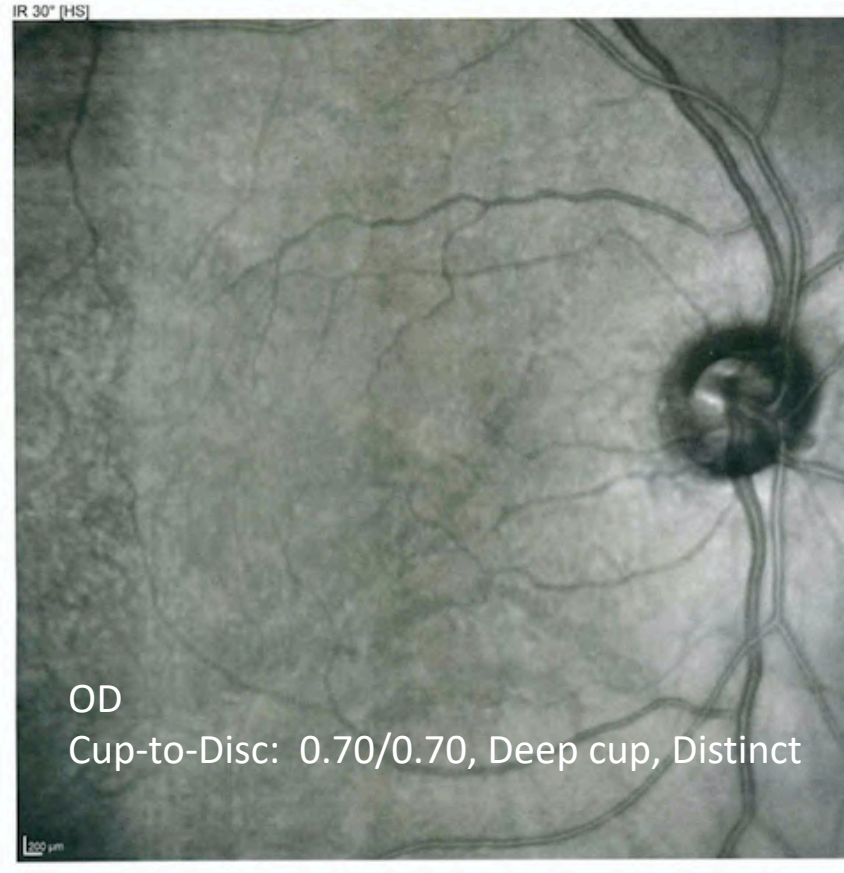
- PMHX: Hyperlipidemia
- All Medications: Fluoxetine, Atorvastatin
- Allergies: Penicillin

Ocular Exam

- **Best corrected visual acuity (UCVA): 20/20 OD, 20/20 OS**
- **External exam: Normal appearance, symmetrical**
- **Pupil exam: Equal, round, reactive to light and (-) APD**
- **Slit-lamp exam**
 - **Lids/Lashes: Clear, no debris, no signs of MGD OU**
 - **Conjunctiva: Clear, no injection OU**
 - **Cornea: Clear, no corneal staining OU, no pigment present OU**
 - **Anterior Chamber: Clear, no cells, no flare OU**
 - **Iris: Clear, no exfoliative material present, no transillumination defects OU**
 - **Lens: Well centered IOL's with no PCO present**
 - **Goldmann Applanation Tonometry: 22 mm Hg OD, 16 mm Hg OS**
- **Central corneal thickness (CCT): 499 OD, 504 OS**
- **Gonioscopy: Open to CB in all quadrants, no pigment in the TM, and normal iris approach**
- **Corneal Hysteresis: 8.3 mm Hg OD, 10.5 mm Hg OS**



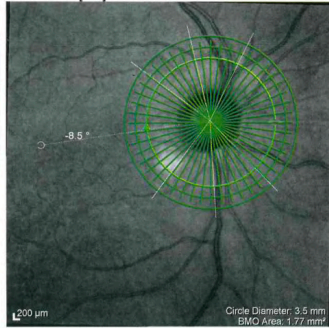
OS
Cup-to-Disc: 0.50/0.50, Flat, Distinct



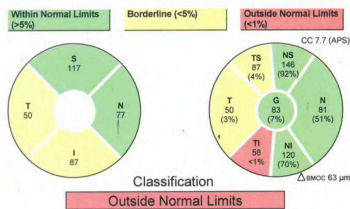
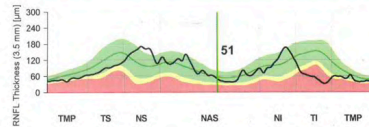
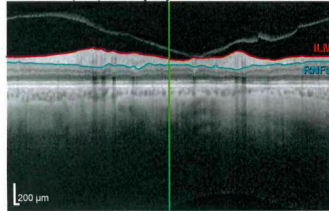
OD
Cup-to-Disc: 0.70/0.70, Deep cup, Distinct

