

A decorative graphic on the left side of the slide consisting of white lines and circles on a blue gradient background, resembling a circuit board or a stylized tree structure.

# DENVER METRO OPTOMETRIC SOCIETY MEETING

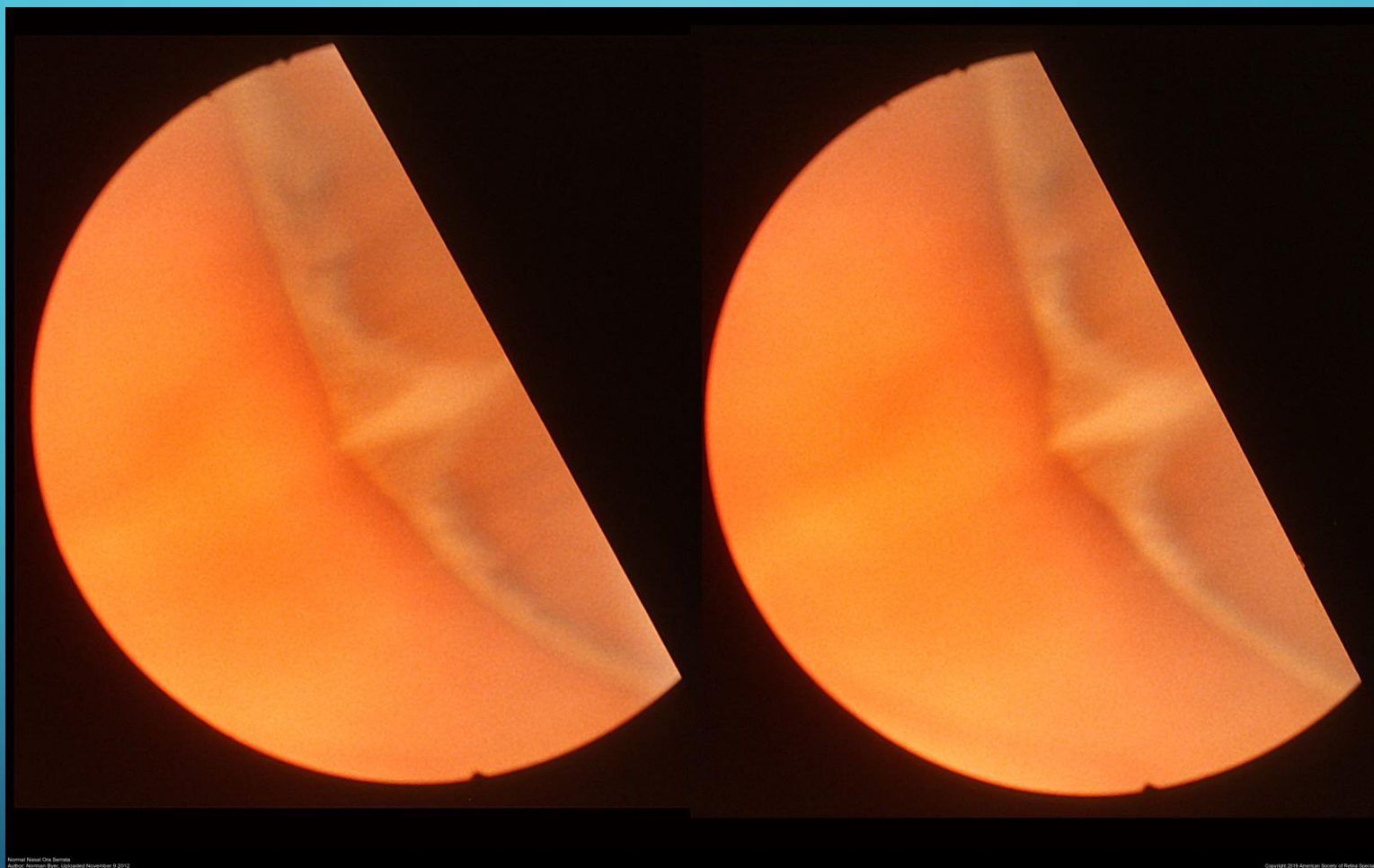
APRIL 18, 2019

The background is a blue gradient with decorative white circuit-like lines in the corners. These lines consist of straight segments and small circles, resembling a stylized electronic circuit or neural network.

# PERIPHERAL RETINAL DEGENERATIONS AND PRECURSORS TO RETINAL DETACHMENT

# MERIDIONAL FOLDS

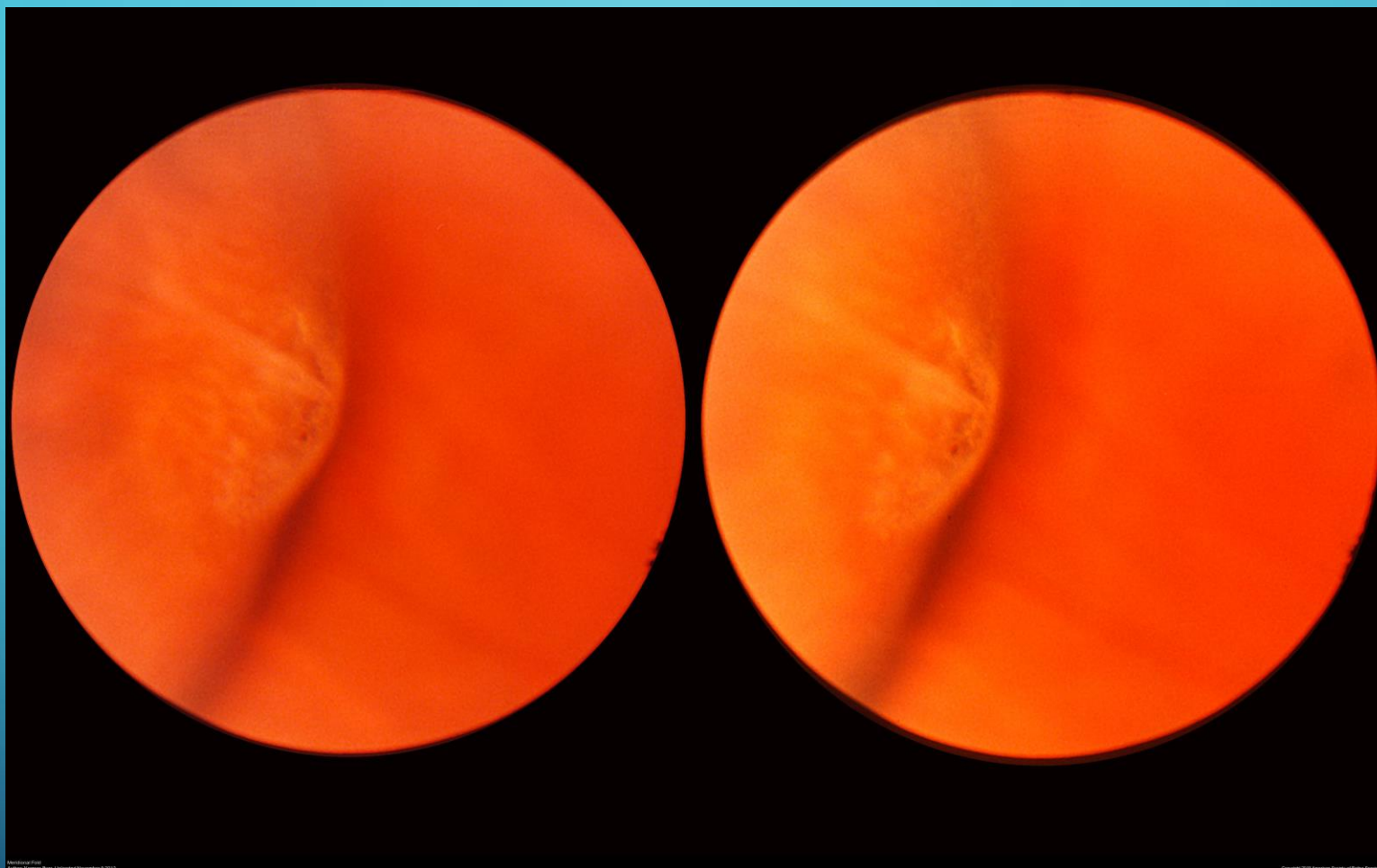
- Typically located superonasally
- Occurs in approximately 26% of eyes
- The presence of this does not increase the risk of retinal tear or detachment



Retinal Detachment: Case Series  
Author: Thomas J. Ryan, MD, PhD  
Published November 9, 2012

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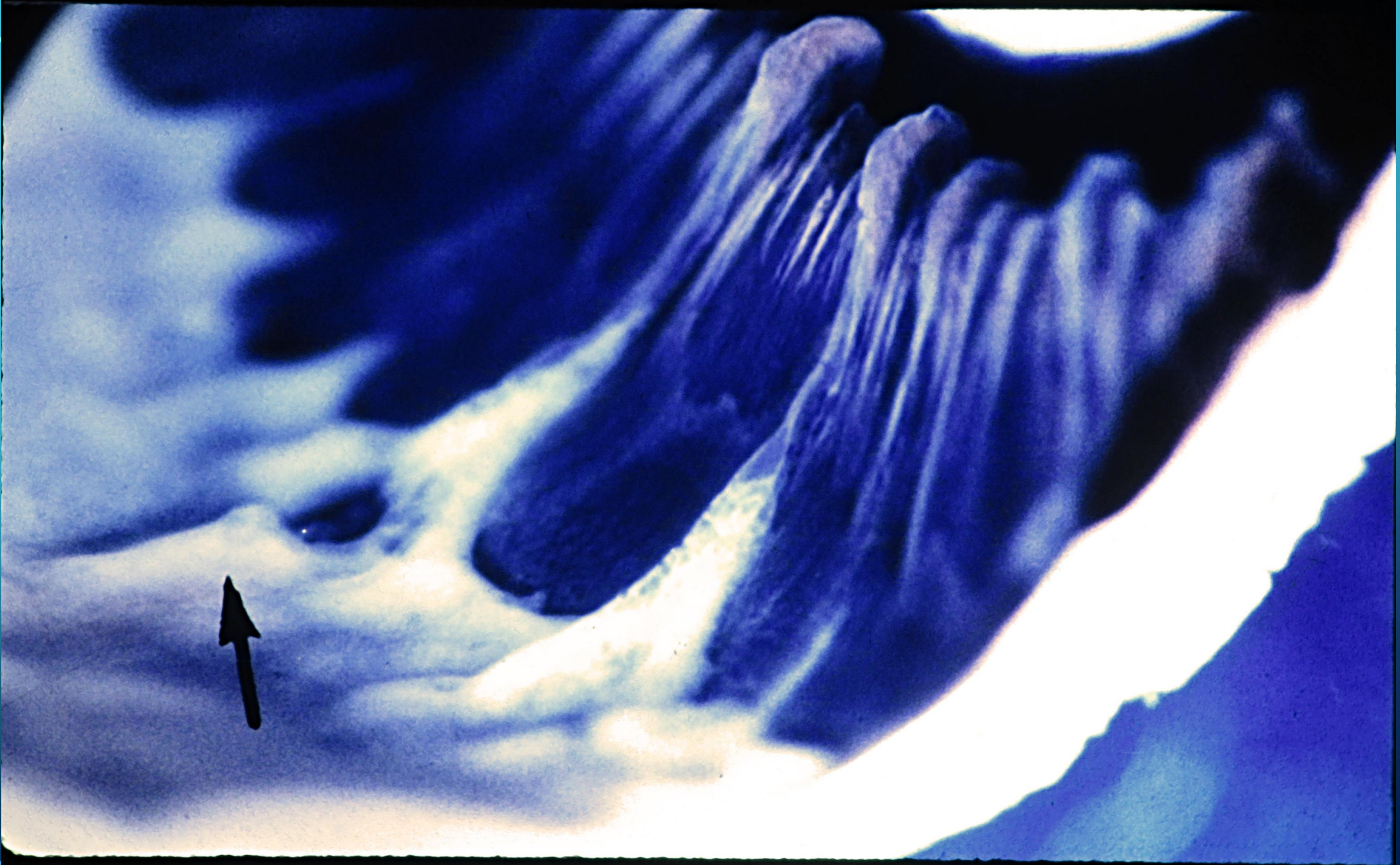




Washington Post  
Author: Thomas Swan, Updated November 1, 2012

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# LATTICE DEGENERATION

- Most common in vertical meridians, and inferotemporal quadrants
- 78% of lesions are between 11 and 1 o'clock, and between 5 and 7 o'clock
- Most important peripheral retinal lesion leading to retinal tear and detachment
- 1 /3 of patients with retinal detachment will have lattice

