

المؤتمر السنوي الدولي للجمعية الرمدية المصرية

INTERNATIONAL CONGRESS OF THE

EGYPTIAN OPHTHALMOLOGICAL SOCIETY

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“Myopic Retinal Considerations for Refractive Surgeons”

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Introduction

Retinal Considerations in Myopia

- Meticulous retinal examination is a must in Myopes before refractive surgery.
- Retinal Pathology does **NOT** correlate with the degree of Myopia.
- Retinal pathology could be central or peripheral.

Central Examination

Retinal Examination

High illumination, Lens tilting

- Slit lamp.
- 3-mirror lens.
- Indirect Ophthalmoscopy.

Pre-operative Considerations

Central examination

- Epiretinal membranes, VMT.
- Macular holes.
- CNV.
- Foveal atrophy.
- Optic atrophy.

Problem: if missed, may be mistaken for amblyopia.

Pre-operative Considerations

OCT

OCT Macula (and RNFL) significantly improves outcomes.

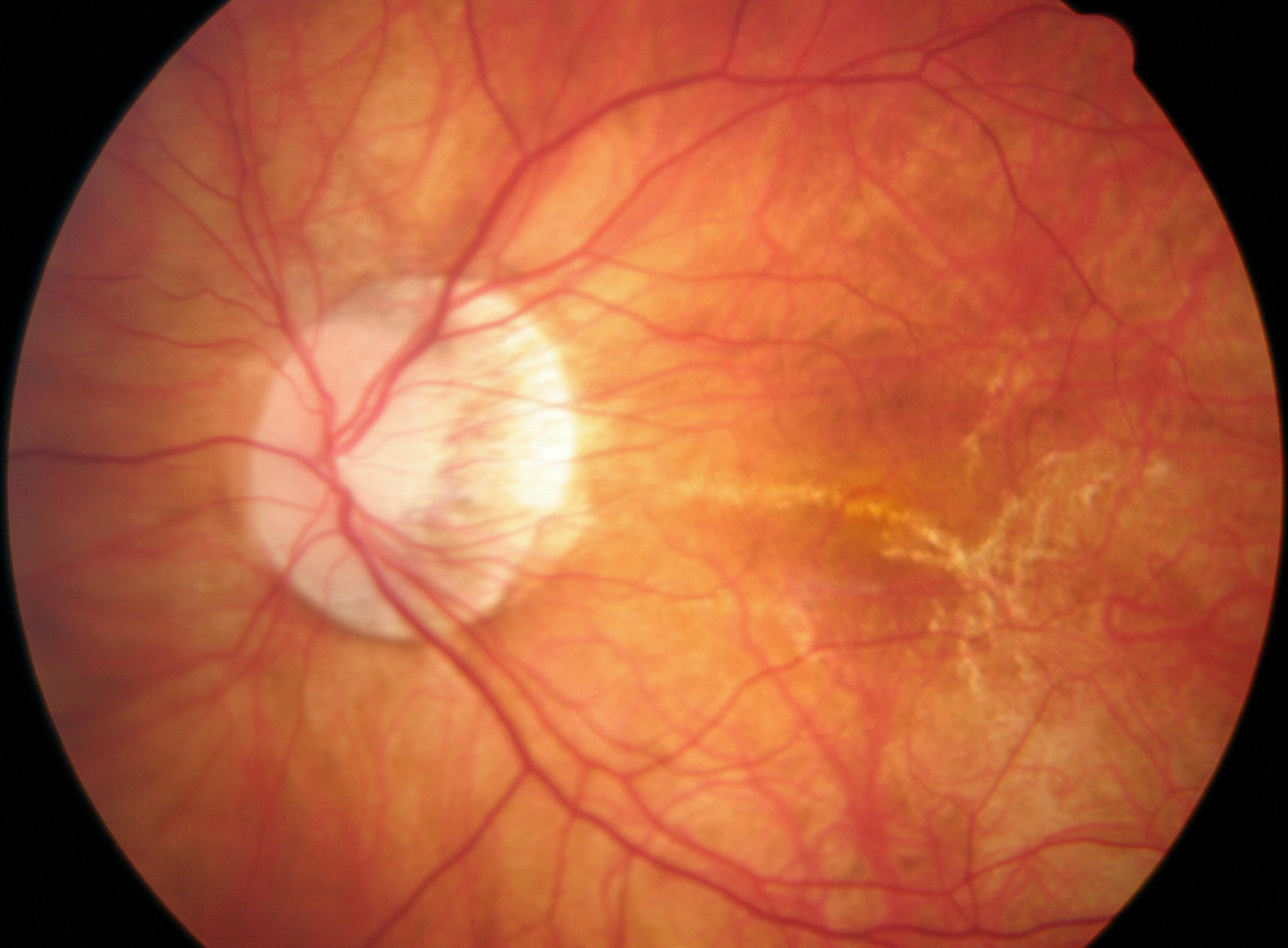
Review Article | [Published: 14 December 2022](#)

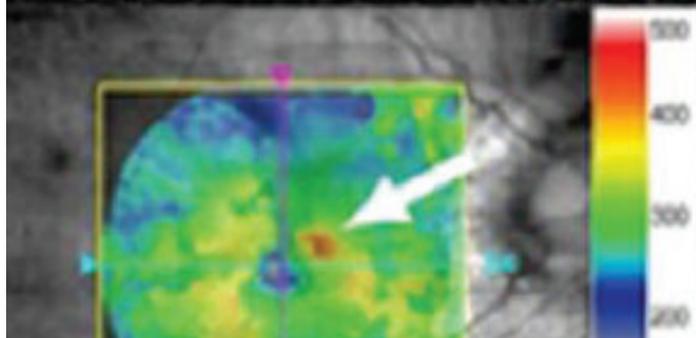
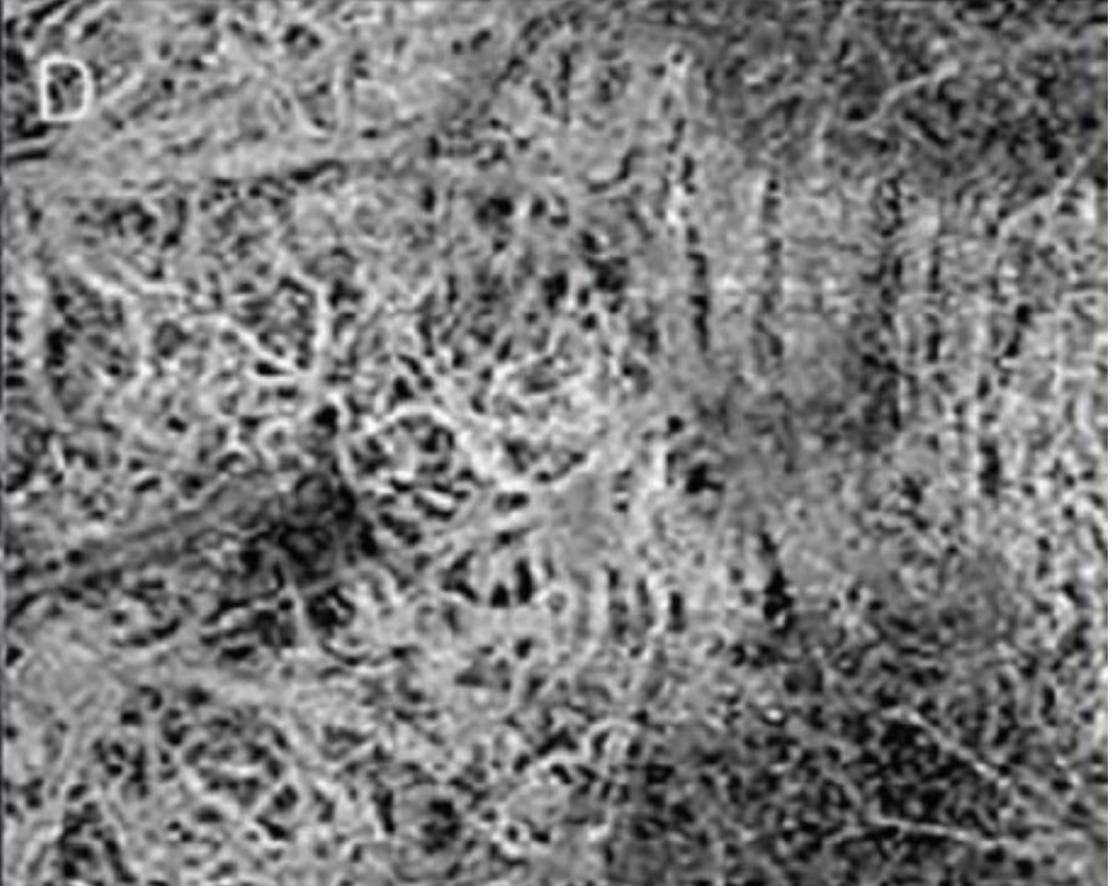
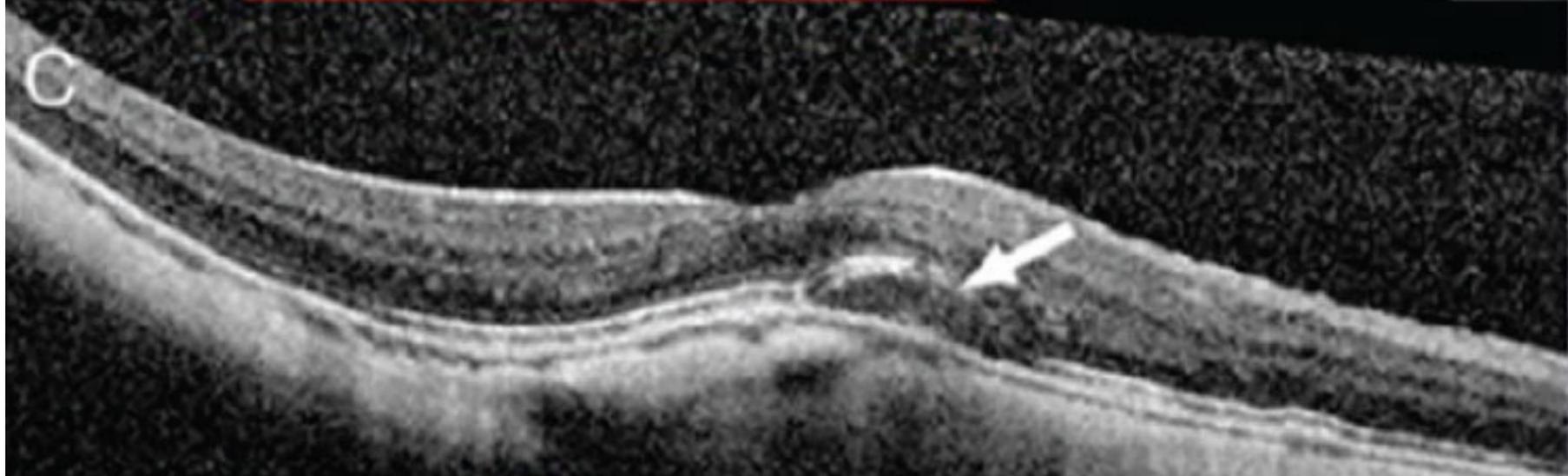
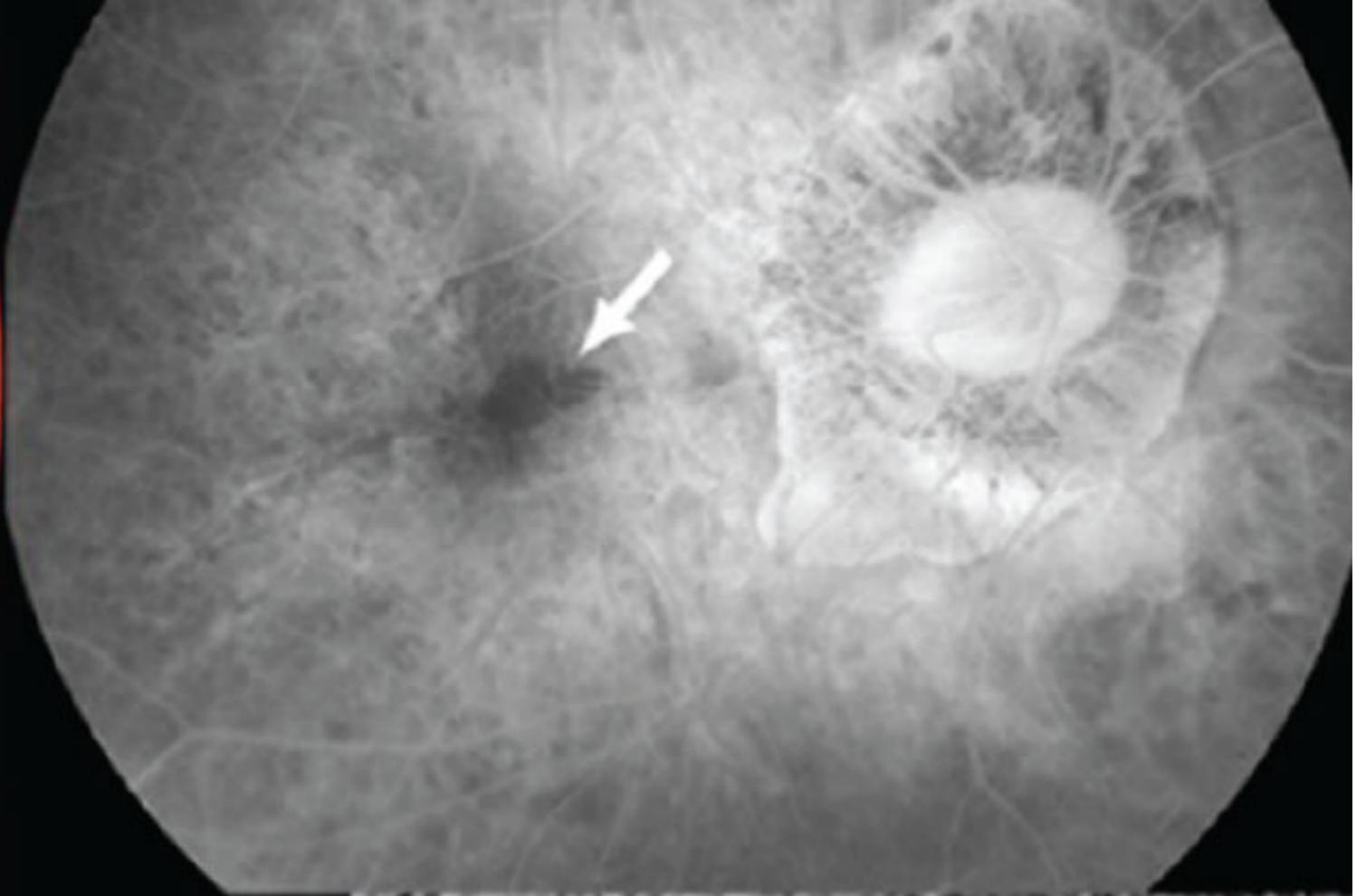
Optical coherence tomography as a diagnostic intervention before cataract surgery—a review