RNFL Thickness (3.5 mm)

IR 30° ART [HR]



OCT ART (100) Q: 27 [HS]

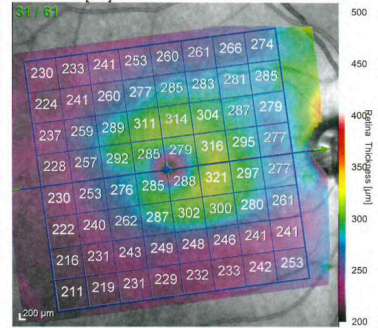


Reference database: www.Heidelberg

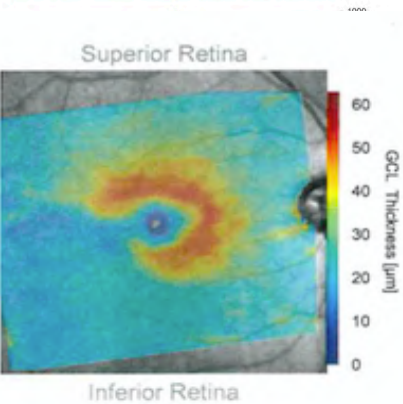
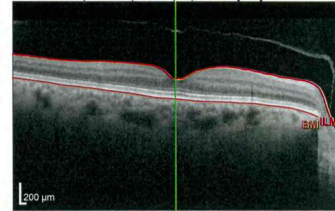
Software Version: 6.12.4

Retina Thickness

IR 30° ART [HS]

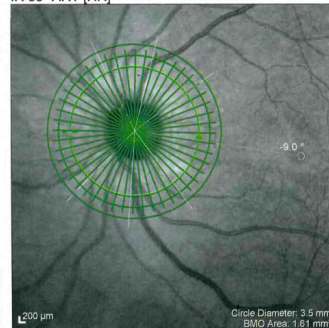


OCT 30.0° (8.9 mm) ART (10) Q: 34 [HS]

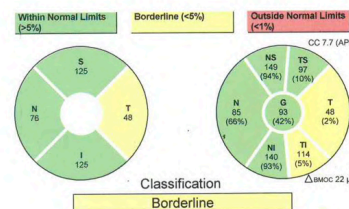
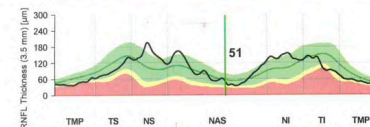
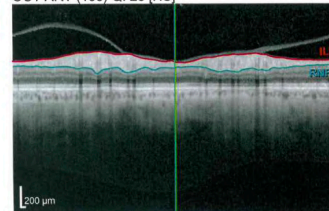


RNFL Thickness (3.5 mm)

IR 30° ART [HR]



OCT ART (100) Q: 28 [HS]

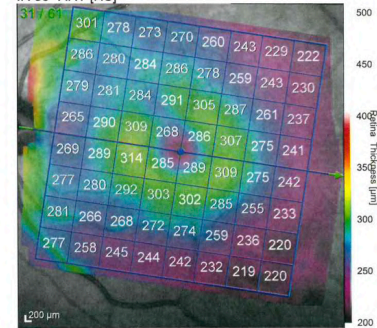


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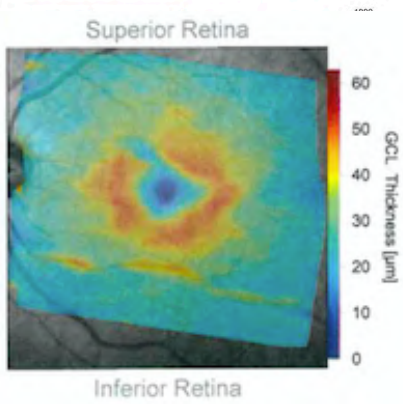
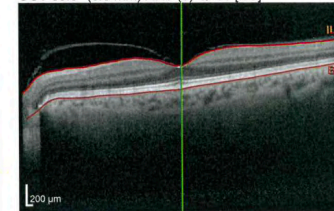
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Retina Thickness

IR 30° ART [HS]



OCT 30.0° (8.8 mm) ART (9) Q: 33 [HS]