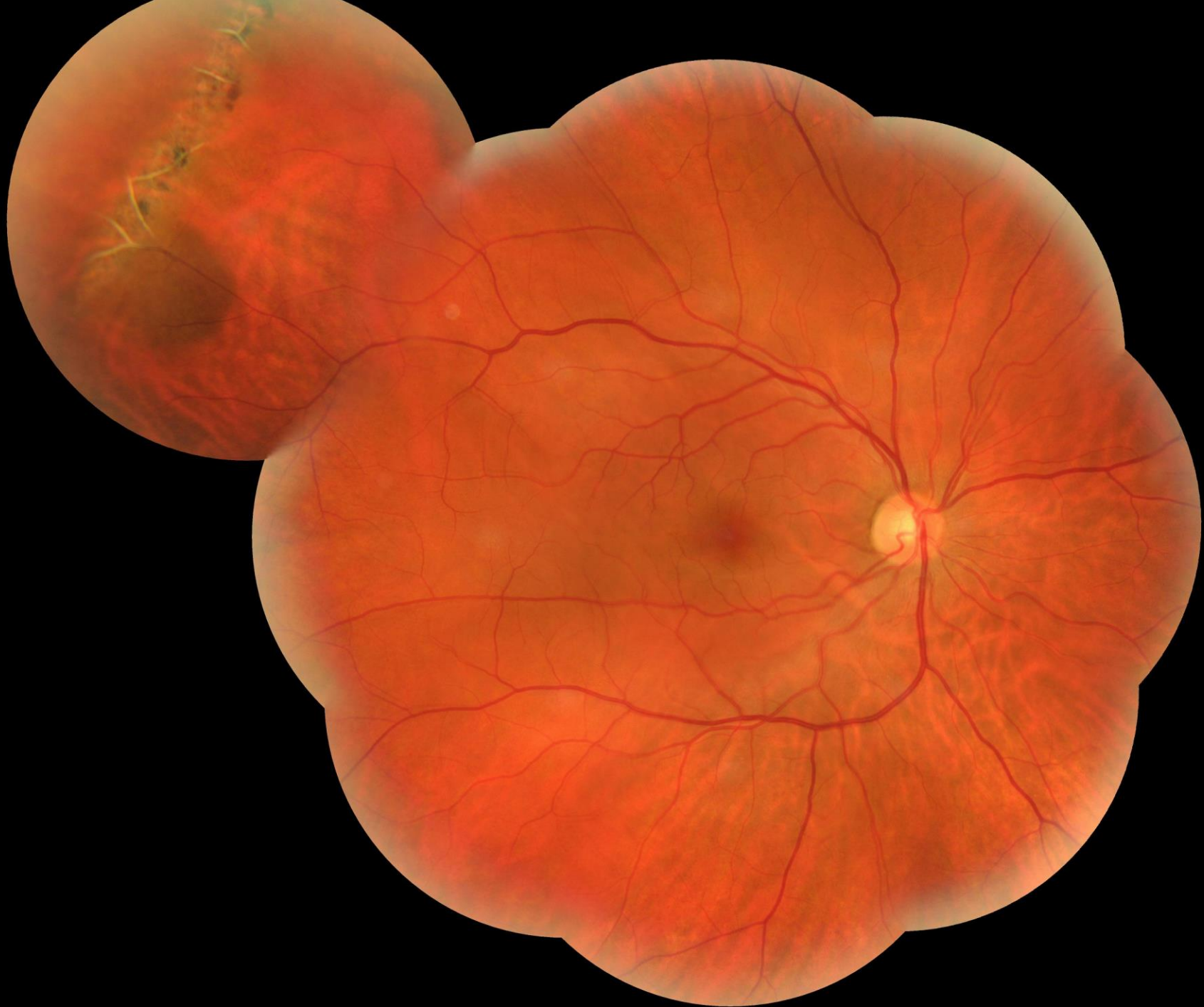


# LATTICE, CONTINUED

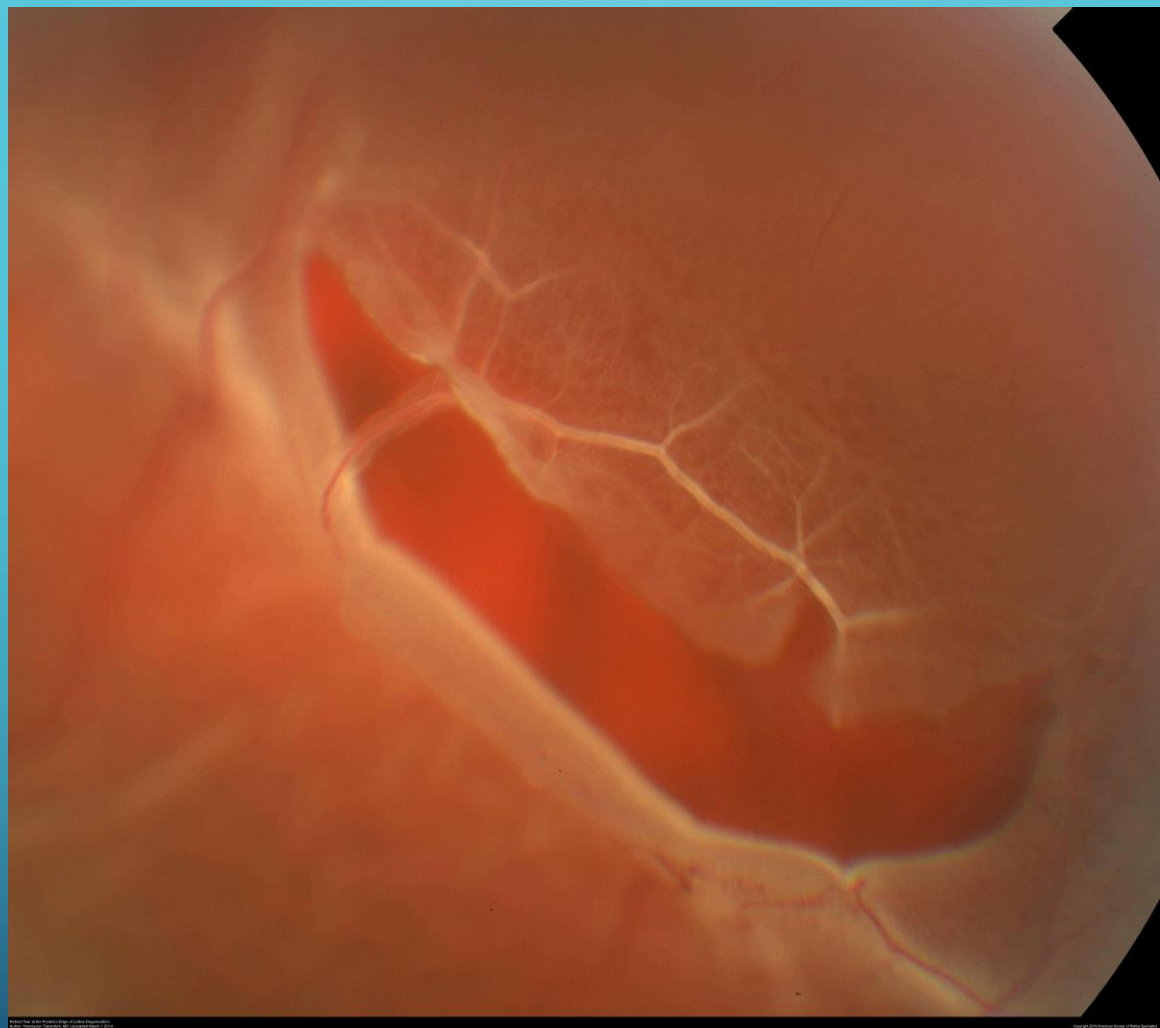
- Most patients with lattice will go through life without developing retinal tear or detachment
- More common in myopes than emmetropes or hyperopes
- 25% of patients with lattice are not myopic
- Lesions typically do not develop after 2d decade of life

# LATTICE, CONTINUED

- Mode of inheritance not firmly established (be sure all family members are informed)
- Treatment indications
  - a) in eye with retinal detachment, all lattice is treated
  - b) in fellow eye, all lattice degeneration is treated
  - c) in eye with lattice degeneration alone, or in association with atrophic retinal hole, treatment is typically not indicated







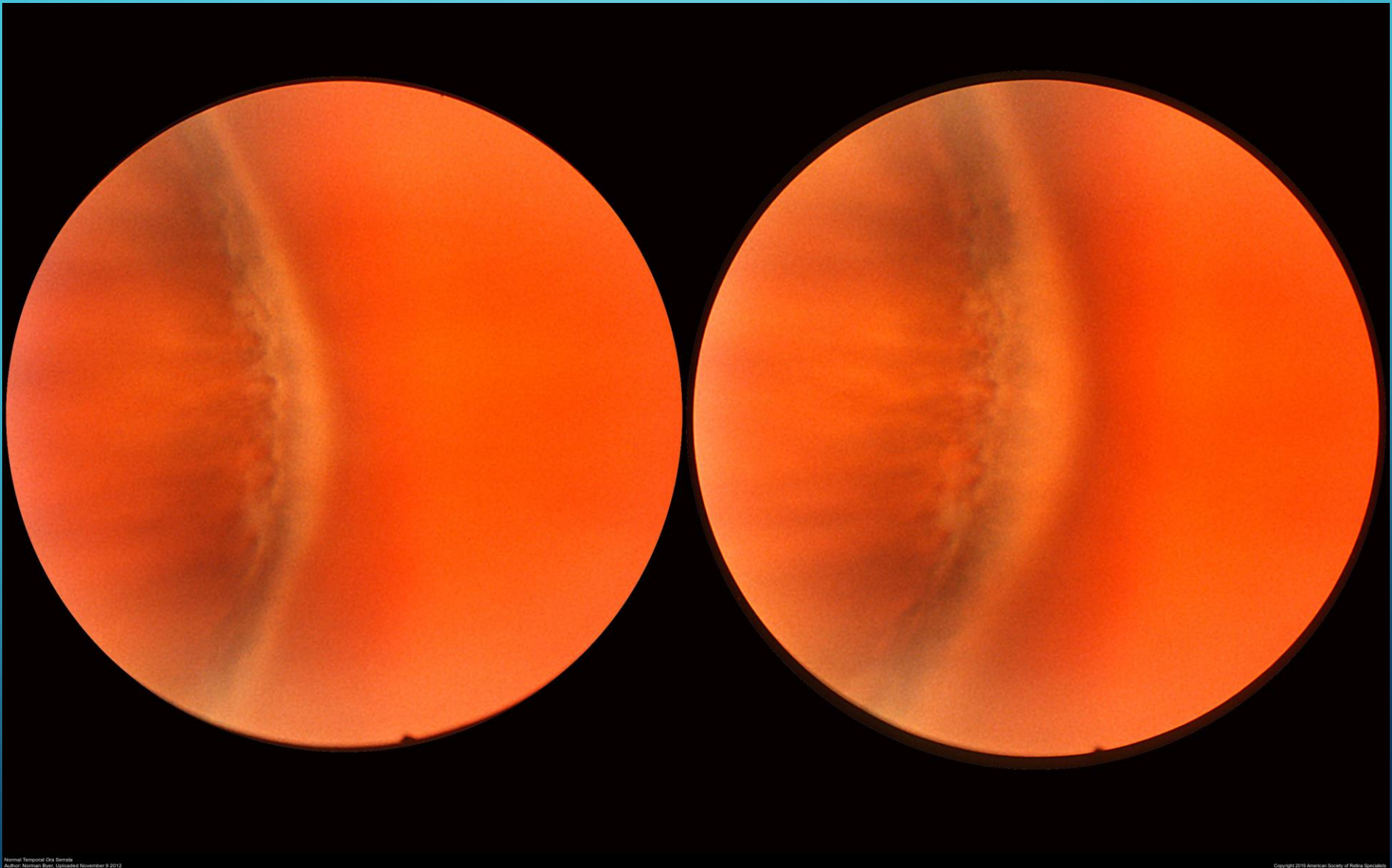




# CYSTOID DEGENERATION

- Present in all people after 8 years of age
- Precursor to degenerative retinoschisis





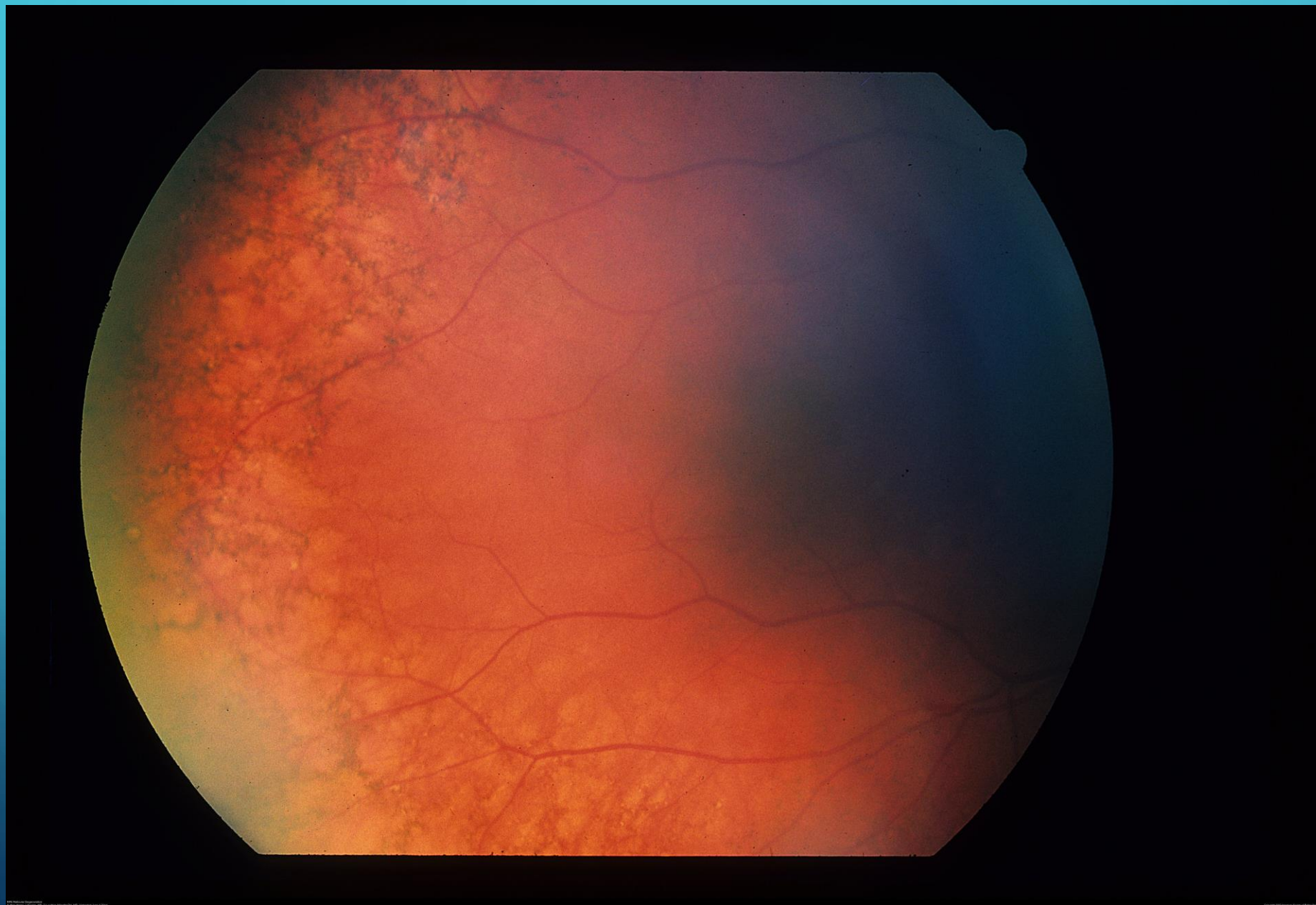
Normal Retinal OCT Scans  
Author: Norman R. Miller, Updated November 9 2012

Copyright 2019 American Society of Retina Specialists

# PERIPHERAL RETICULAR DEGENERATION

- Seen more commonly with:
  - a) older age
  - b) stroke
  - c) age-related macular degeneration
  - d) ischemic optic neuropathy
- Fluorescein angiography shows significant delay in choroidal filling
- Not associated with increased risk of retinal tear or detachment





# DEGENERATIVE RETINOSCHISIS

- More prevalent in hyperopic eyes
- Typically occurs in inferotemporal quadrant
- Usually is bilateral
- Inner wall contains the ILM, NFL, and inner plexiform layer
- Outer layer breaks occur in 16% to 23% of patients with retinoschisis

# RETINOSCHISIS, CONTINUED

- Inner and outer layer breaks may be associated with RD
- Occurs in up to 31% of patients over 40 years of age
- There is no known cause
- No hereditary patterns have been identified
- Schisis cavities can increase or decrease in height, completely collapse, or progress posteriorly
- All patients with retinal detachment have an outer layer break