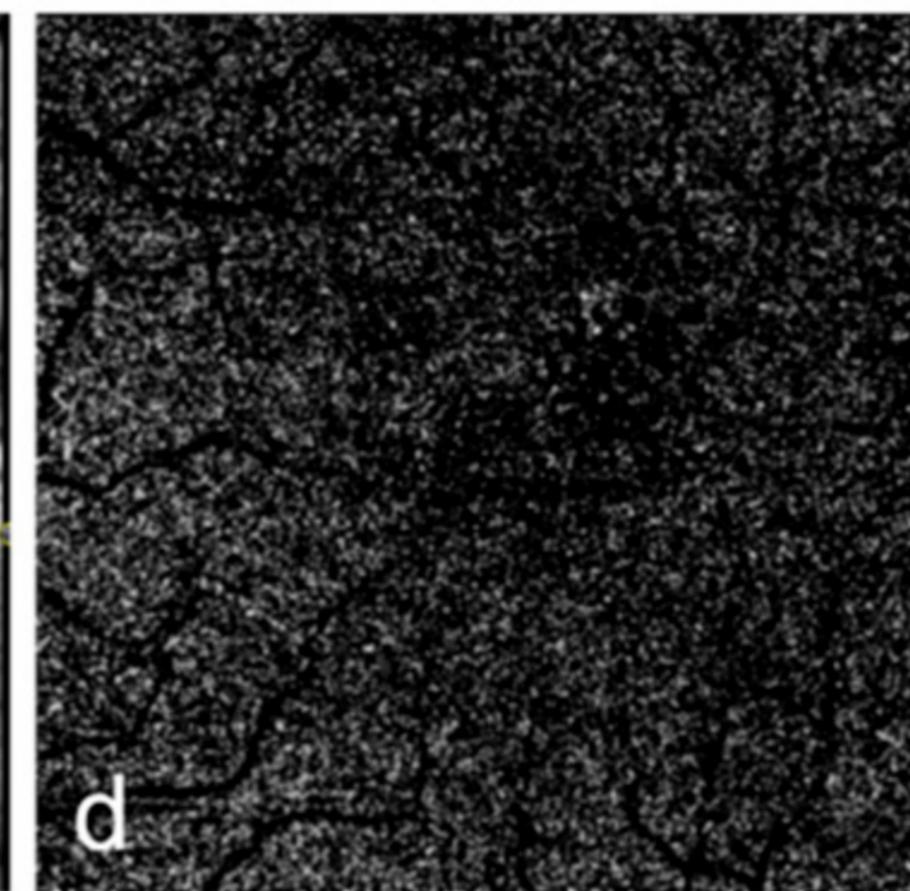
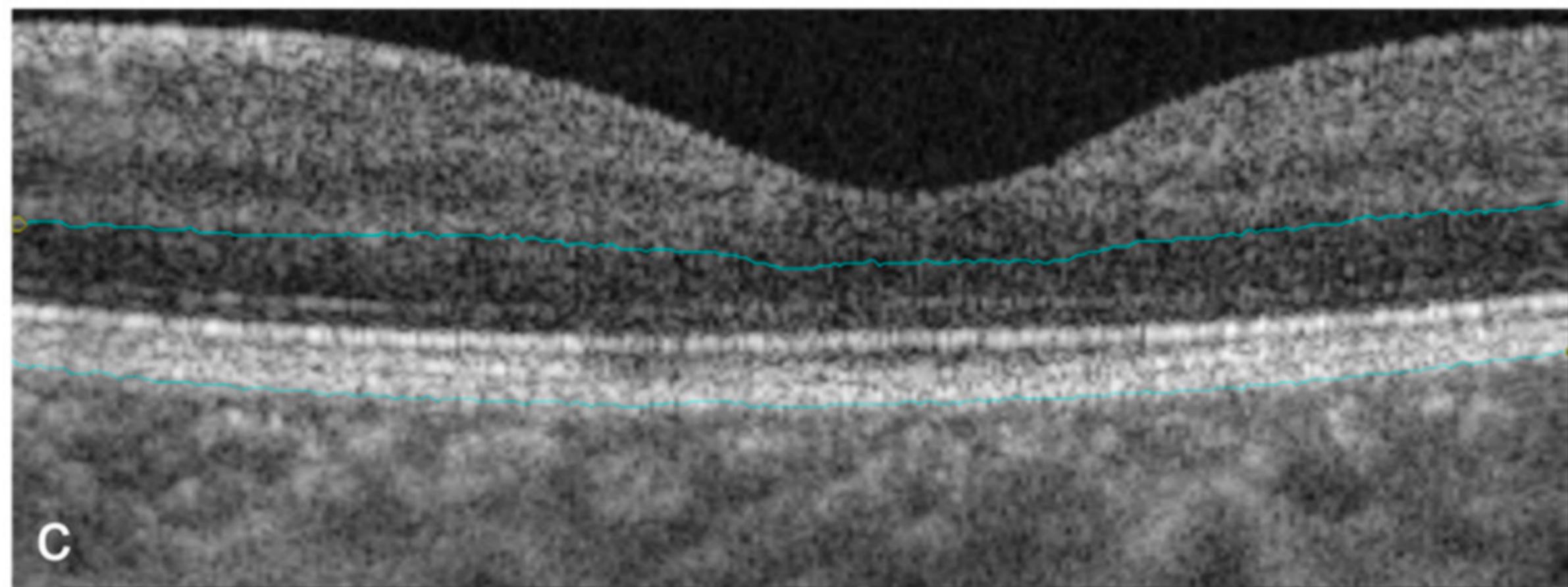
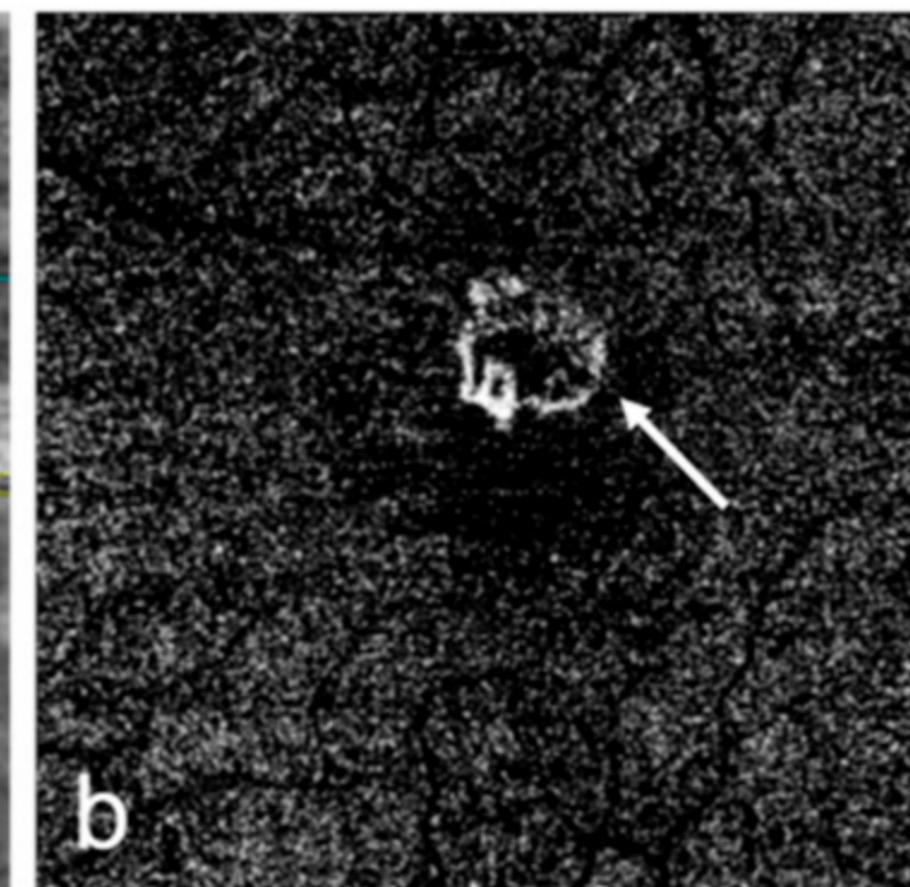
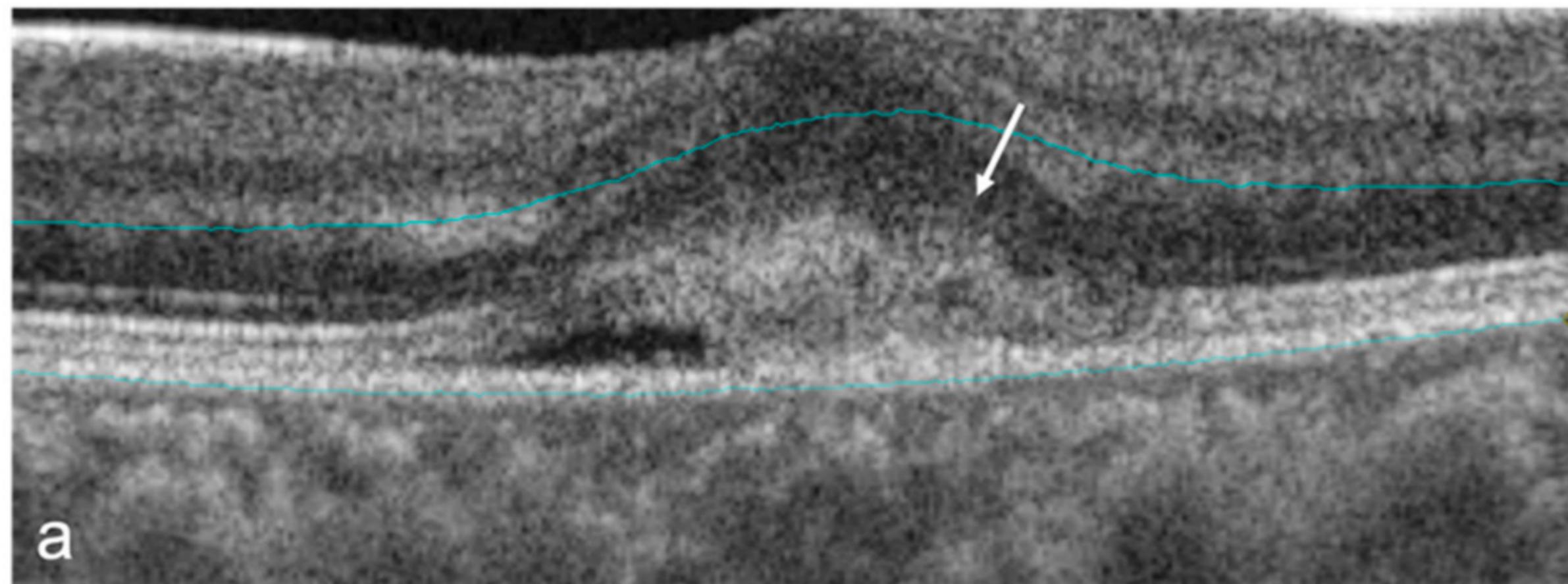
[Taha Muneer Ahmed](#), [M. A. Rehman Siddiqui](#)  & [Badrul Hussain](#)