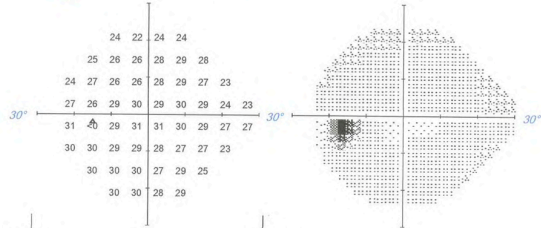
OS Single Field Analysis

Central 24-2 Threshold Test

Fixation Monitor: Gaze/Blind Spot
 Fixation Target: Central
 Fixation Losses: 1/12
 False POS Errors: 0%
 False NEG Errors: 0%
 Test Duration: 03:21
 Fovea: Off

Stimulus: Ill, White
 Background: 31.5 asb
 Strategy: SITA Fast
 Pupil Diameter: 4.8 mm *
 Visual Acuity:
 Rx: +4.00 DS

Date: Nov 26, 2019
 Time: 1:17 PM
 Age: 65



-2	-5	-3	-2				
-2	-3	-3	-1	0	-1		
-5	-2	-4	-5	-3	-1	-3	-5
-2	-2	-2	-2	-2	-5	-4	
1	-3	-1	-2	-2	-3	0	
0	0	-3	-3	-4	-5	-4	-6
0	0	-1	-4	-2	-5		
0	0	-1	0				

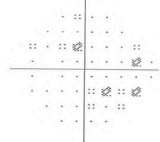
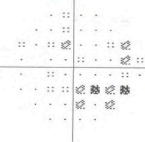
-2	-5	-3	-2				
-2	-3	-1	0	0			
-4	-2	-4	-4	-2	-1	-2	-5
-2	-2	-2	-1	-1	-5	-4	
1	-2	-1	-1	-1	-1	-3	0
1	0	-2	-3	-4	-4	-3	-6
0	0	-1	-4	-2	-4		
1	1	-1	0				

GHT: Within Normal Limits

VFI: 97%
 MD24-2: -2.40 dB P < 5%
 PSD24-2: 1.68 dB P < 10%

Total Deviation

Pattern Deviation



⋮ P < 5%
 ⚬ P < 2%
 ⚬ P < 1%
 ⬛ P < 0.5%

Comments



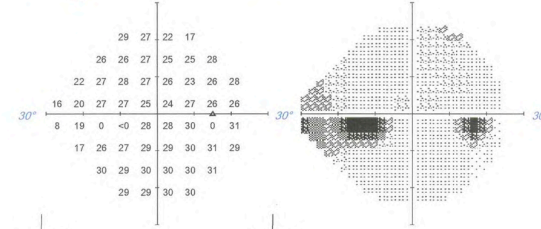
OD Single Field Analysis

Central 24-2 Threshold Test

Fixation Monitor: Gaze/Blind Spot
 Fixation Target: Central
 Fixation Losses: 1/11
 False POS Errors: 3%
 False NEG Errors: 1%
 Test Duration: 03:56
 Fovea: Off

Stimulus: Ill, White
 Background: 31.5 asb
 Strategy: SITA Fast
 Pupil Diameter: 5.9 mm *
 Visual Acuity:
 Rx: +4.00 DS

Date: Nov 26, 2019
 Time: 1:12 PM
 Age: 65



2	0	4	-9				
-2	-3	-2	-4	-3	0		
-6	-3	-4	-5	-7	-3	-1	
-11	-9	-4	-5	-7	-8	-4	-3
-19	-11	-31	-34	-4	-2	1	
-12	-4	-5	-3	-3	-1	1	-1
1	-1	-1	-1	-1	1		
0	0	1	0				

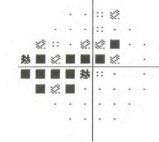
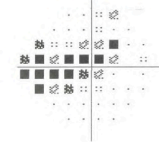
2	0	4	9					
-2	-3	-2	-4	-3	0			
-6	-3	-4	-5	-7	-3	-1		
-11	-9	-4	-5	-7	-8	-5	-3	
-19	-11	-31	-34	-4	-2	1		
-12	-4	-5	-3	-3	-1	1	-1	
1	-1	-1	-1	-1	1	-1	-1	1
0	0	1	0					

GHT: Outside Normal Limits

VFI: 85%
 MD24-2: -5.40 dB P < 1%
 PSD24-2: 8.01 dB P < 0.5%

Total Deviation

Pattern Deviation



⋮ P < 5%
 ⚬ P < 2%
 ⚬ P < 1%
 ⬛ P < 0.5%

Comments



Treatment Options OD

a. Add another medication

b. MIGS procedure – OMNI + ECP

c. SLT

d. Filtration procedure (XEN, Tube, Trab)