# RETINOSCHISIS, CONTINUED

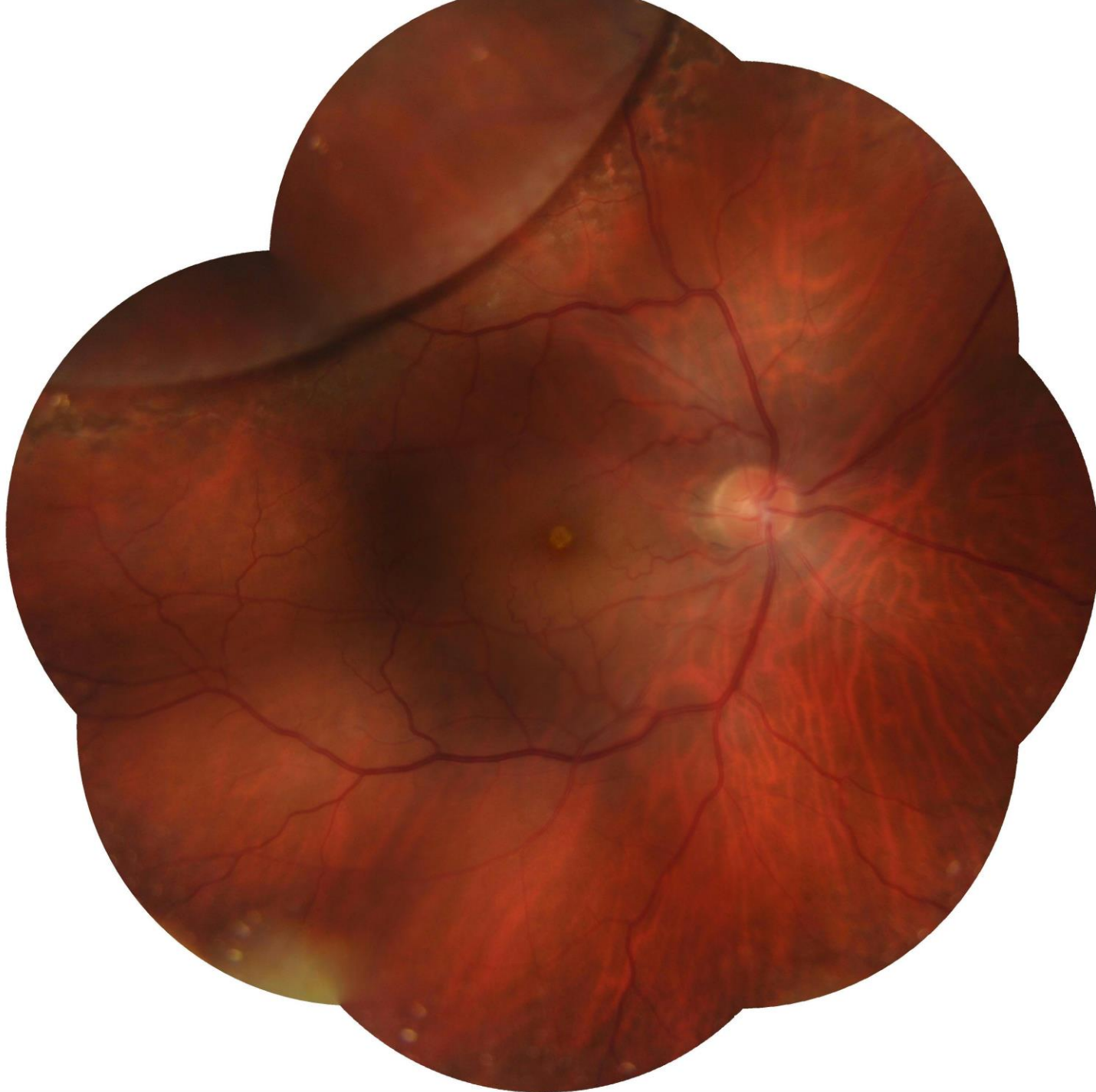
- Retinal detachment can be localized and relatively non–progressive, or symptomatic and rapidly progressive
- Localized retinal detachments are typically benign and do not require treatment
- Incidence of symptomatic detachment in retinoschisis is estimated to be 0.05%
- Treatment to prevent posterior extension is rarely indicated (and not effective)





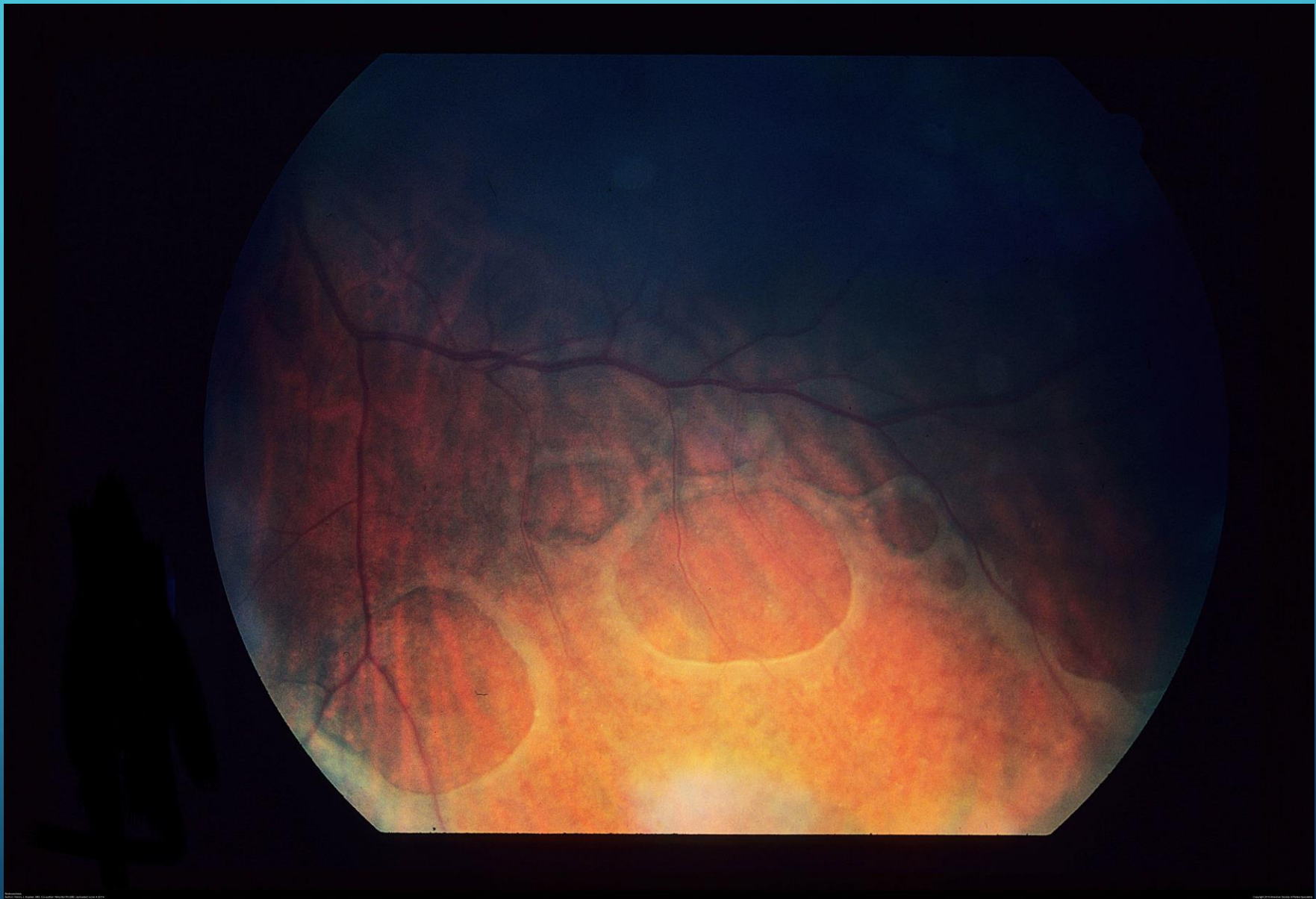
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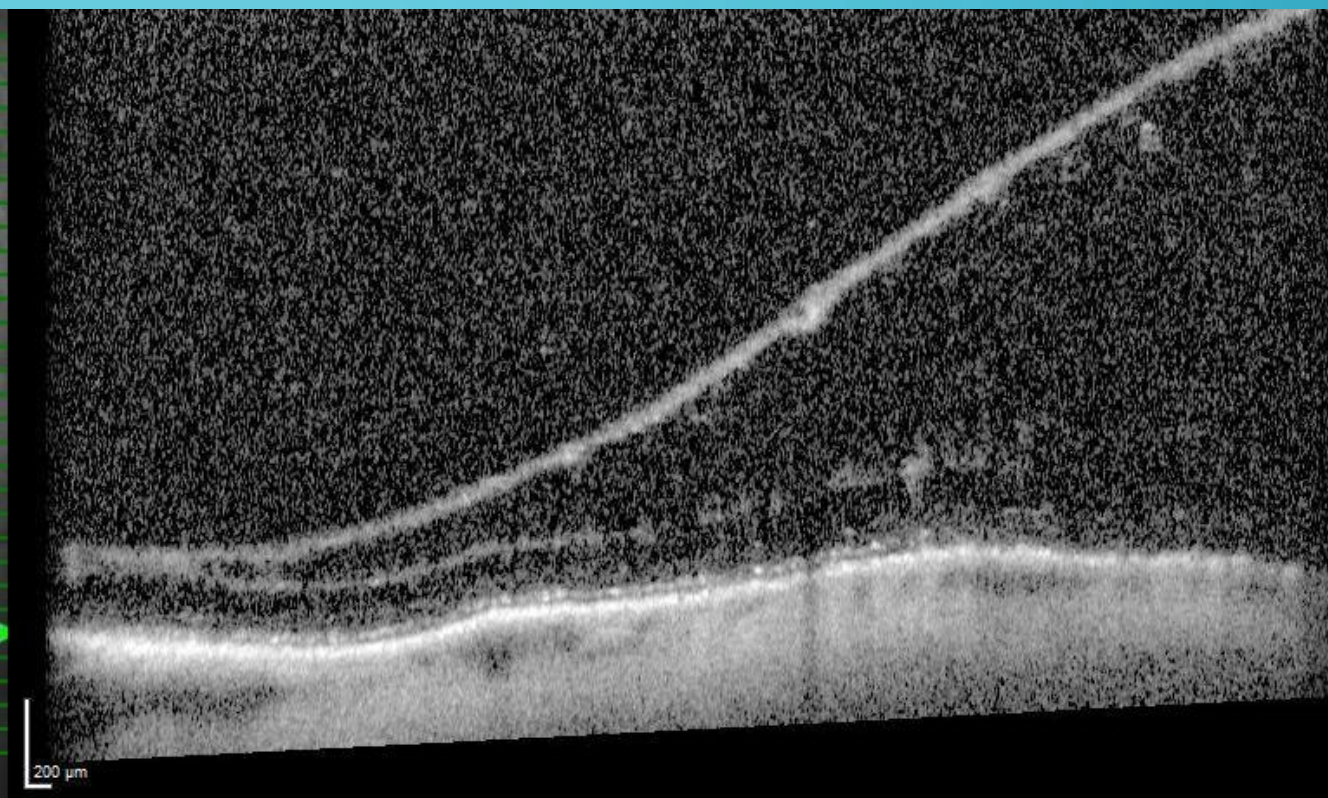
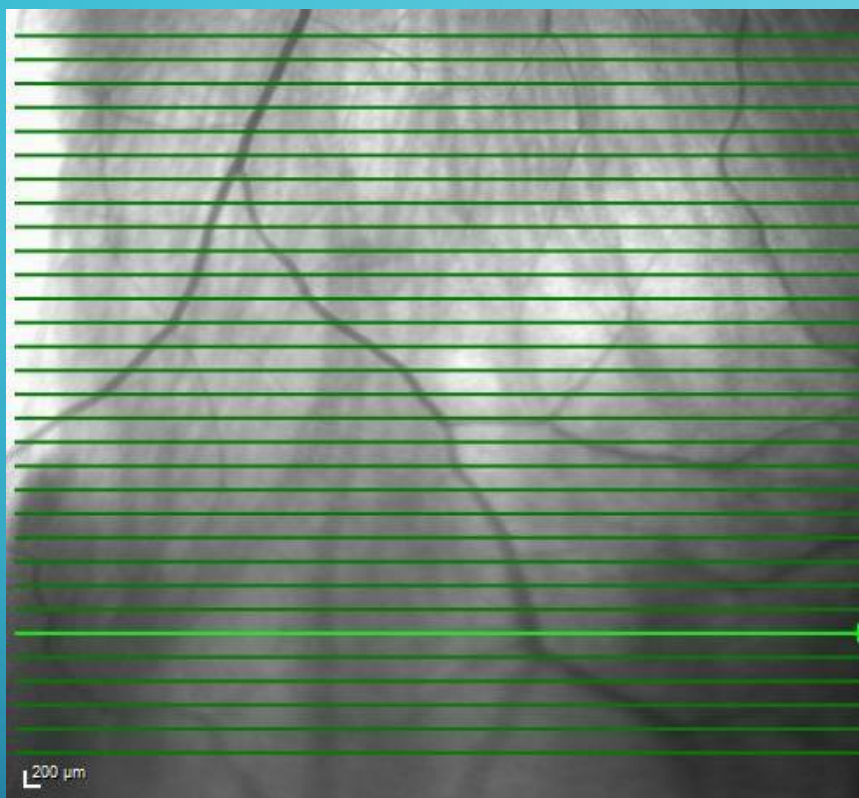












5/16/2018, OS

IR&OCT 30° ART [HS] ART(8) Q: 18

Peripheral Retinoschisis

Author: Olivia Rainey, Photographer: Olivia Rainey, Uploaded July 26 2018

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# WHITE WITHOUT PRESSURE

- Can change in size, shape, and location
- More common in darkly pigmented people
- More frequent in the temporal quadrants
- More common in young patients and myopic eyes
- Appearance is thought to be due to vitreoretinal adherence
- Treat with laser if fellow eye has had a giant retinal tear



White Without Pressure

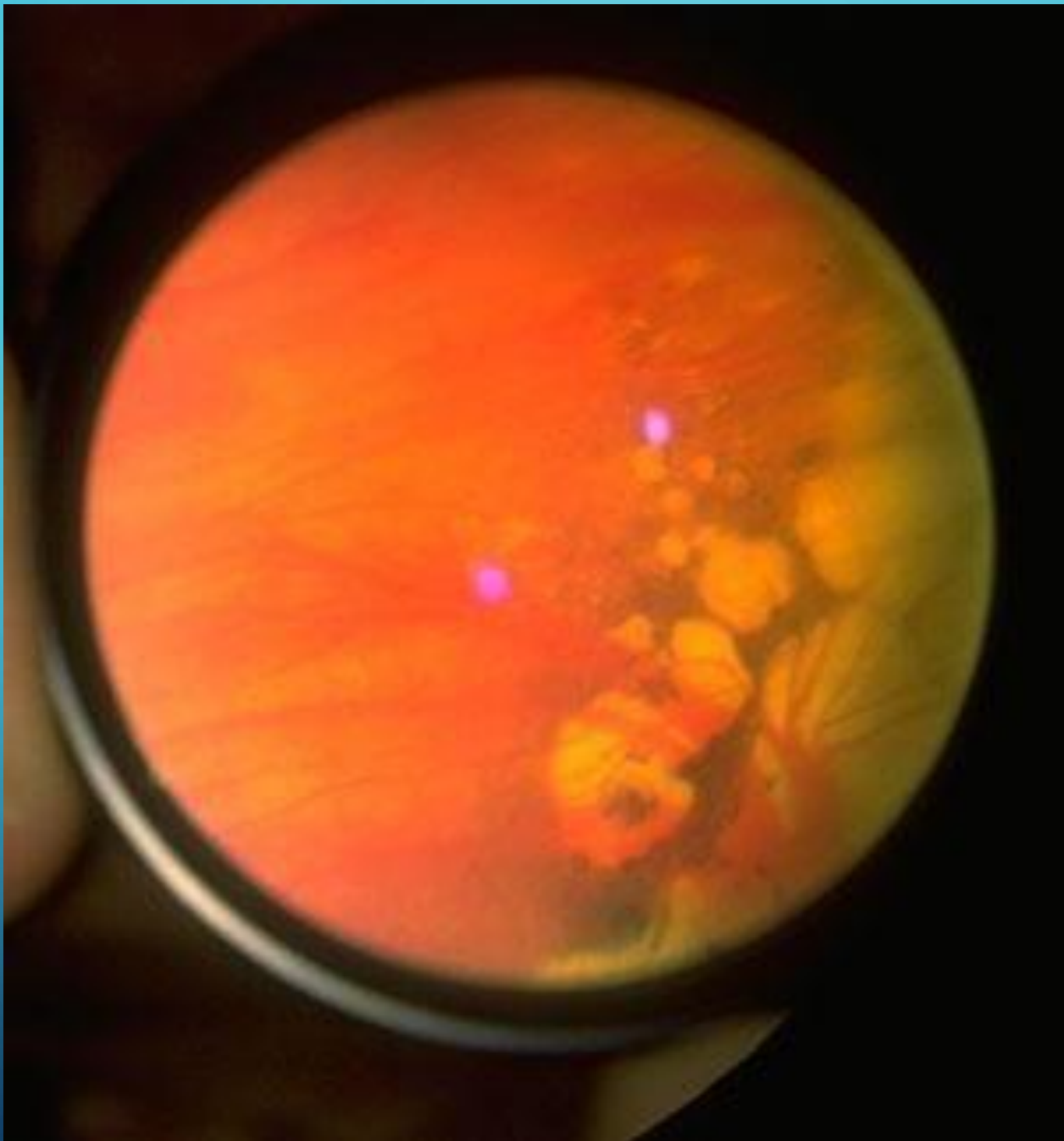
Author: Gerardo Garcia-Aguirre, MD, Photographer: Noemí Hernández, Asociación para Evitar la Ceguera 2019 México, d Society of Retinal Specialists August 23-2019