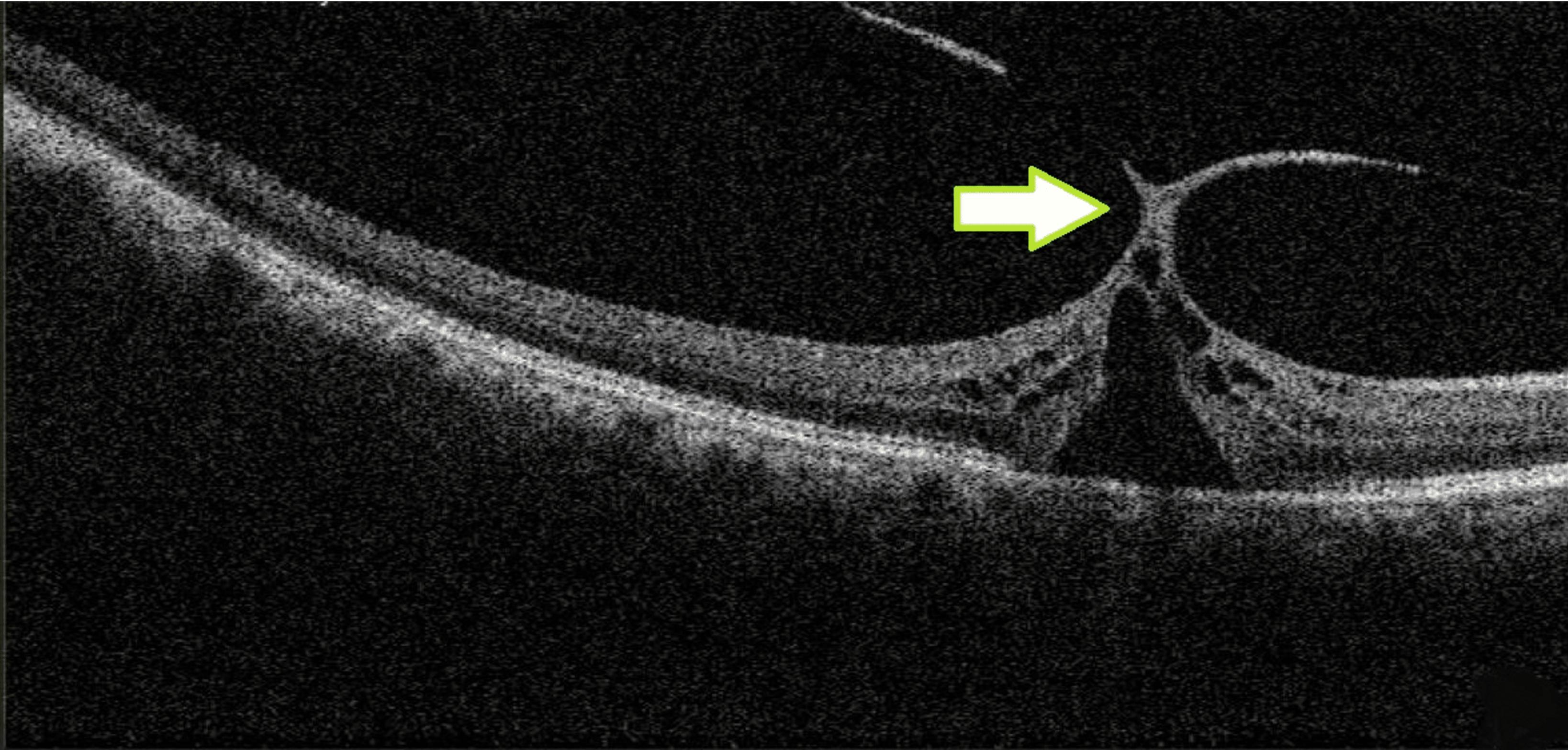
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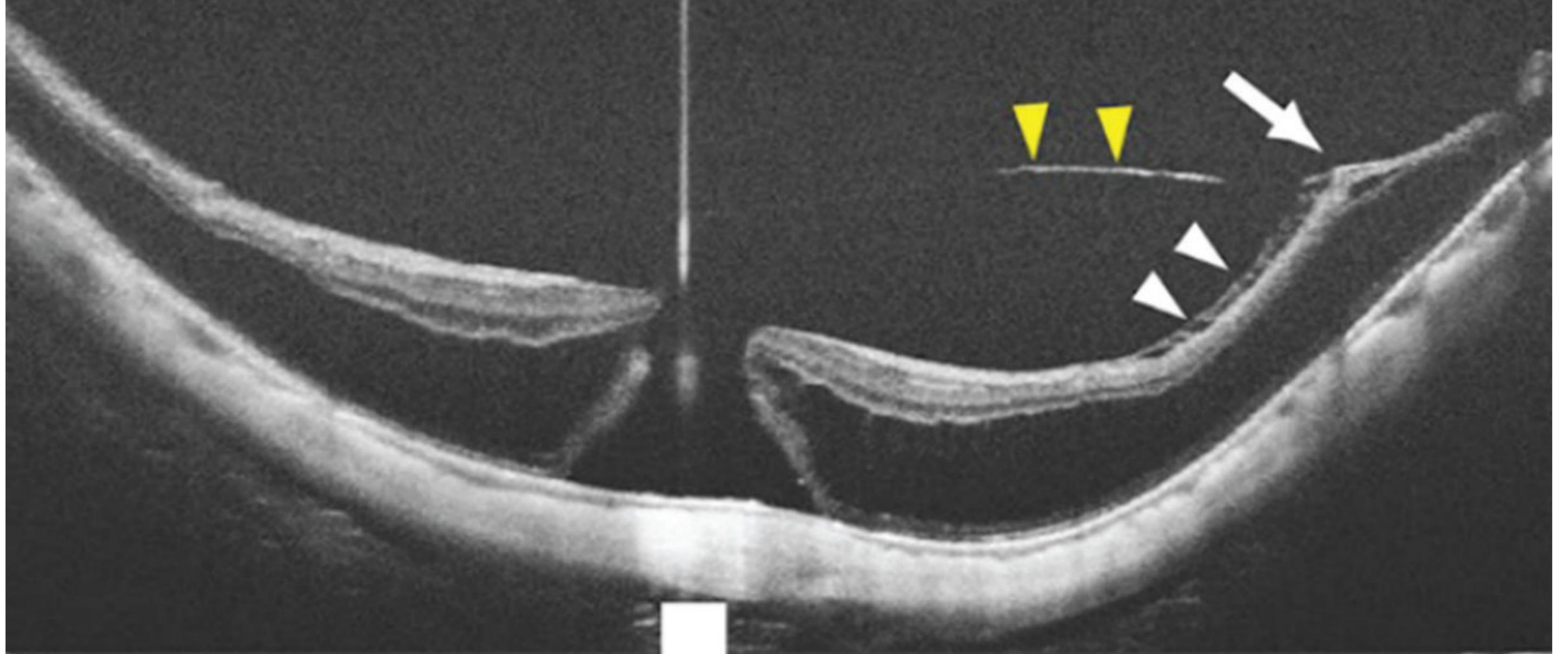
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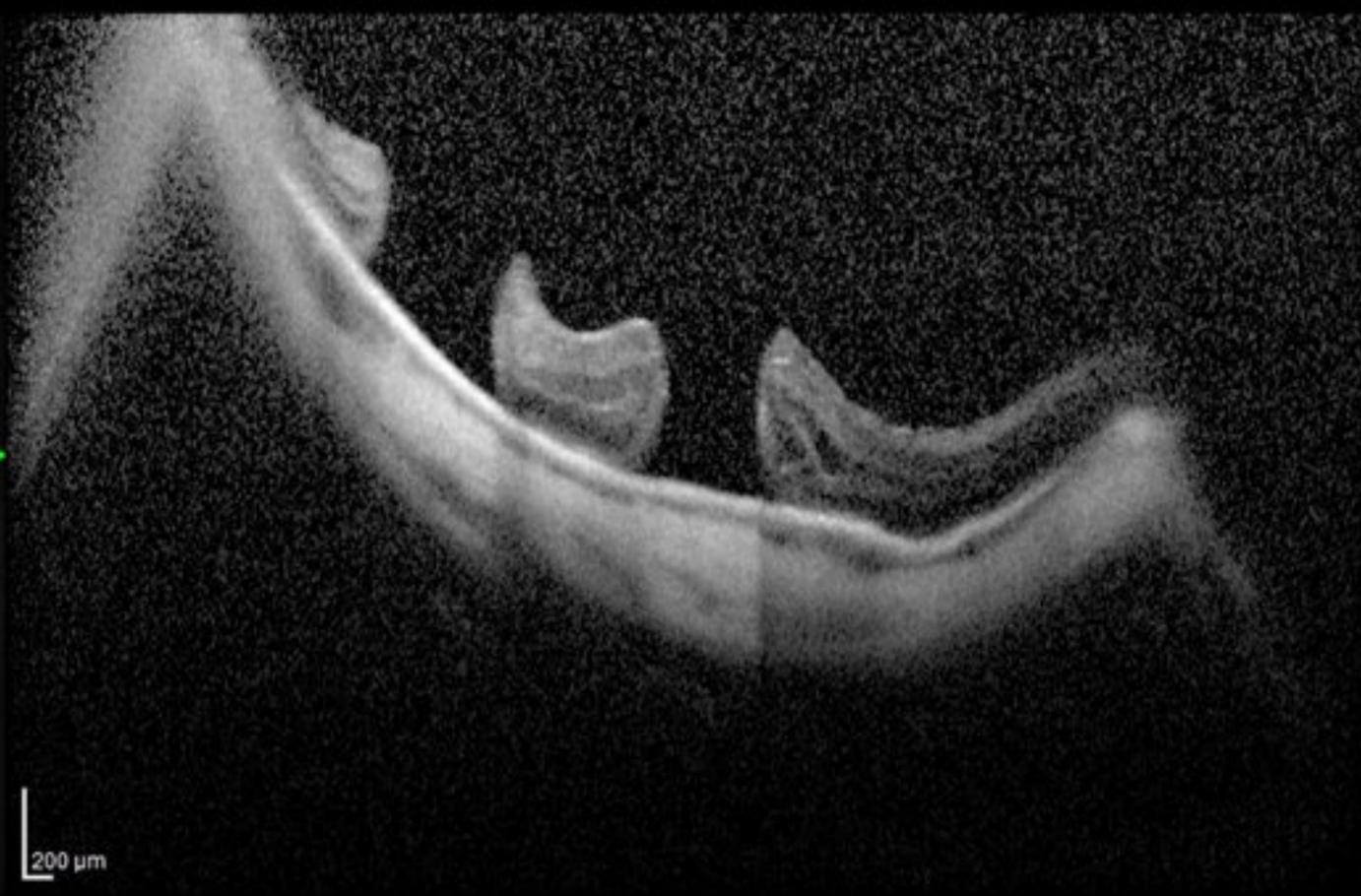
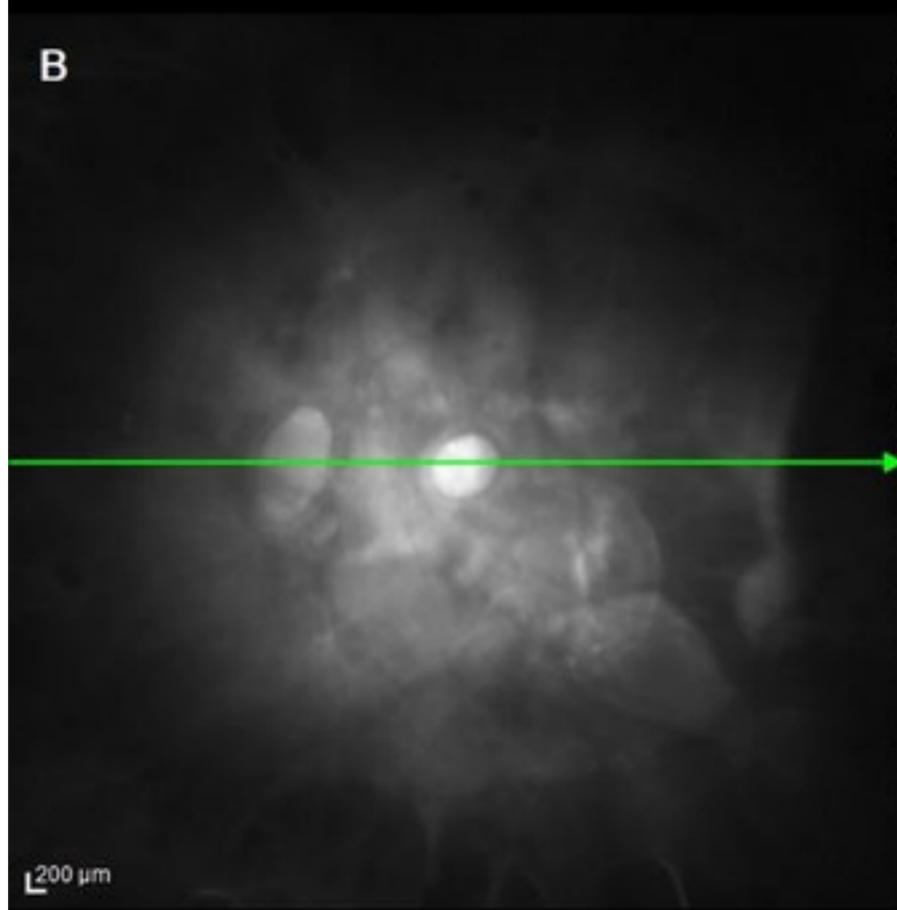
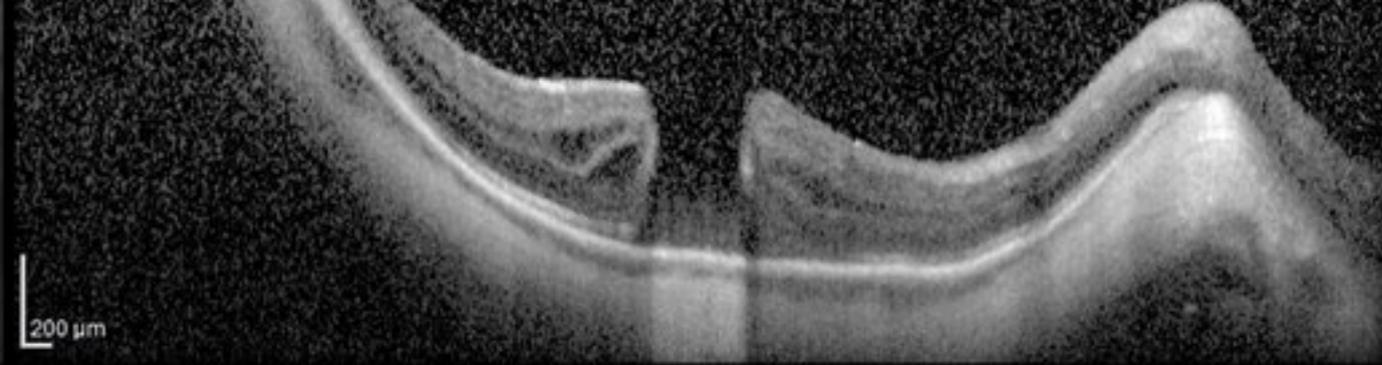