# PAVING STONE DEGENERATION

- Aka cobble stone degeneration
- More common with higher degree of myopia
- Typically bilateral
- Does not increase risk of retinal tear or retinal detachment
- Thought to be due to choroidal vascular insufficiency







# ASYMPTOMATIC RETINAL BREAKS

- Found in approximately 6% of eyes
- Rarely lead to retinal detachment
- I will treat with laser if fellow eye has had retinal detachment
- In retinal detachment occurring from non-traction retinal holes, 50% occur before 30 years of age

## MANAGEMENT OPTIONS

Type of Lesion	Treatment*
Acute symptomatic horseshoe tears	Treat promptly <sup>25-30</sup>
Acute symptomatic operculated holes	Treatment may not be necessary
Acute symptomatic dialyses	Treat promptly
Traumatic retinal breaks	Usually treated
Asymptomatic horseshoe tears (without subclinical RD)	Often can be followed without treatment
Asymptomatic operculated tears	Treatment is rarely recommended
Asymptomatic atrophic round holes	Treatment is rarely recommended
Asymptomatic lattice degeneration without holes	Not treated unless PVD causes a horseshoe tear
Asymptomatic lattice degeneration with holes	Usually does not require treatment
Asymptomatic dialyses	No consensus on treatment and insufficient evidence to guide management
Eyes with atrophic holes, lattice degeneration, or asymptomatic horseshoe tears where the fellow eye has had a RD	No consensus on treatment and insufficient evidence to guide management



## Type of Lesion      Follow-up Interval

Symptomatic PVD with no retinal break      Depending on symptoms, risk factors, and clinical findings, patients may be followed in 1–8 weeks, then 6–12 months

Acute symptomatic horseshoe tears      1–2 weeks after treatment, then 4–6 weeks, then 3–6 months, then annually

Acute symptomatic operculated holes      2–4 weeks, then 1–3 months, then 6–12 months, then annually

Acute symptomatic dialyses      1–2 weeks after treatment, then 4–6 weeks, then 3–6 months, then annually

Traumatic retinal breaks      1–2 weeks after treatment, then 4–6 weeks, then 3–6 months, then annually

Asymptomatic horseshoe tears      1–4 weeks, then 2–4 months, then 6–12 months, then annually

Asymptomatic operculated holes      1–4 months, then 6–12 months, then annually

Asymptomatic atrophic round holes      1–2 years

Asymptomatic lattice degeneration without holes      Annually

Asymptomatic lattice degeneration with holes      Annually

Asymptomatic dialyses

- If untreated, 1 month, then 3 months, then 6 months, then every 6 months

- If treated, 1–2 weeks after treatment, then 4–6 weeks, then 3–6 months, then annually

# SYMPTOMATIC VITREOMACULAR TRACTION AND STAGE I MACULAR HOLES

- Management includes: observation, vitrectomy, and injection of ocriplasmin (Jetrea)
  - a) Jetrea has a 40% success rate, and cost of \$4000
  - b) with both observation and PPV, there's a risk of macular hole development
  - c) Jetrea has unexplained and undesirable potential side effects

# PNEUMATIC VITREOLYSIS (PVL)

- Procedure includes intravitreal injection of C3F8 0.3 mL
- Exclusion criterium: adhesion greater than 2 disc area
- Success rate of 80%

# PVL FOR SMALL MACULAR HOLE

- Success rate of 60%
- Amenable to PPV, ILM peel, and gas if PVL unsuccessful
- Requires face-down positioning for 3 days



# LIMITATIONS AND POTENTIAL COMPLICATIONS

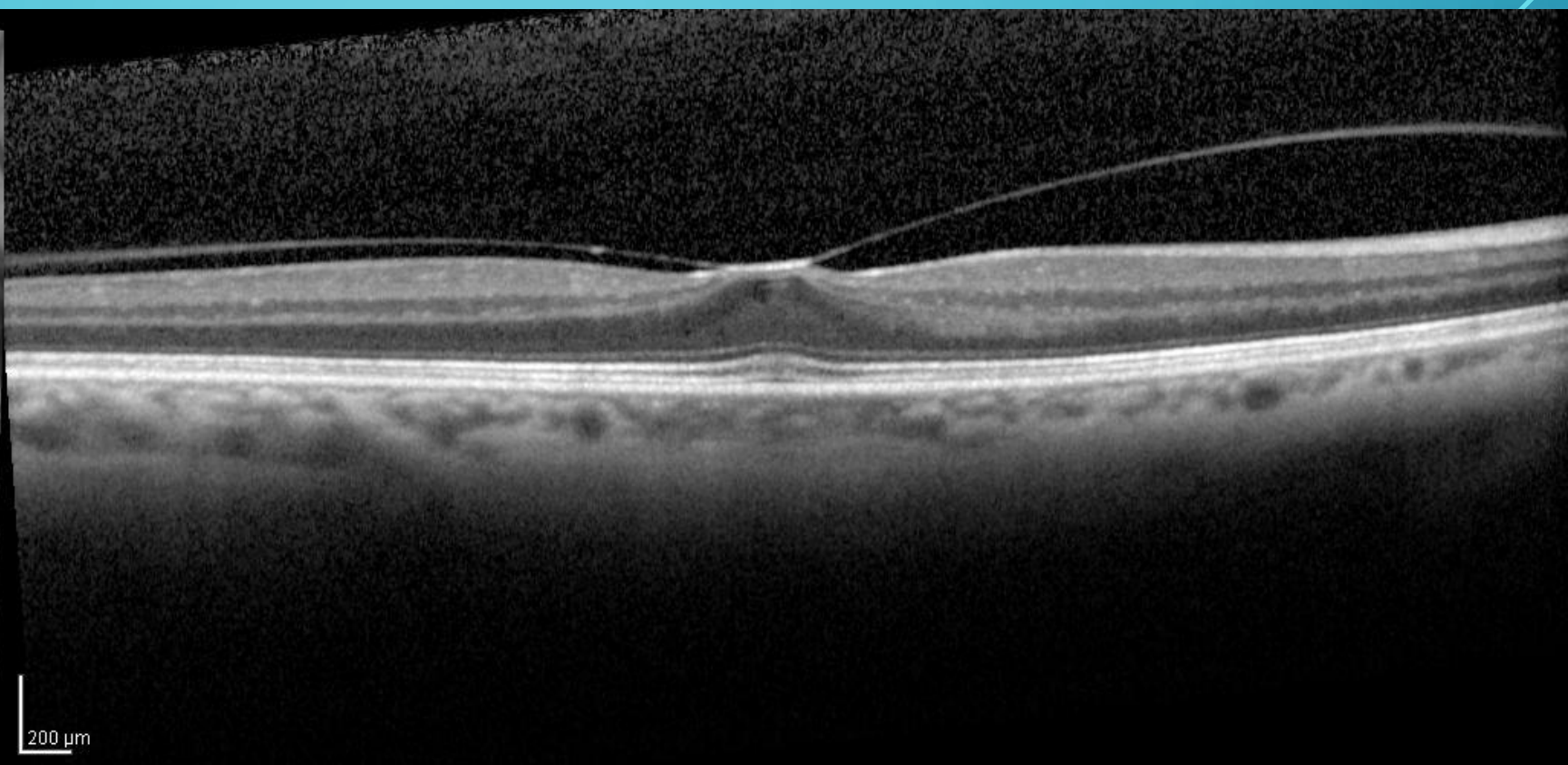
- Rhegmatogenous retinal detachment
- Giant retinal tear
- Peripheral retinal tear
- Less effective in diabetics due to vitreomacular interface/adhesion
- Unable to fly or change significantly in elevation for duration of gas (~2 months)

# BENEFITS OF PVL

- Low cost
- Easily performed in office setting
- Does not increase risk of cataract
- Does not require complex equipment

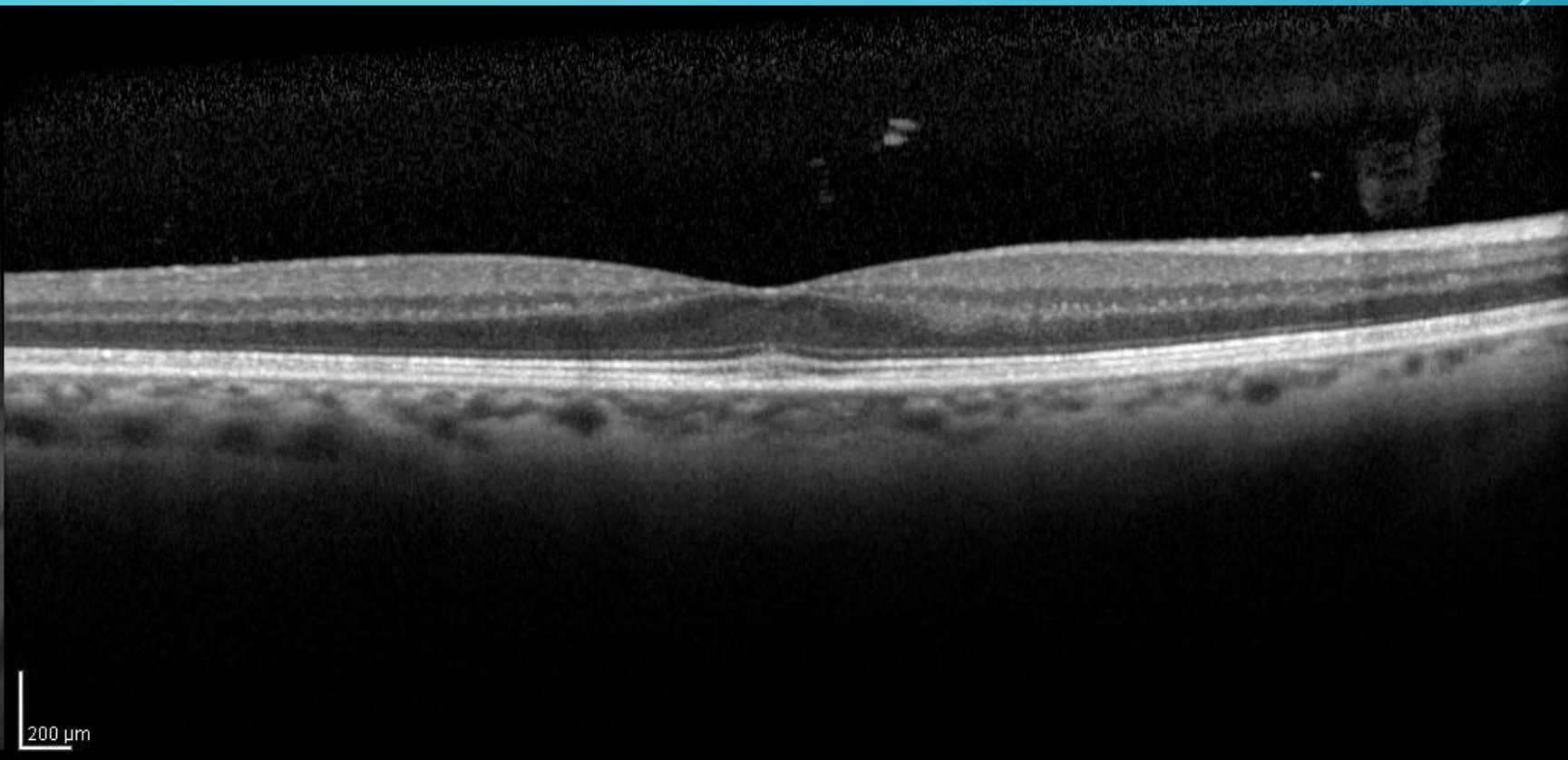






10/4/2017, OD  
IR&OCT 30° ART [HR] ART(25) Q: 28

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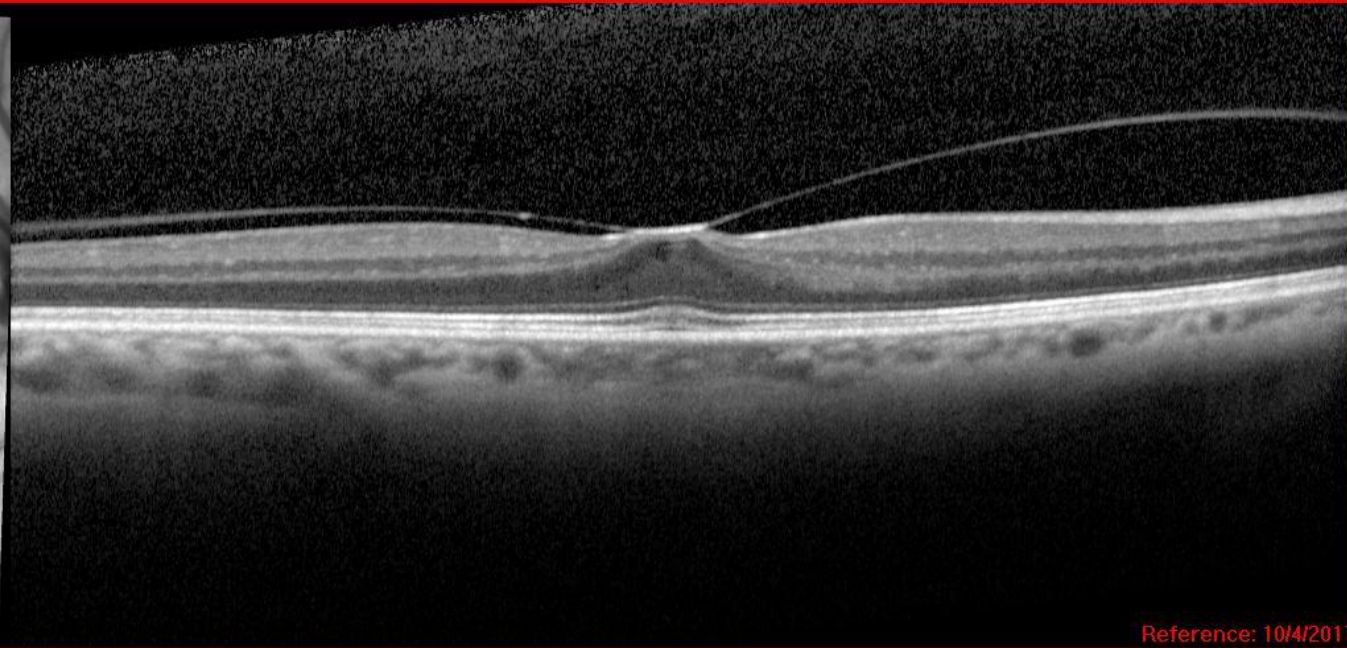
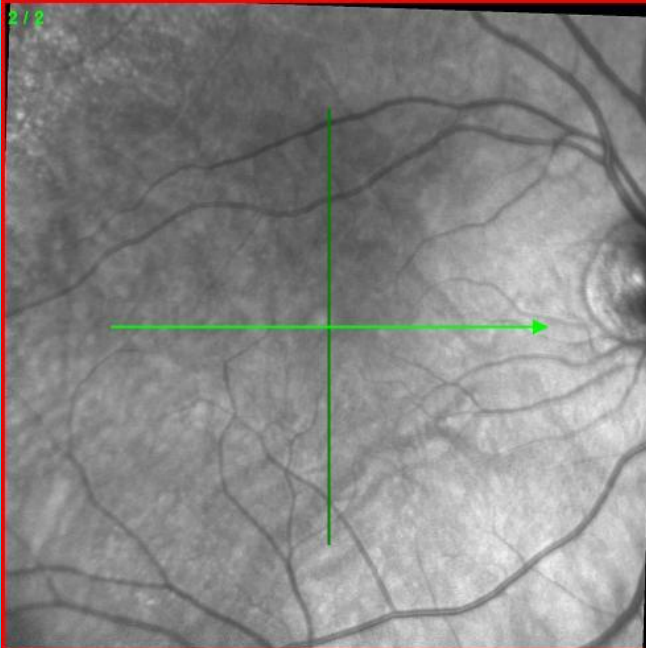


10/18/2017, OD

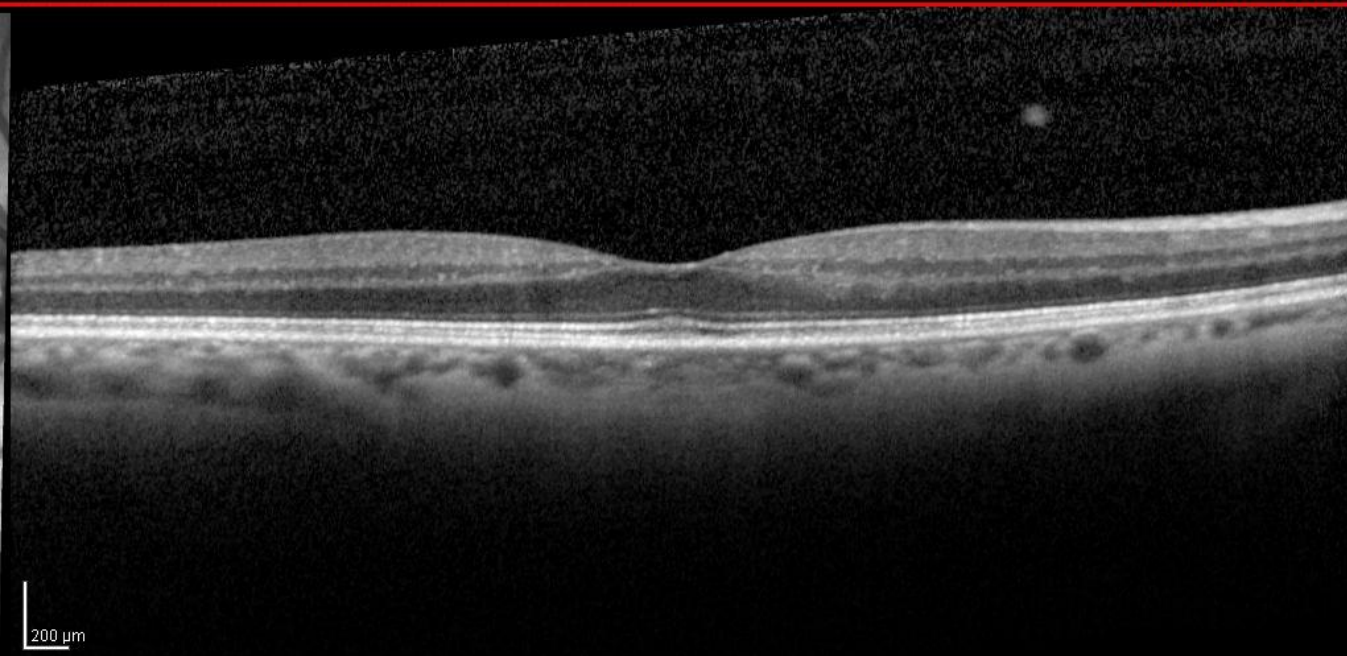
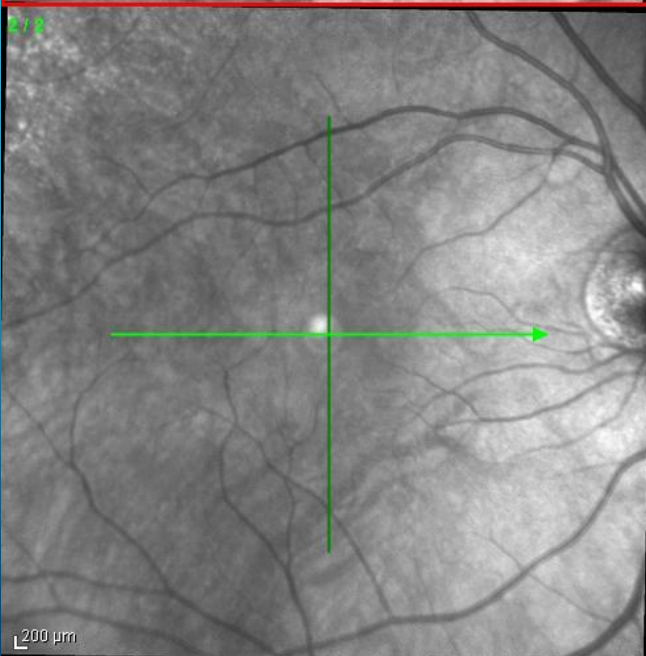
IR&OCT 30° ART [HR] ART(25) Q: 34

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Reference: 10/4/2017



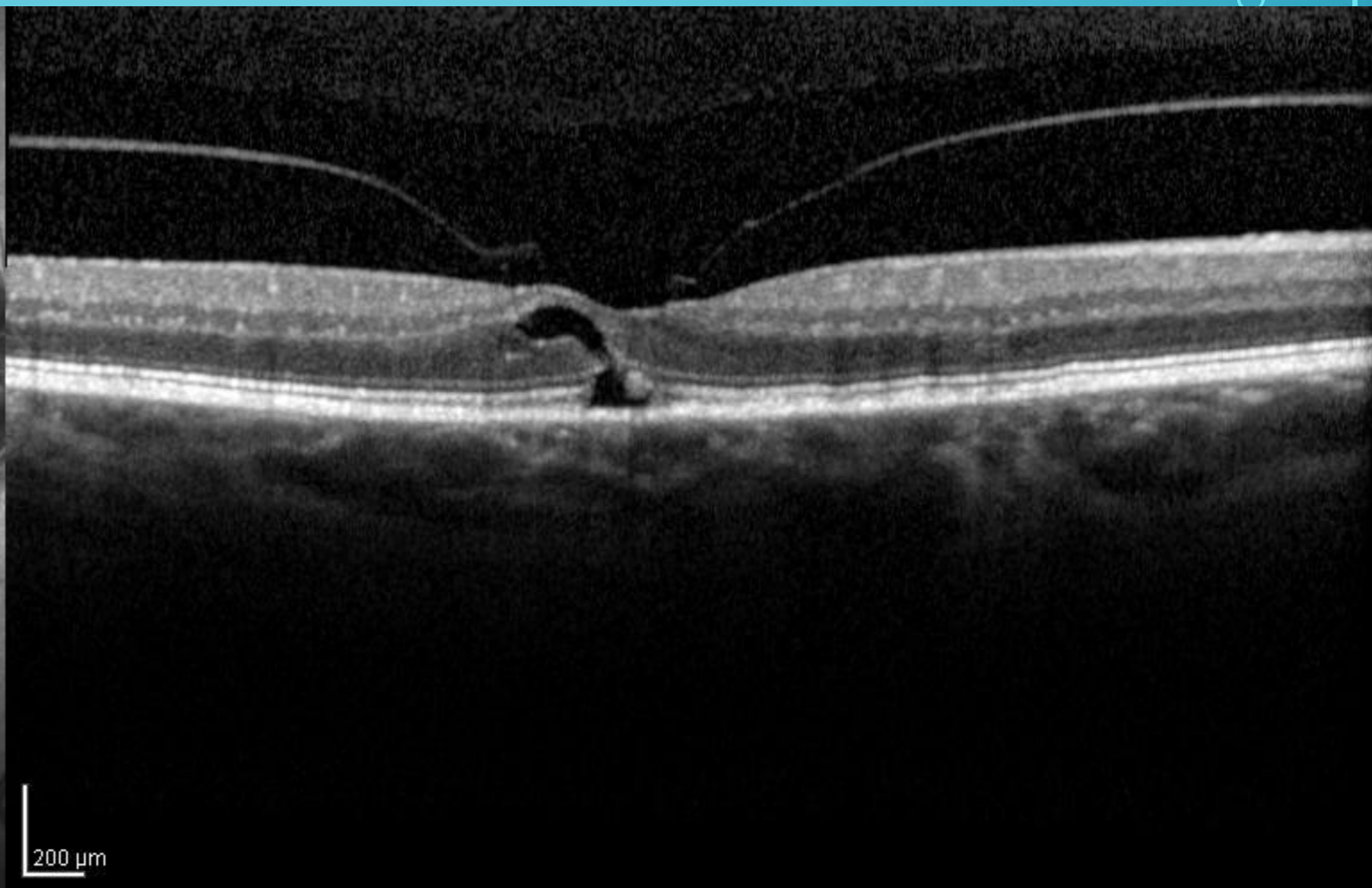
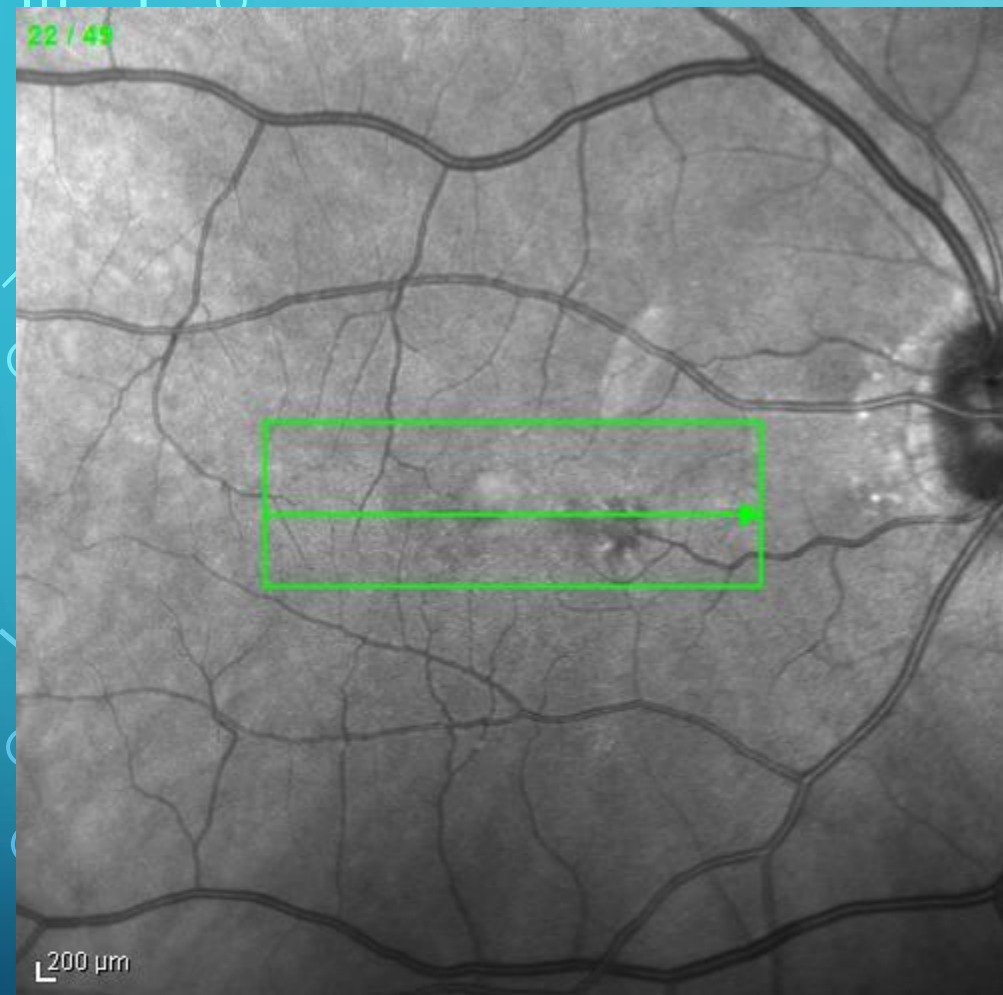
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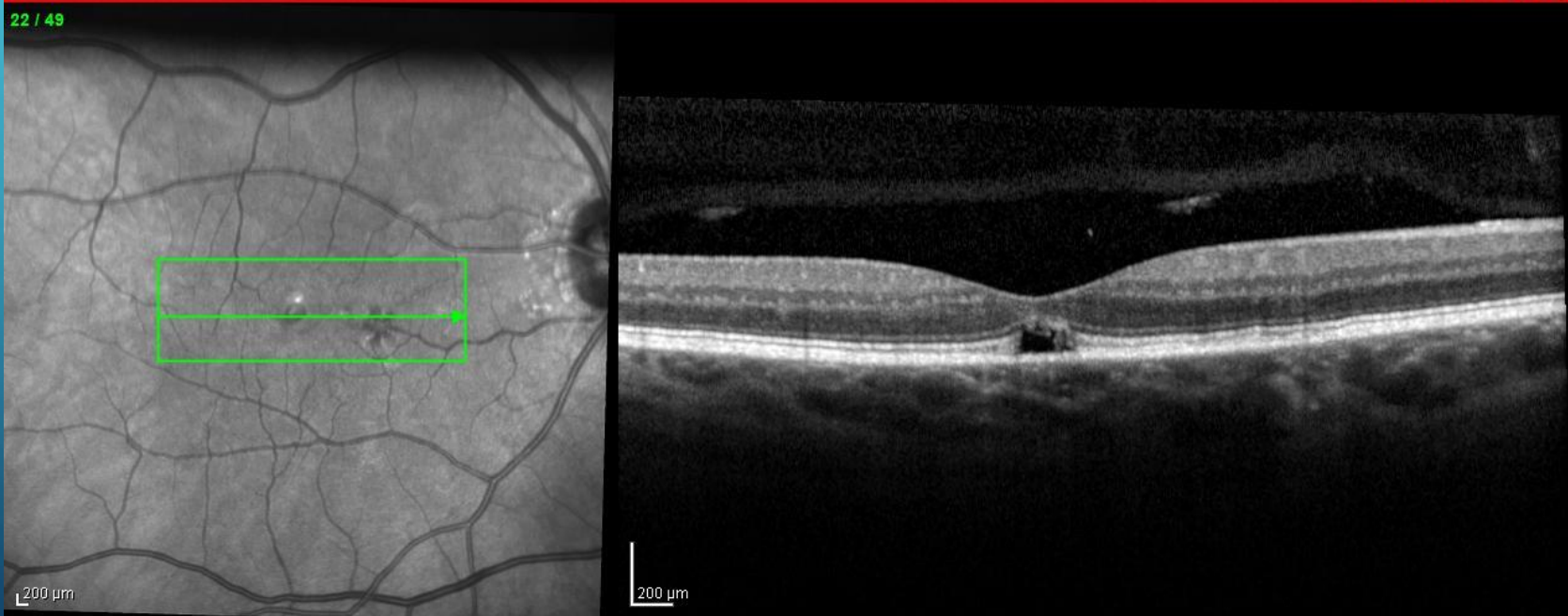
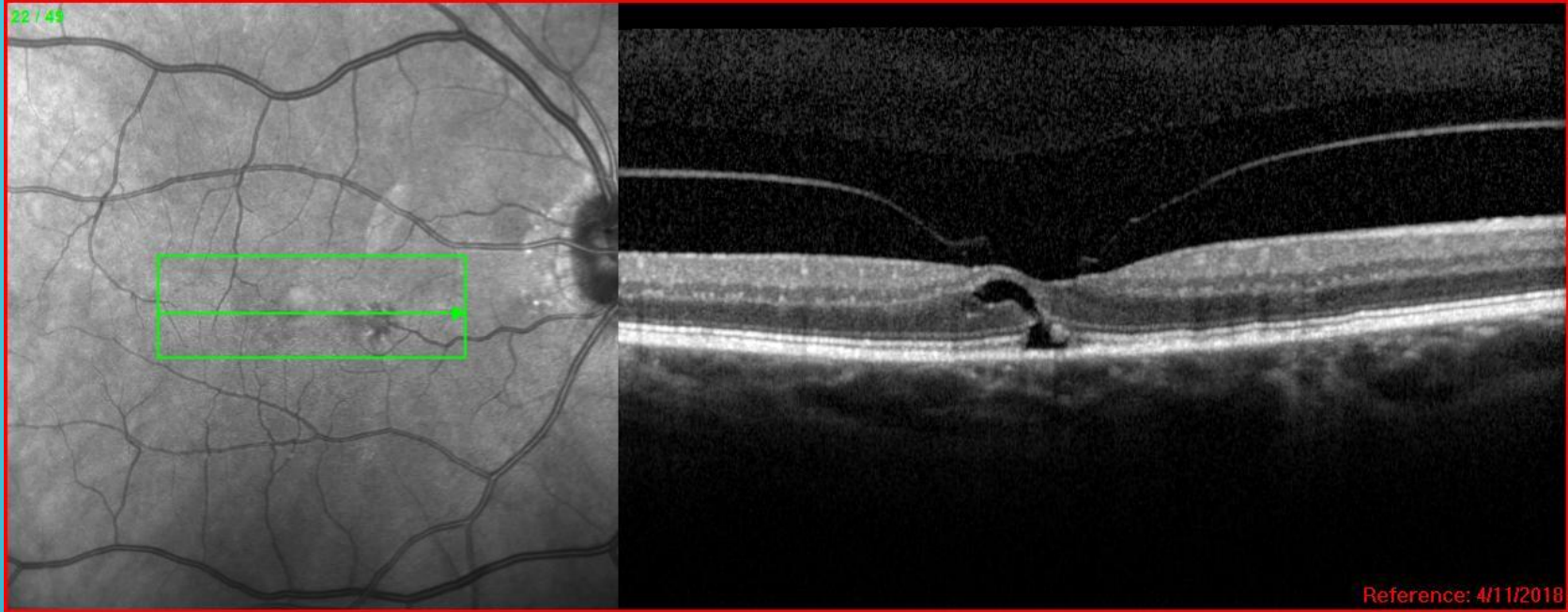