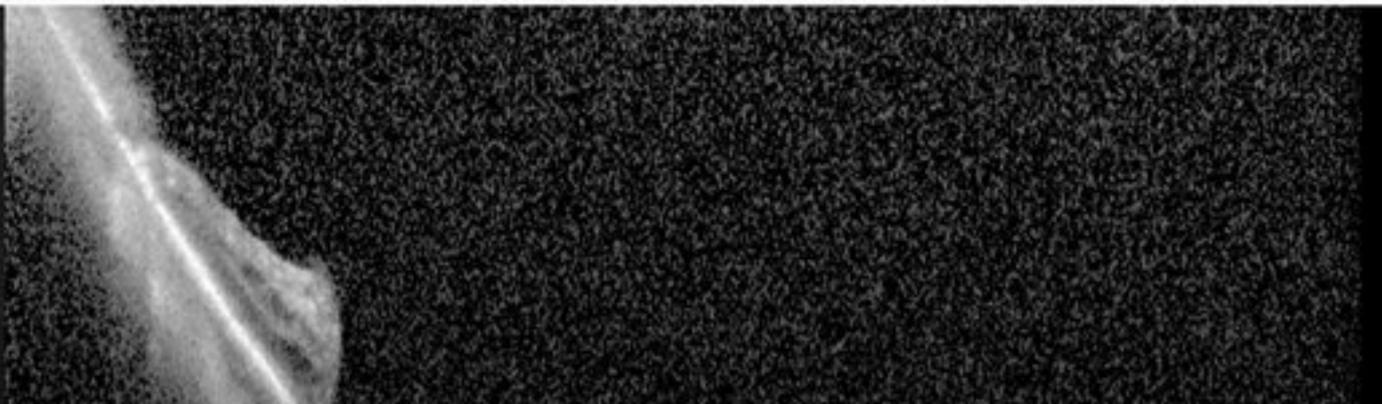
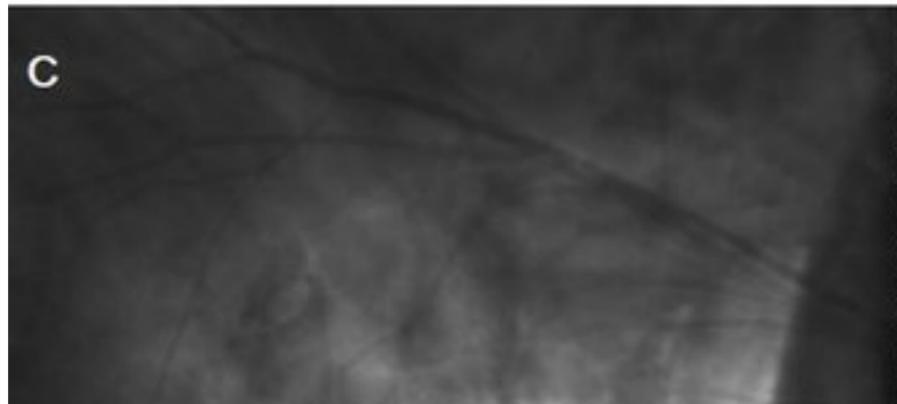