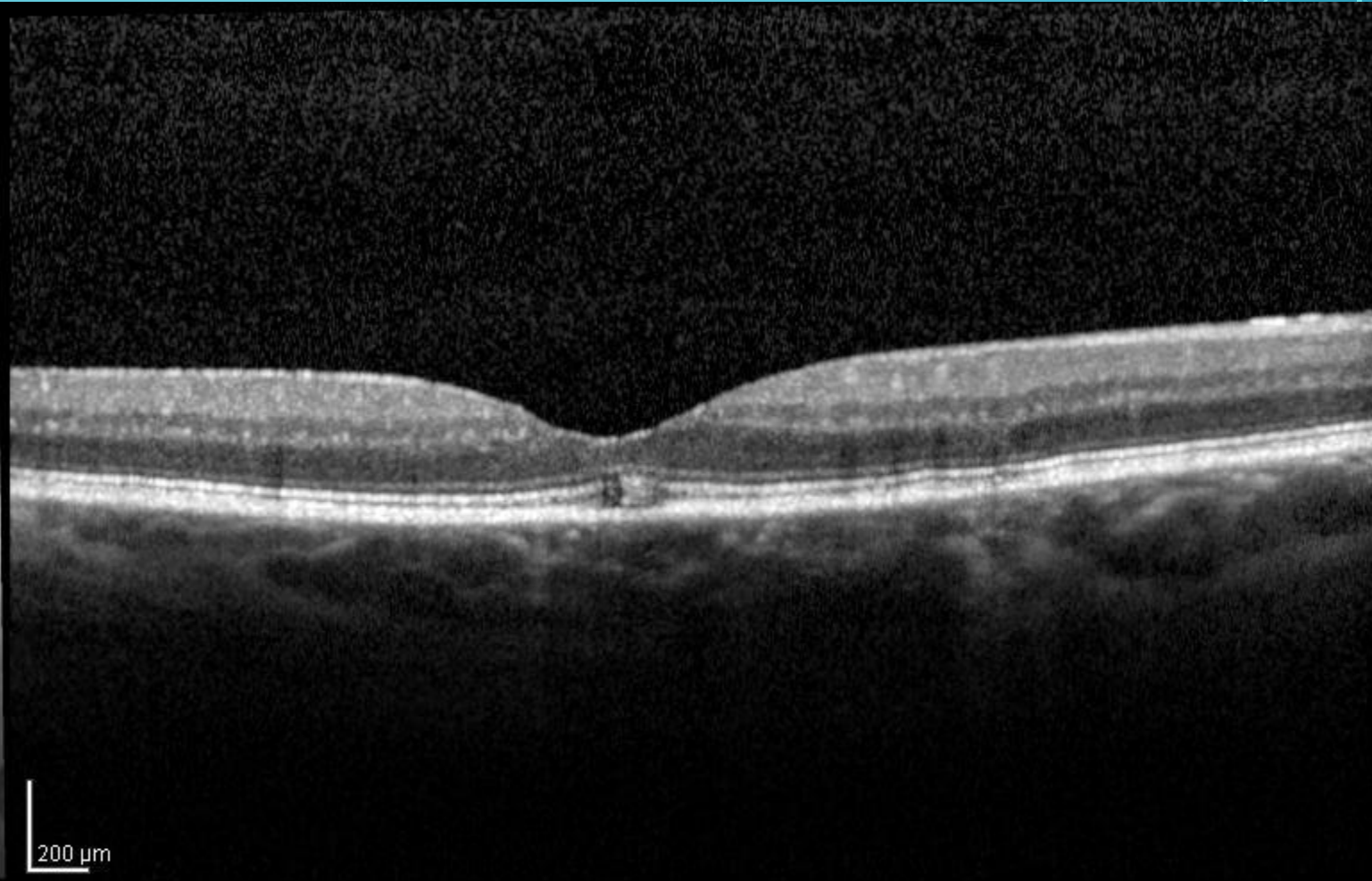
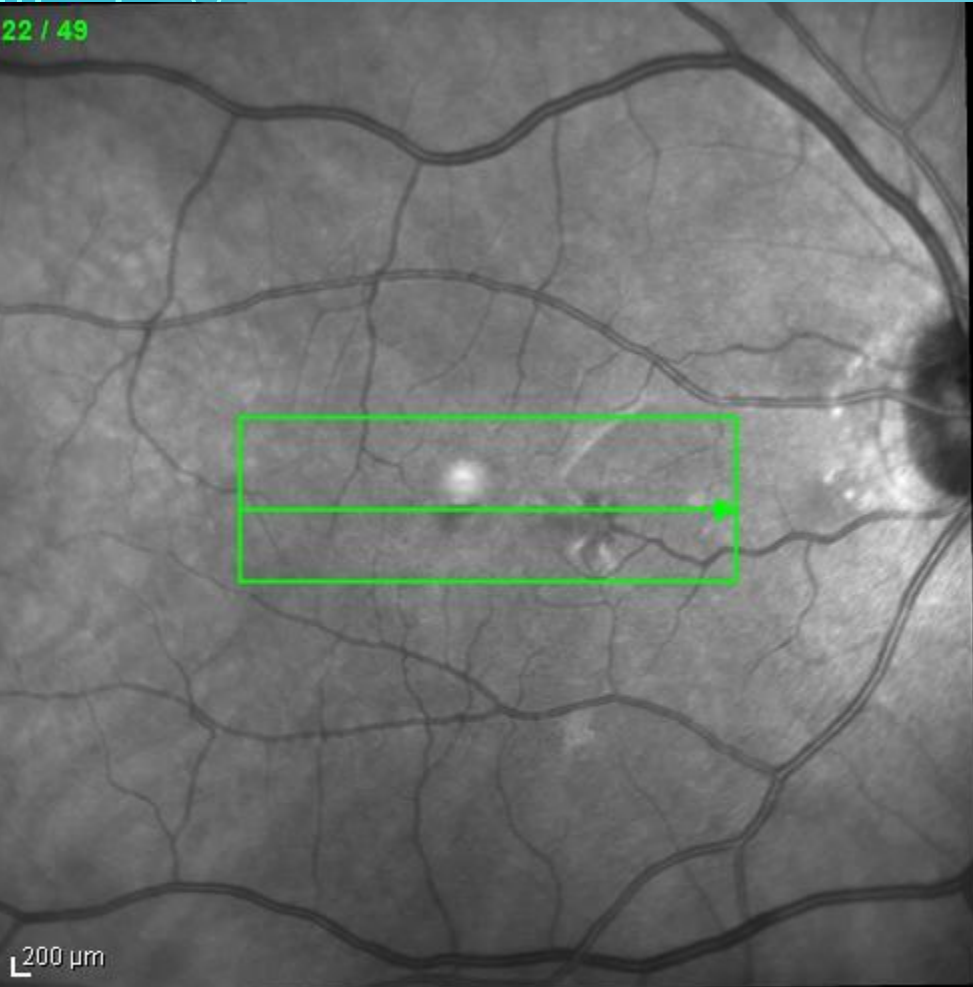




4/11/2018, OD  
IR&OCT 30° ART [HR] ART(16) Q: 28



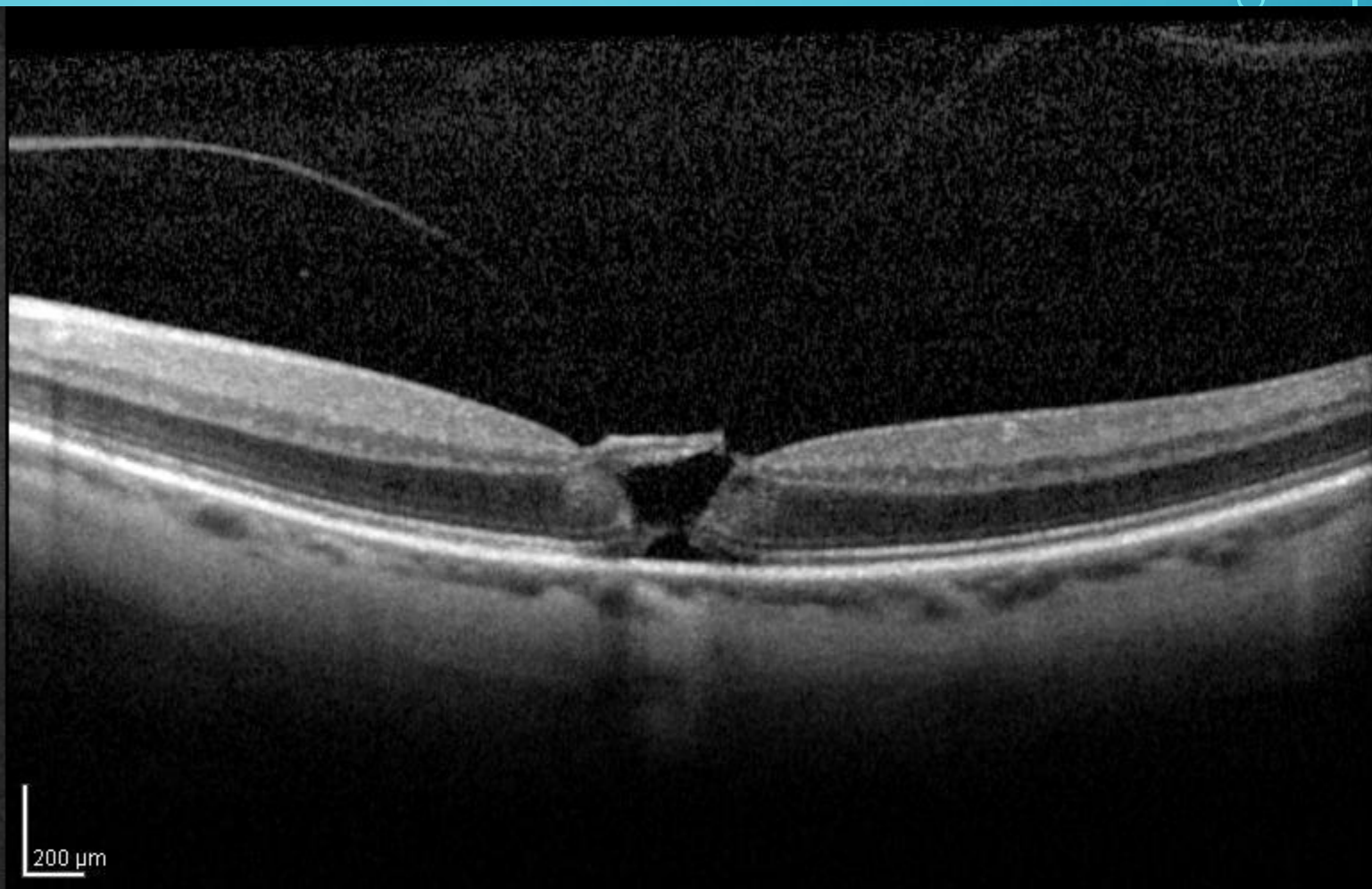
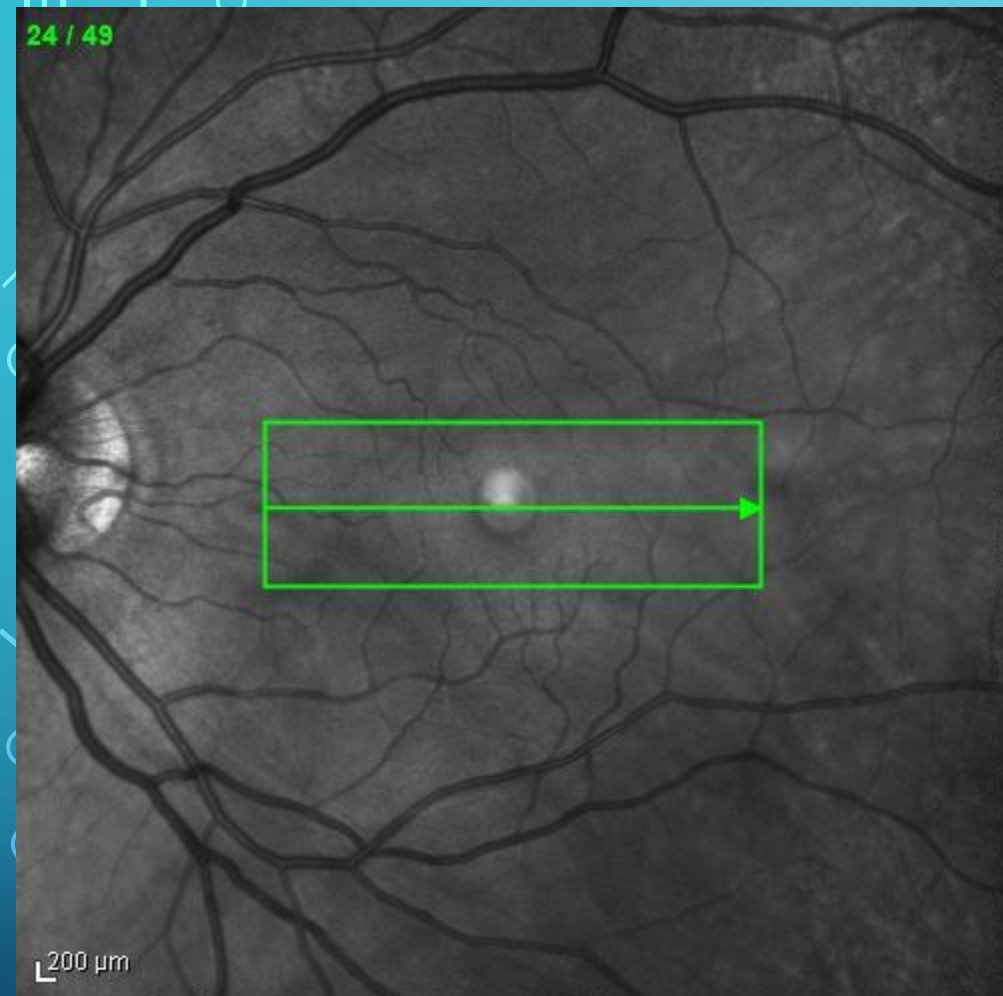