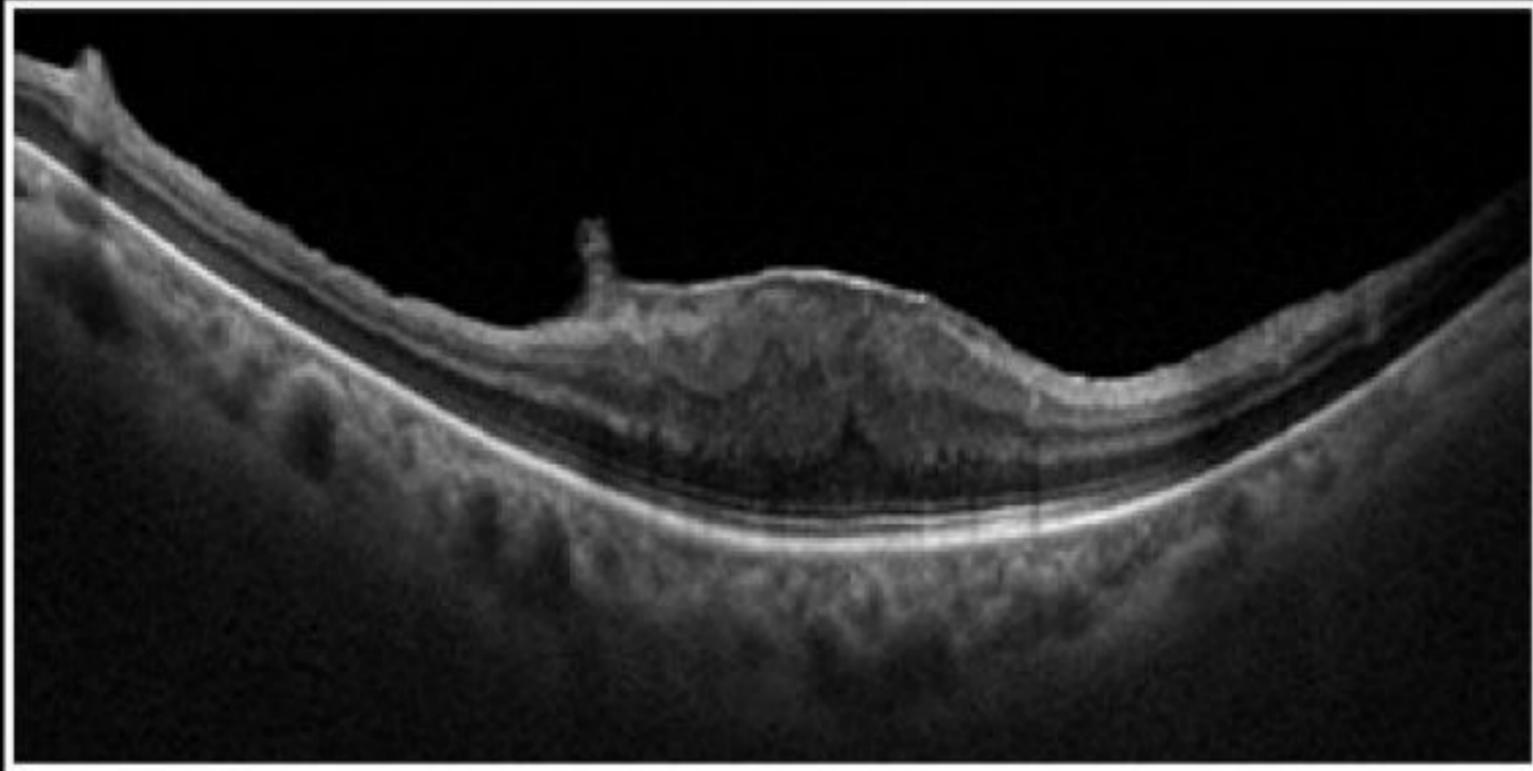




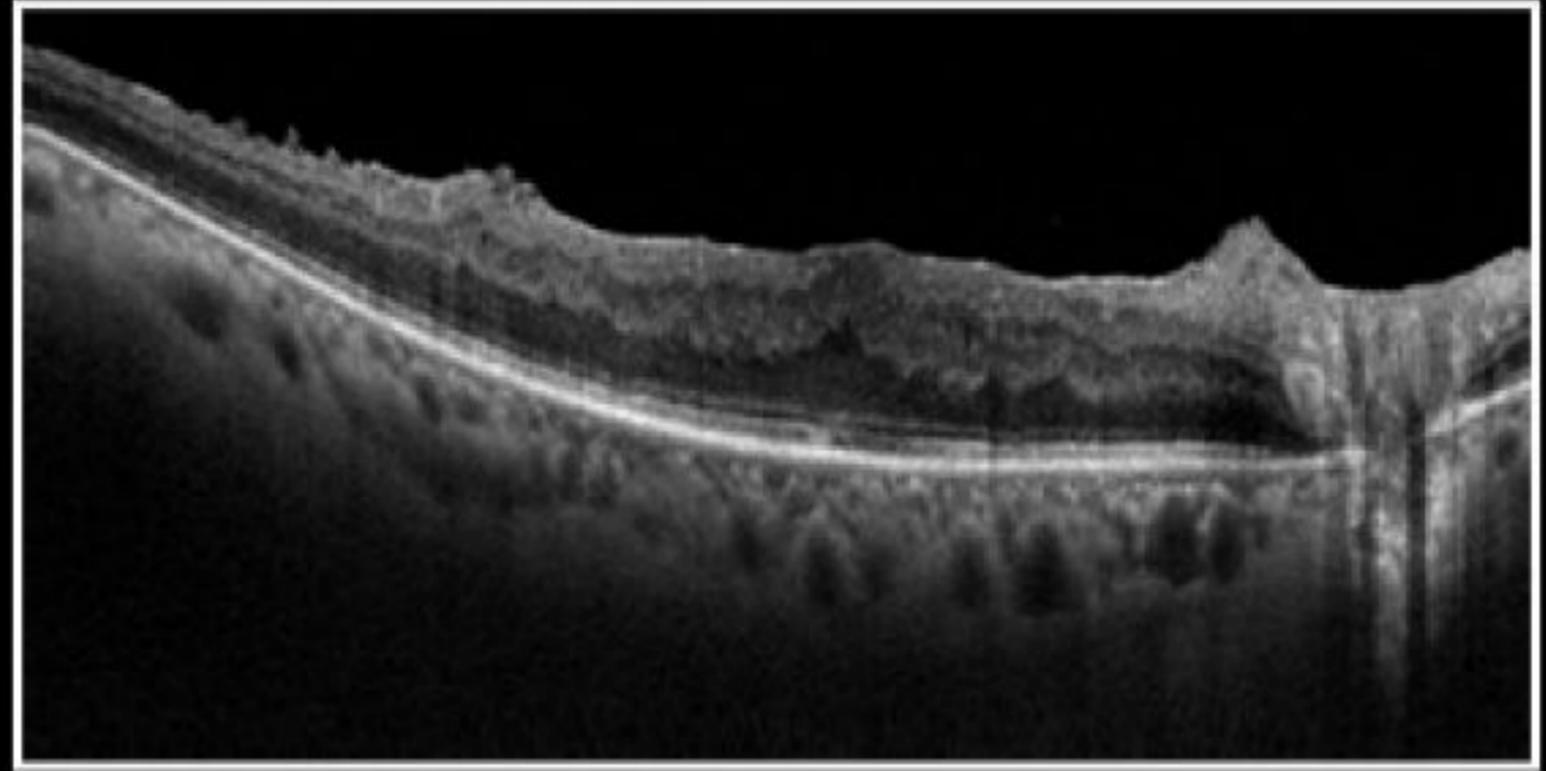


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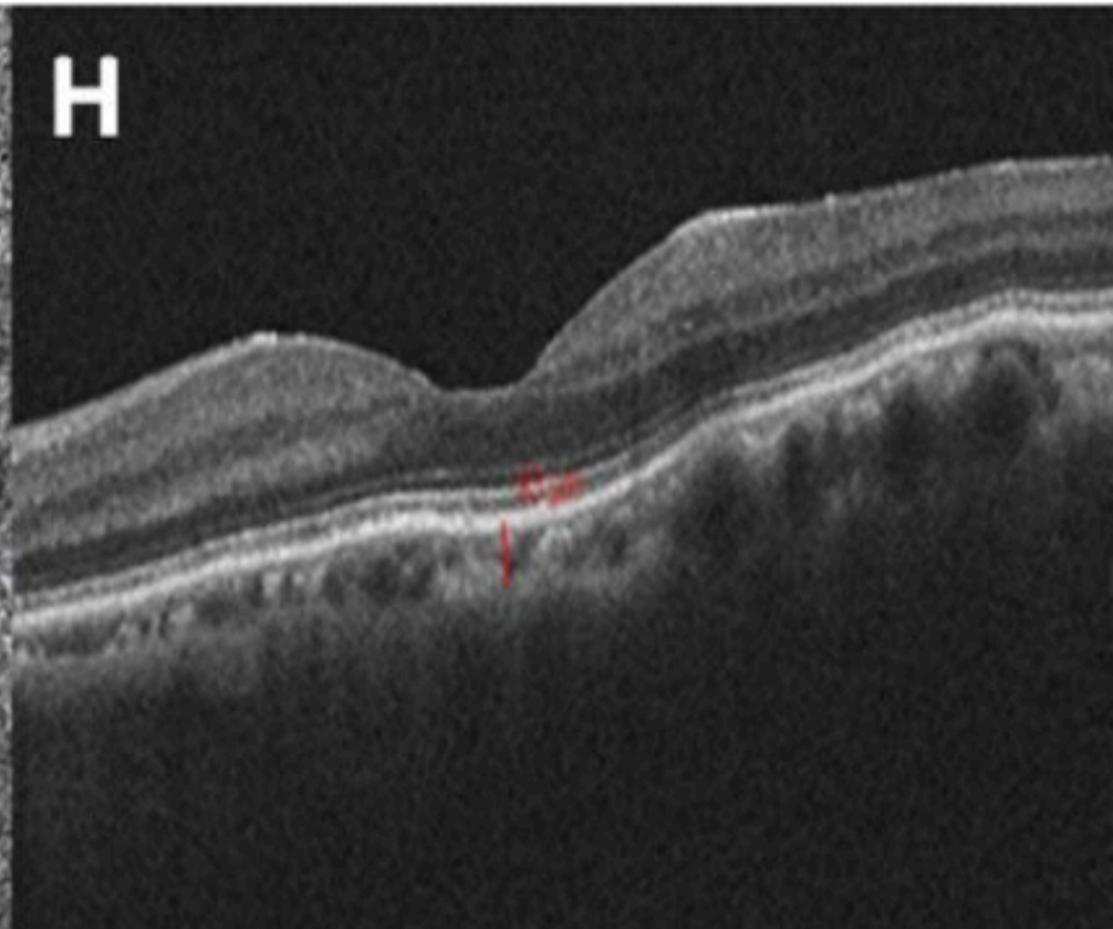