6/21/2018, OD  
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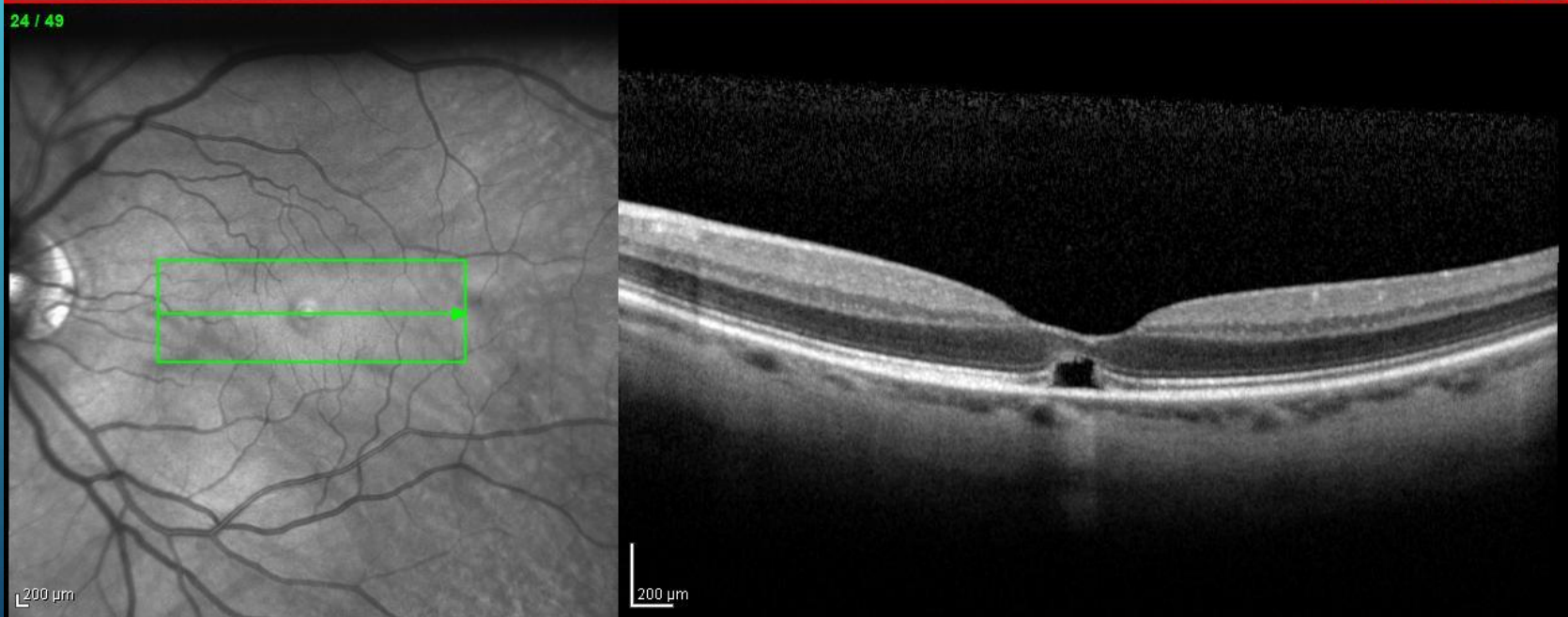
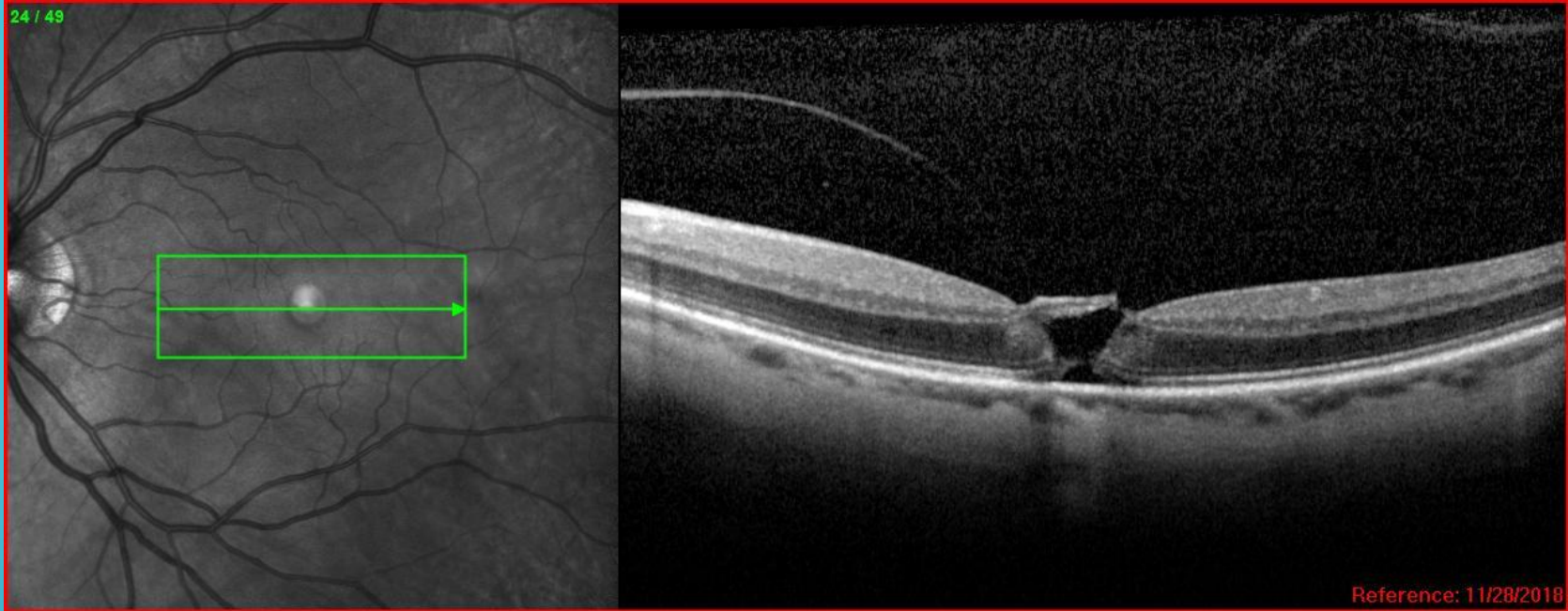


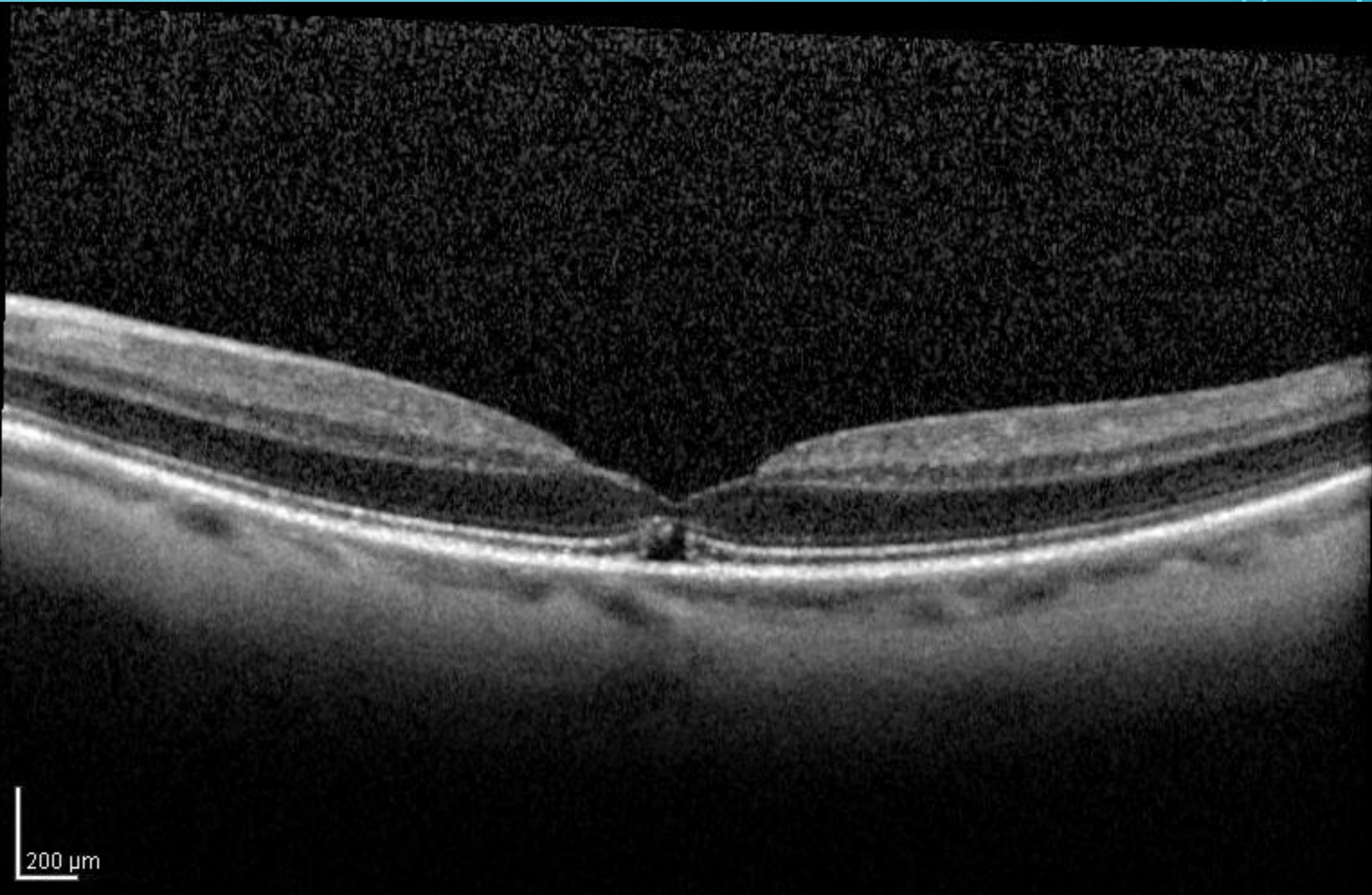
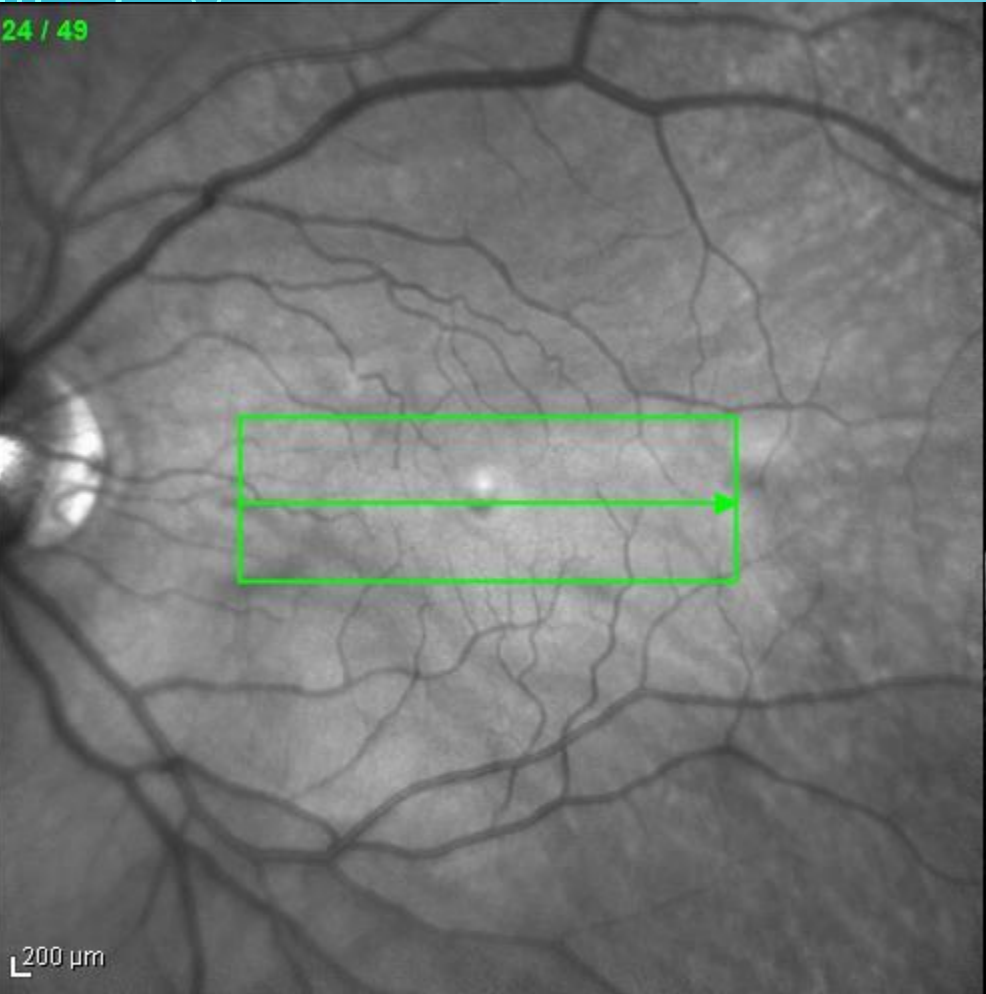