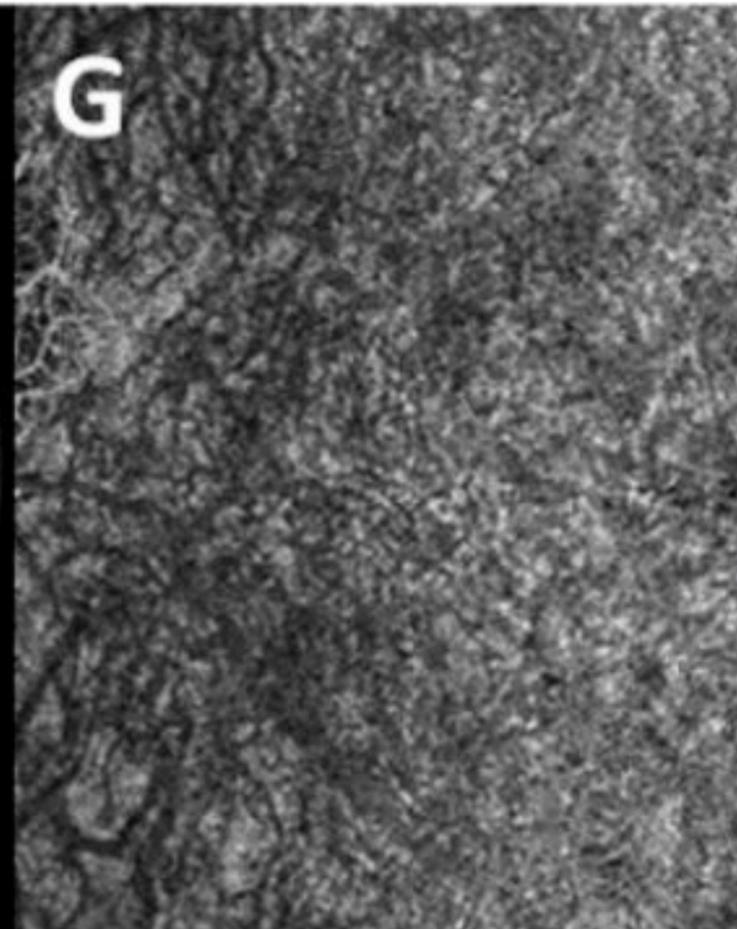
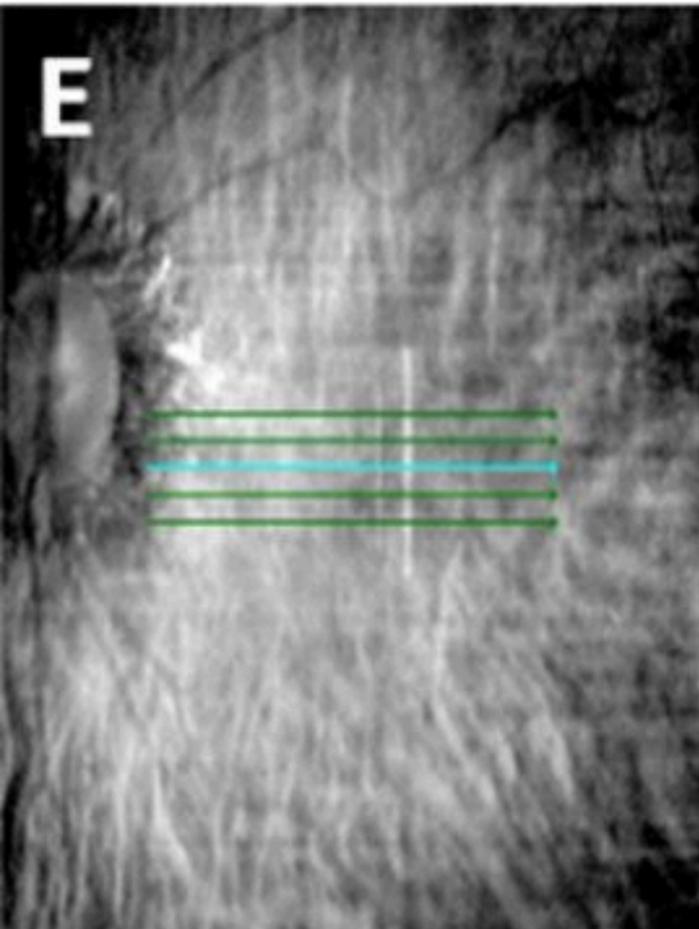
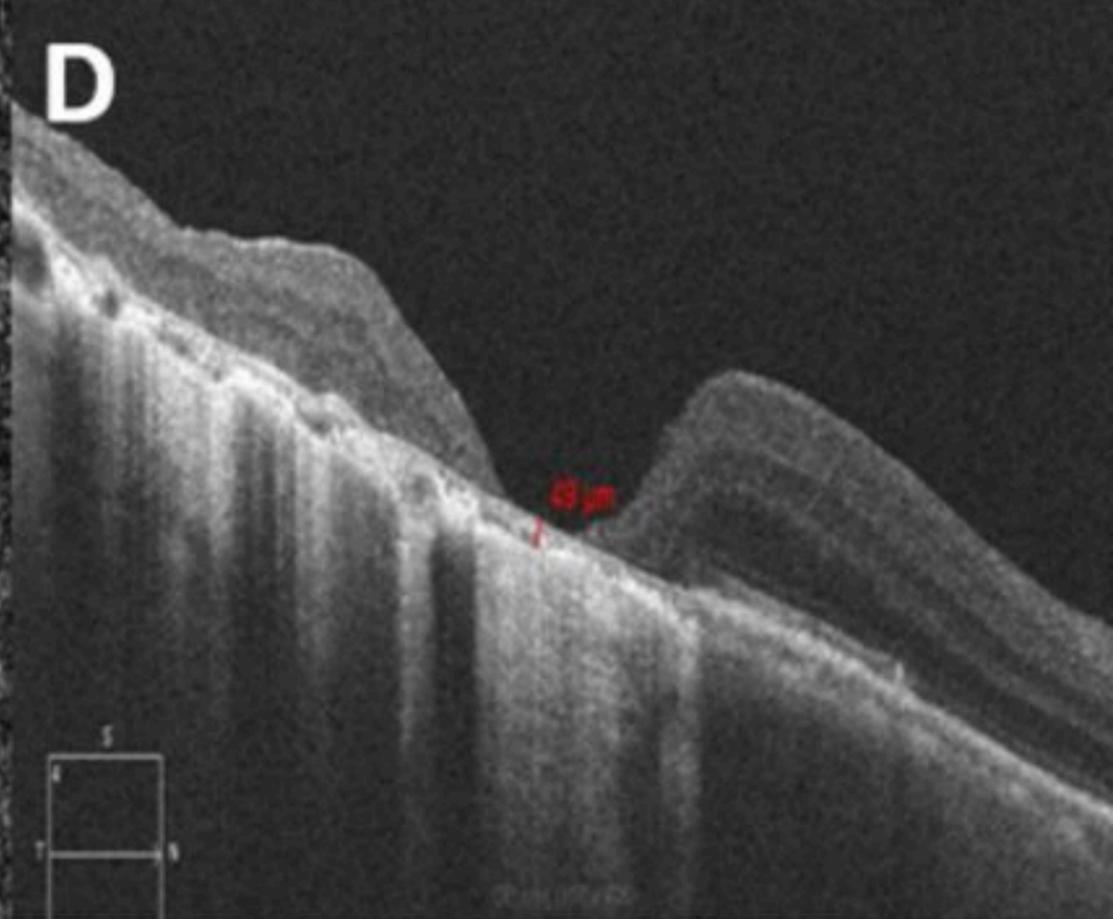
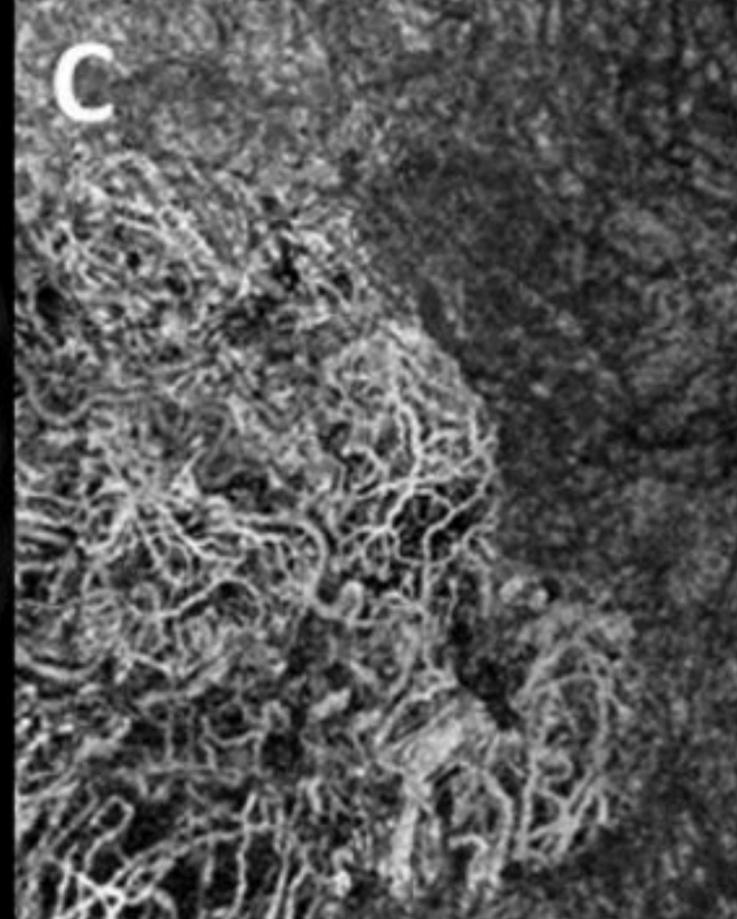
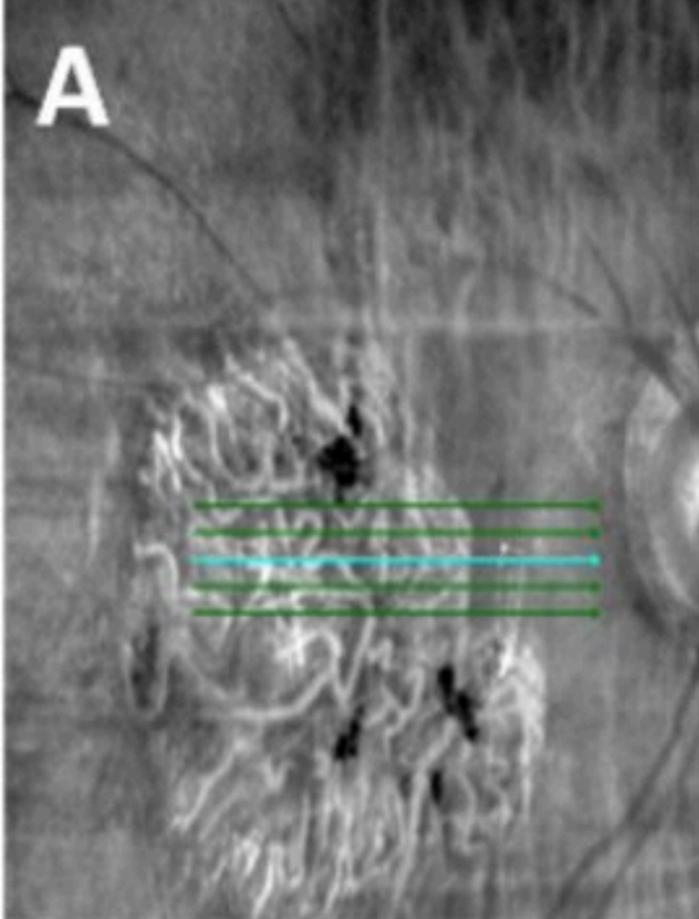




**PRE OPERATIVE
OCT SCAN SHOWING EPIRETINAL
MEMBRANE**



**POST OPERATIVE
OCT SCAN SHOWING REMODELLING
OF RETINAL LAYERS**

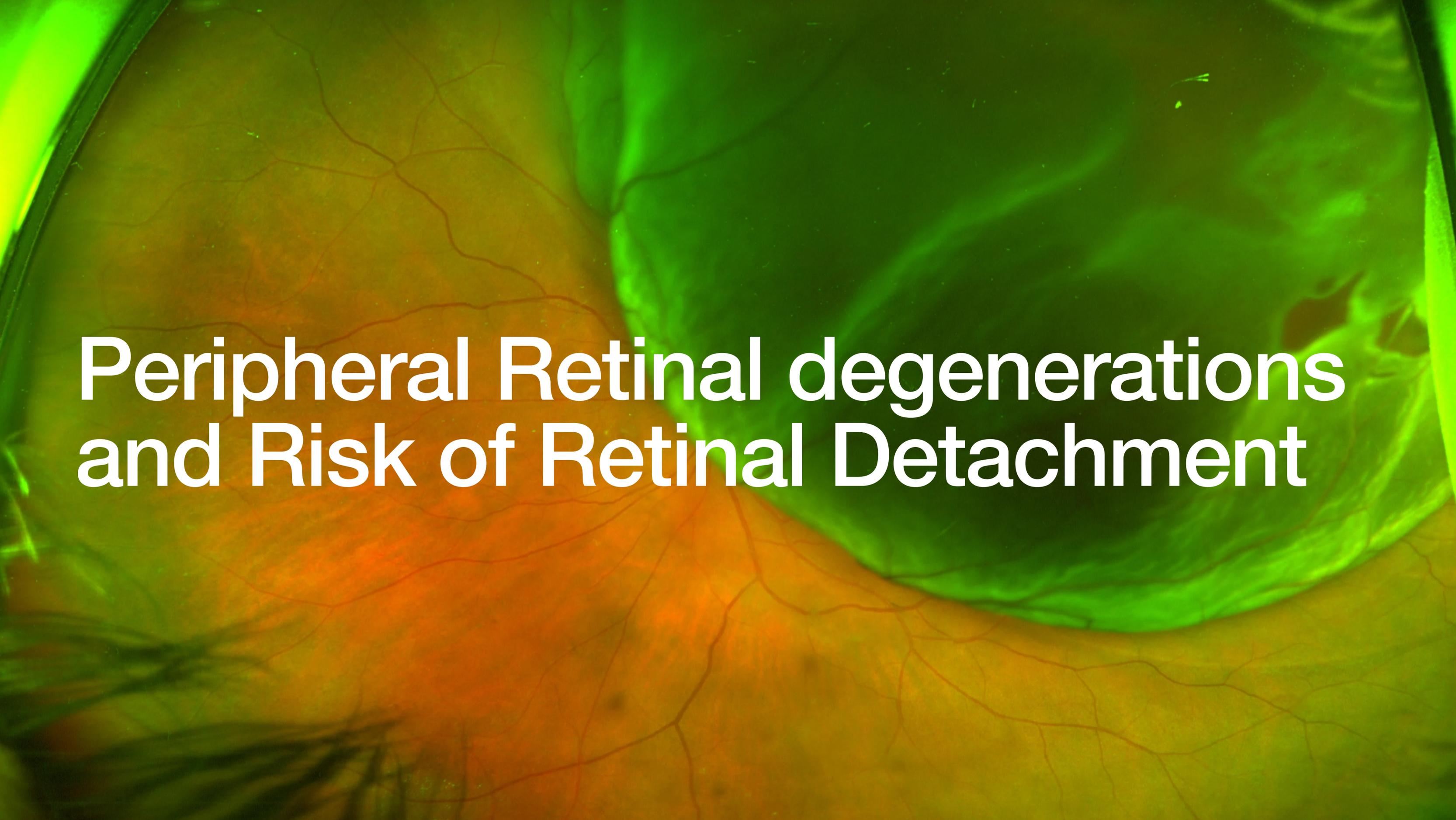


Peripheral Examination

Pre-operative Considerations

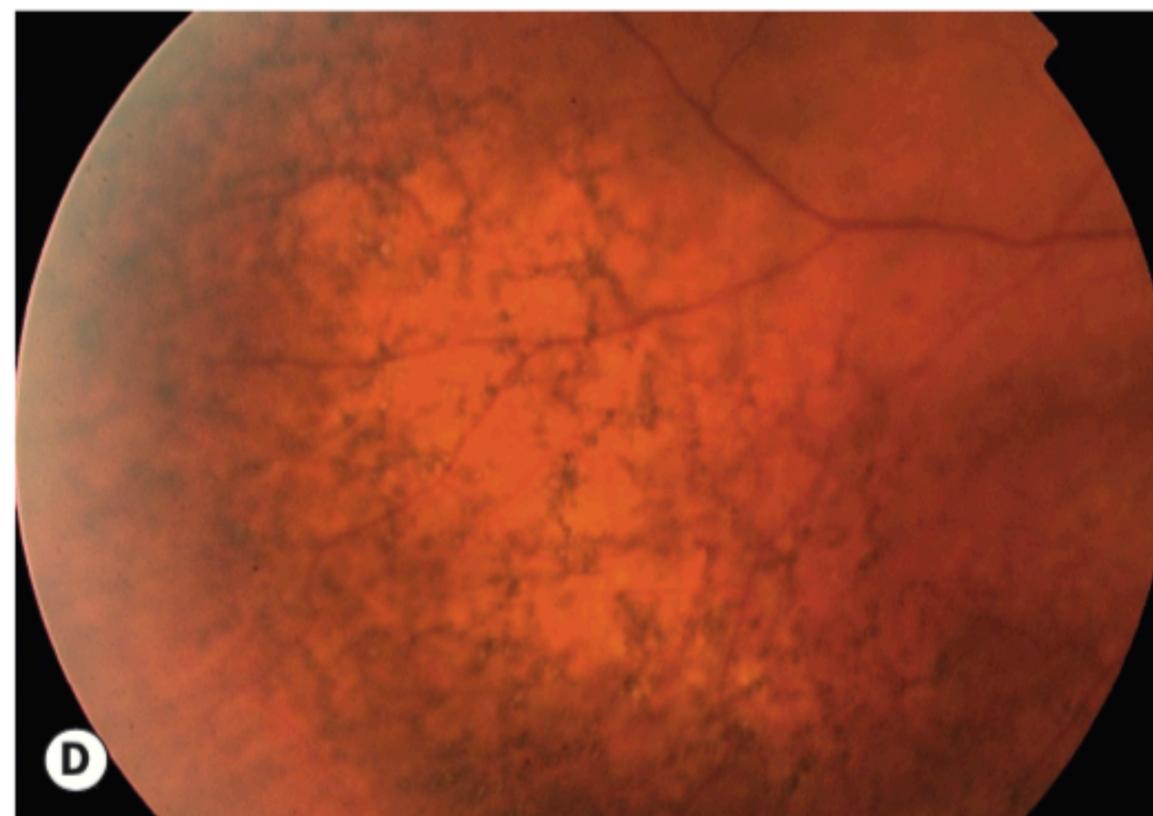
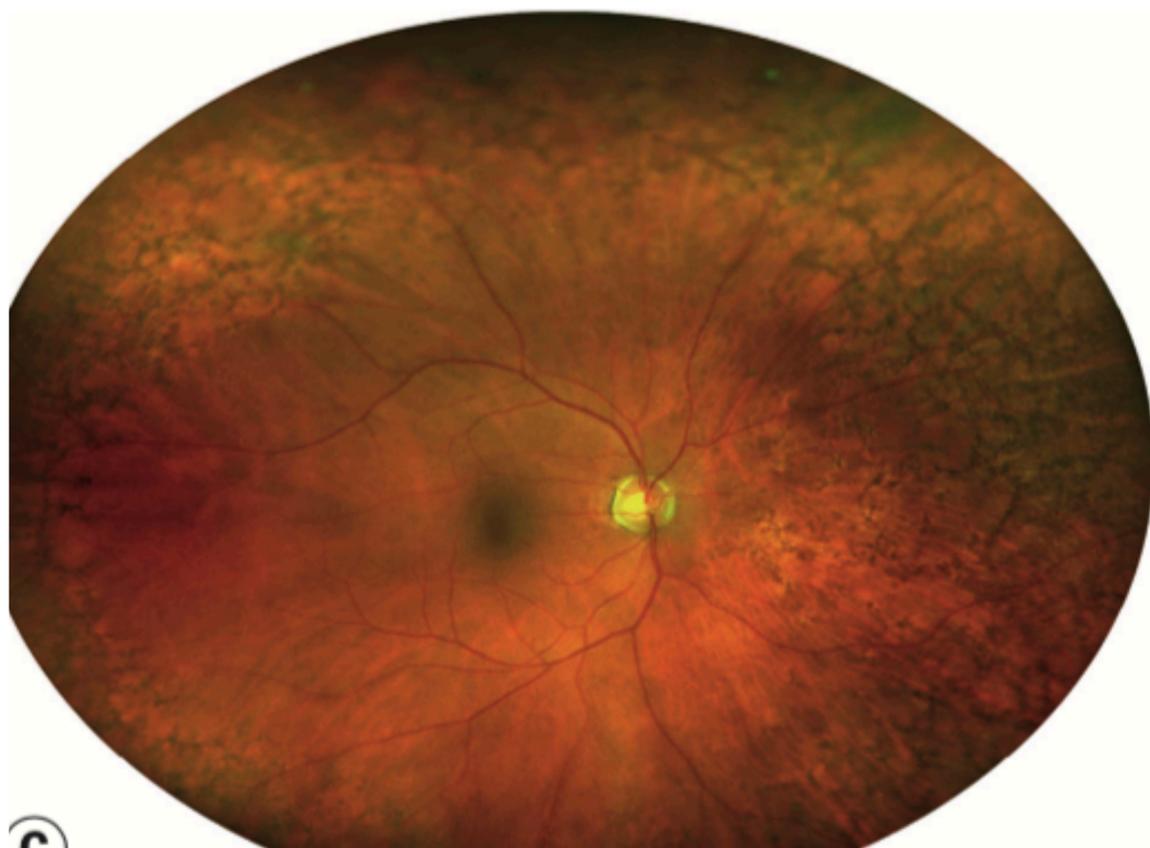
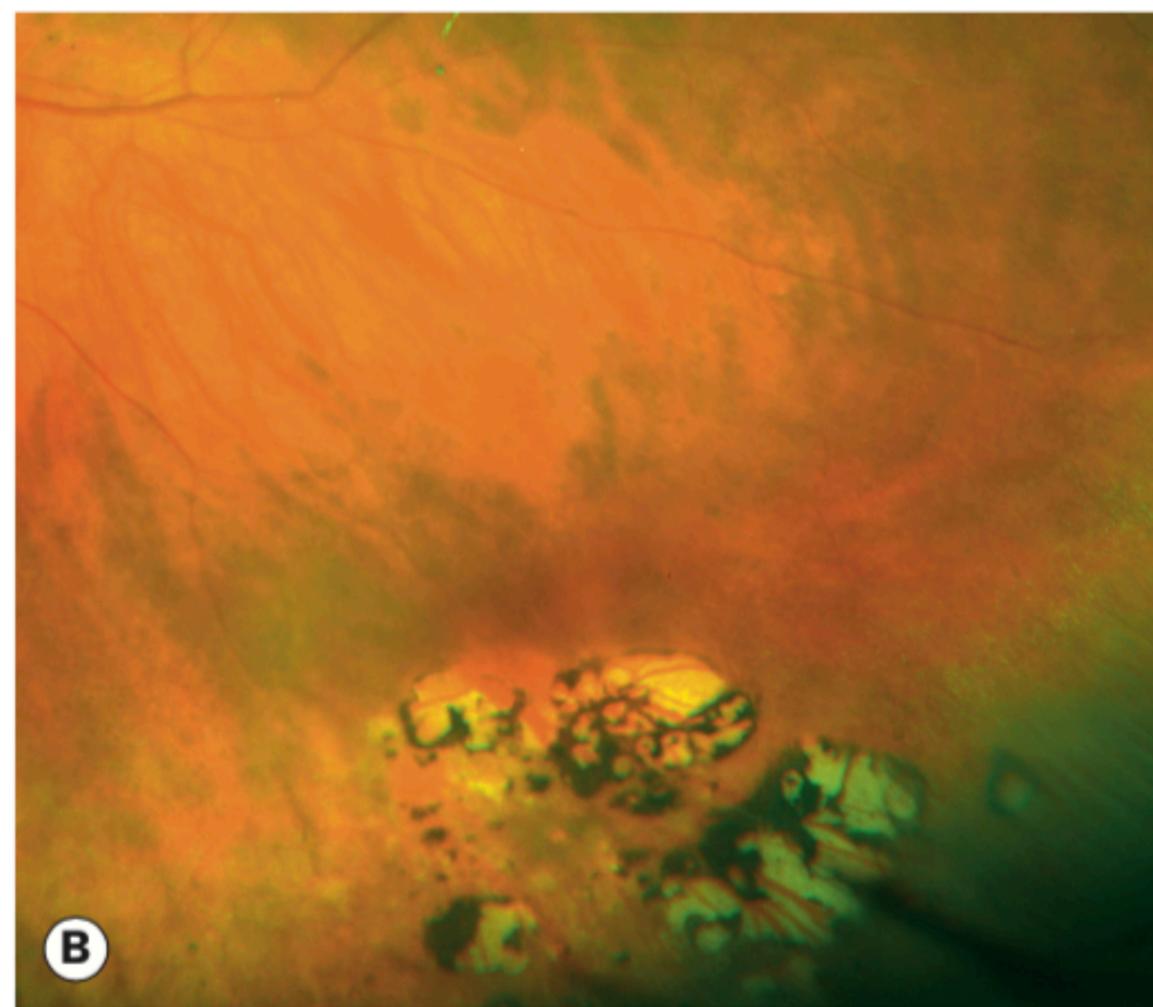
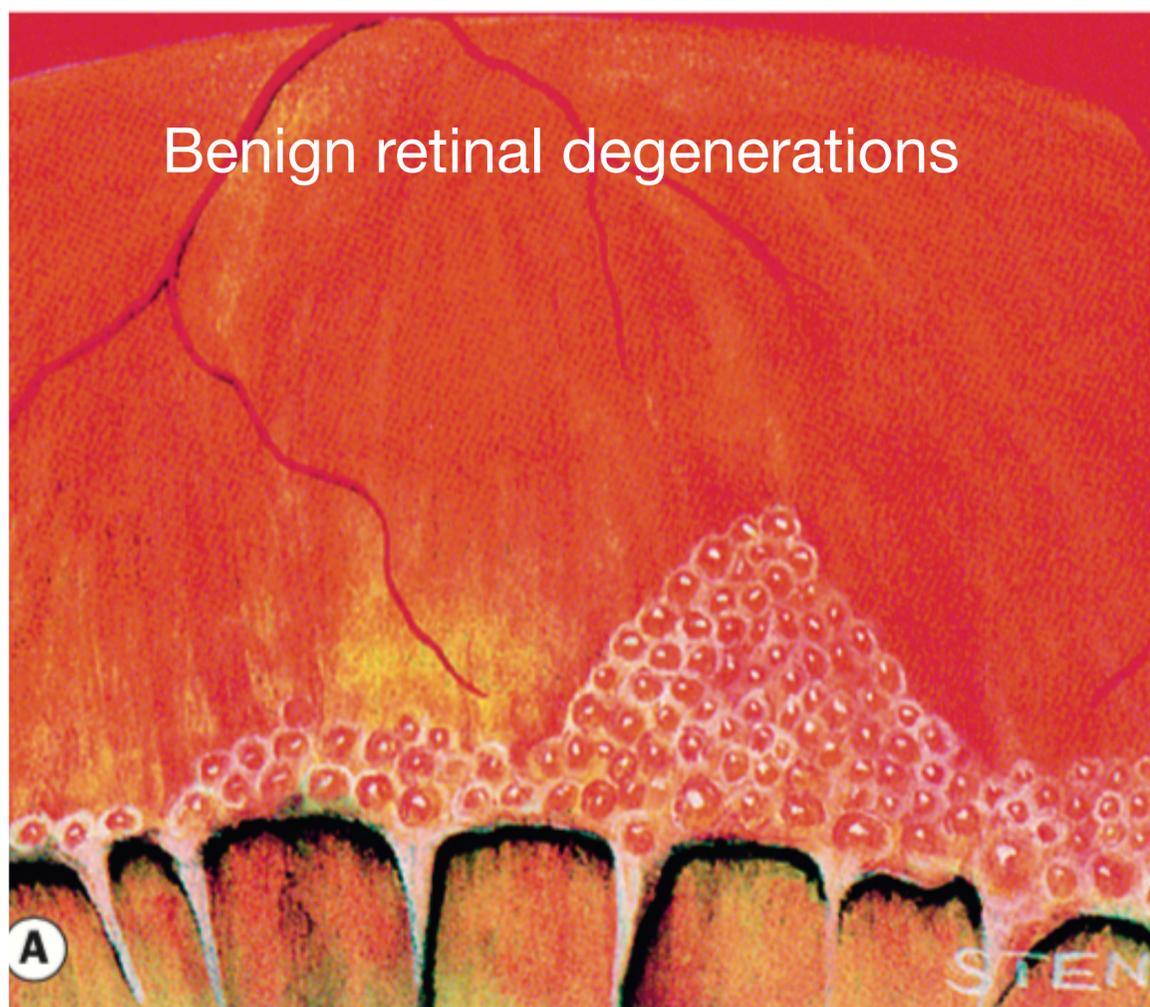
Peripheral Retinal Examination