11/28/2018, OS

IR&OCT 30° ART [HR] ART(17) Q: 24







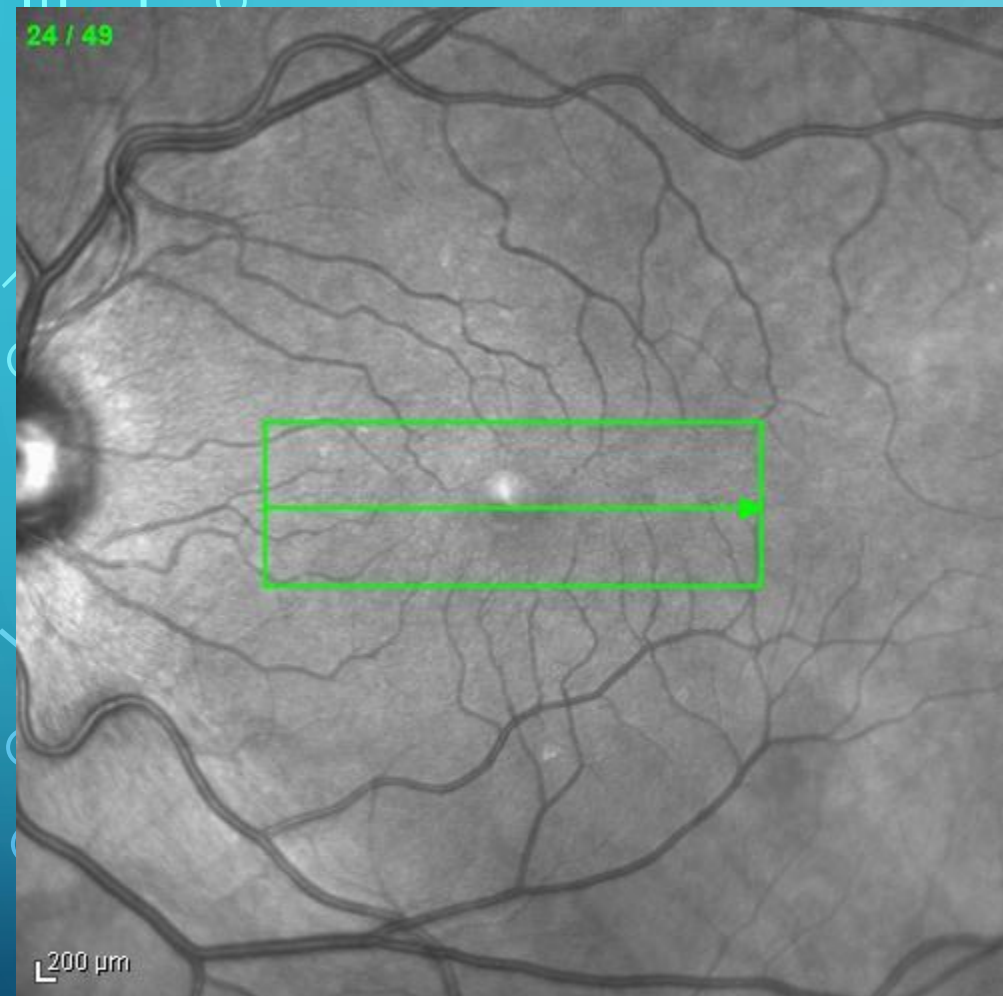
3/6/2019, OS  
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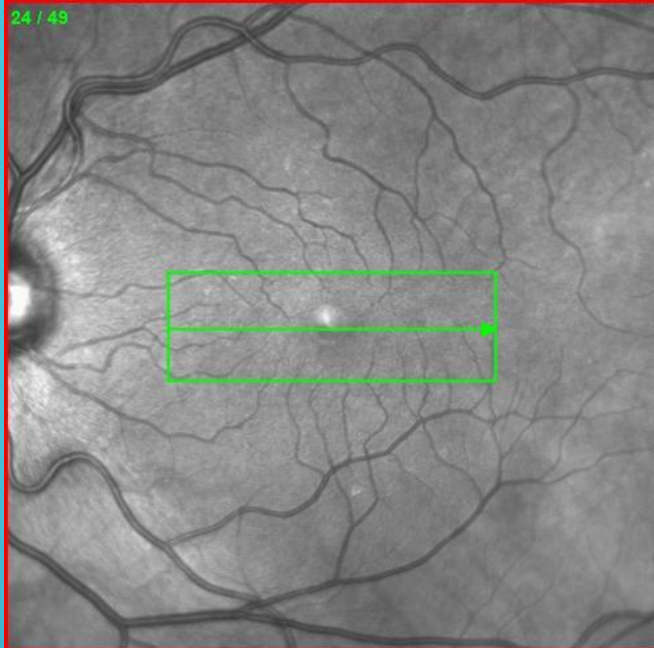




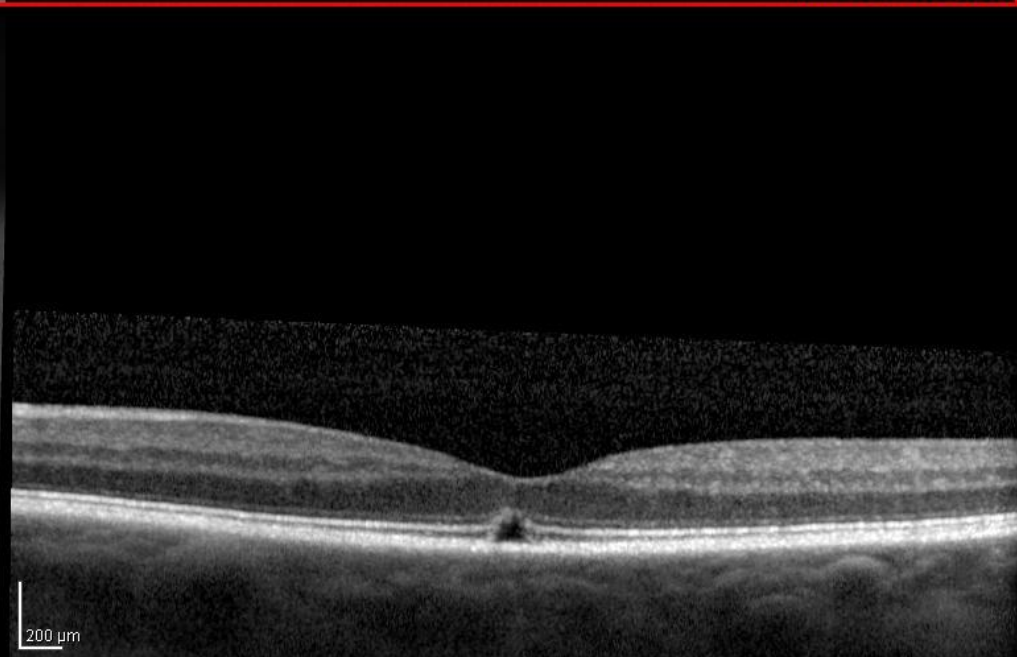
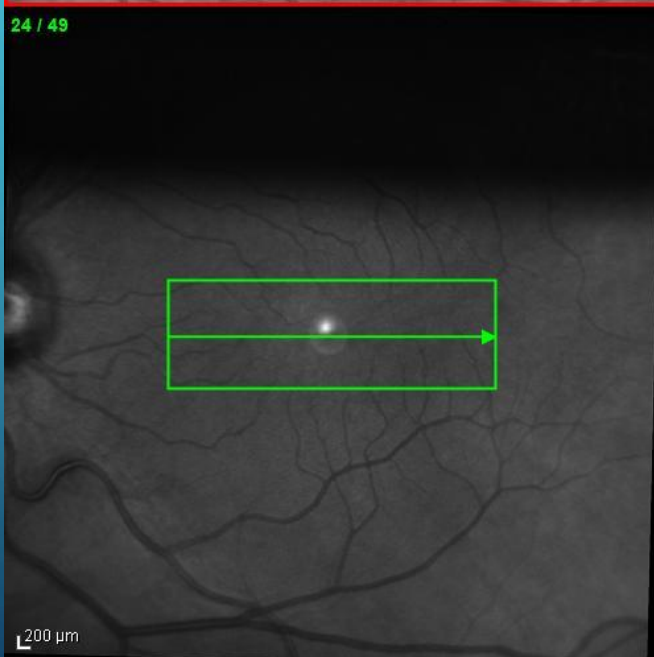


10/19/2017, OS

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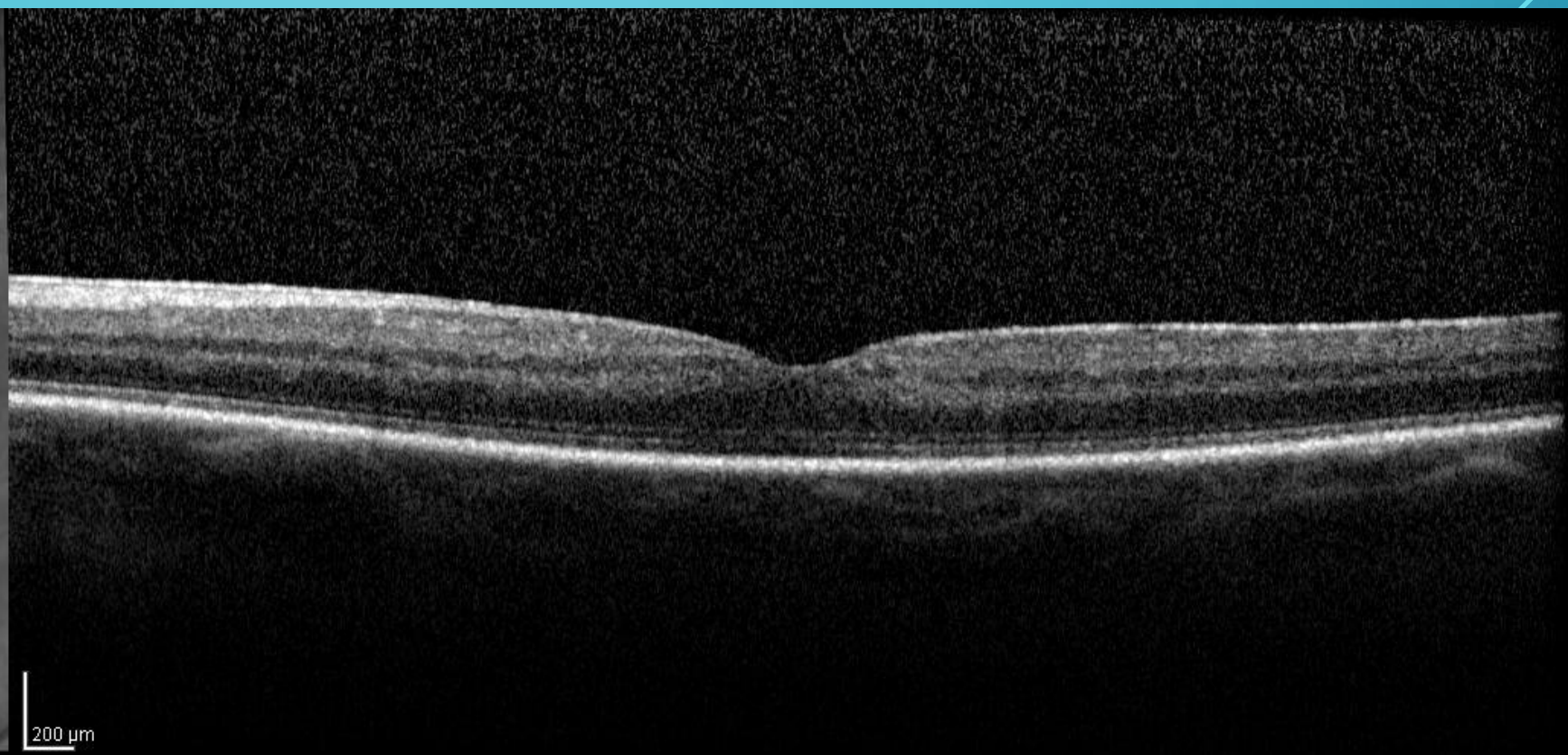
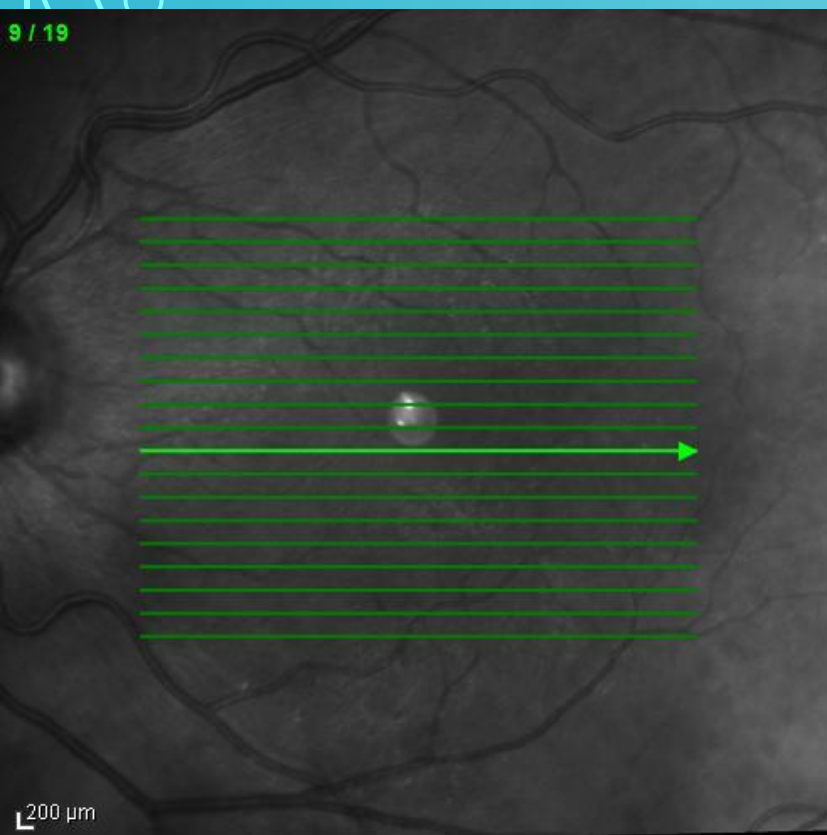


Reference: 10/19/2017





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5/15/2018, OS

IR&OCT 30° ART [HR] ART(9) Q: 17





The image features a blue gradient background with white circuit-like lines in the corners. These lines consist of straight segments and small circles, resembling a stylized electronic circuit. They are located in the top-left, top-right, bottom-left, and bottom-right corners.

THE END😊