- All quadrants.
- Good Dilatation.
- High illumination.

A fundus photograph of the retina. The image shows a network of retinal vessels. A prominent feature is a large, pale, and somewhat irregularly shaped area in the upper right quadrant, which is characteristic of a retinal detachment or a large area of retinal degeneration. The surrounding retina appears relatively normal but shows some peripheral changes. The overall color is a mix of red, orange, and yellow, typical of fundus photography.

Peripheral Retinal degenerations and Risk of Retinal Detachment

Benign retinal degenerations



Vitreoretinal Precursors of Retinal Breaks

- Lattice degenerations
- White without pressure in fellow eyes of giant retinal breaks
- Cystic vitreoretinal tufts
- Tractional zonular vitreoretinal tufts
- Meridional fold





- Found in 20-30% in eyes with RD.
- Tears at borders or holes within the lattice.
- Should be lasered in high risk patients.

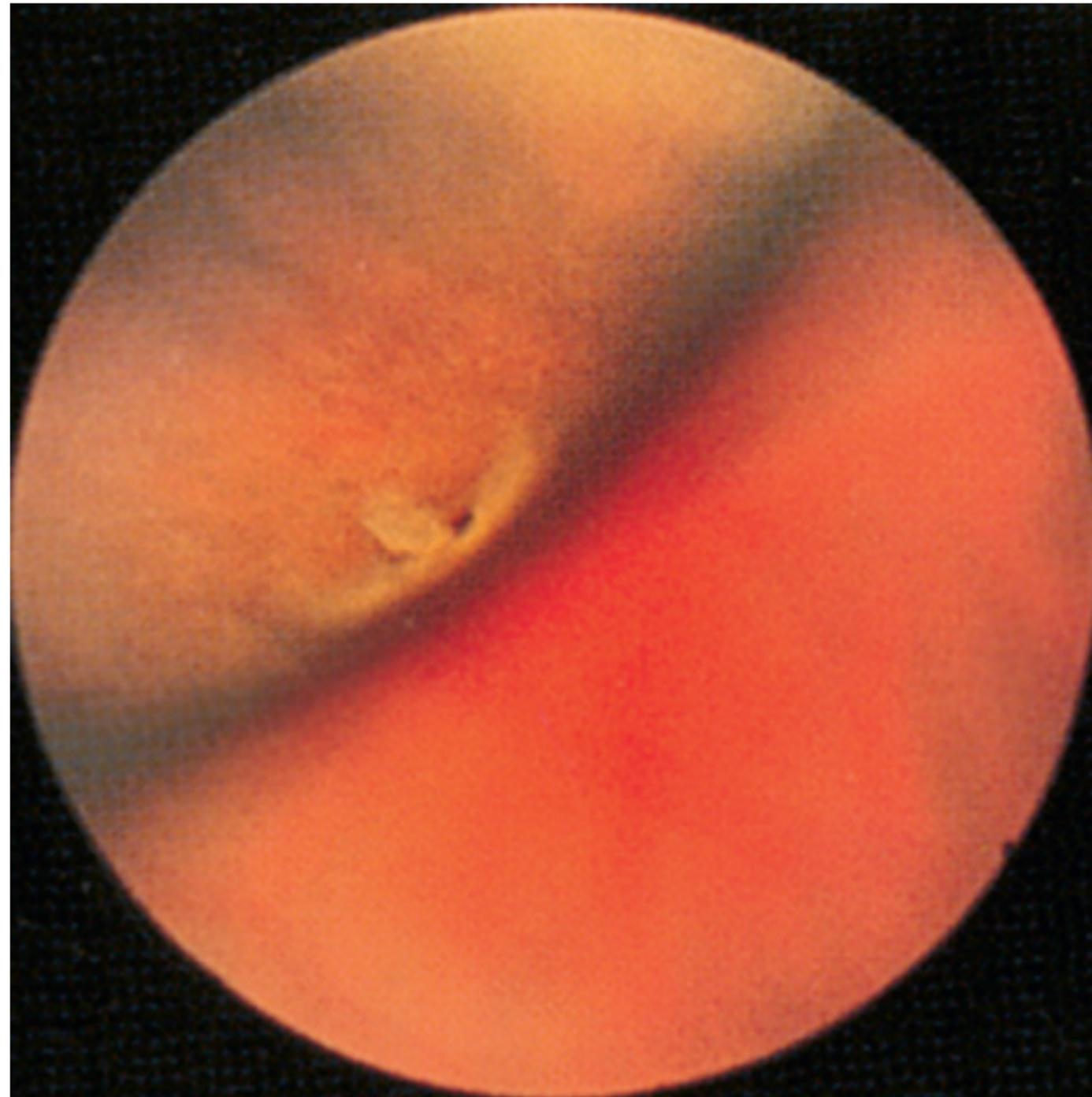


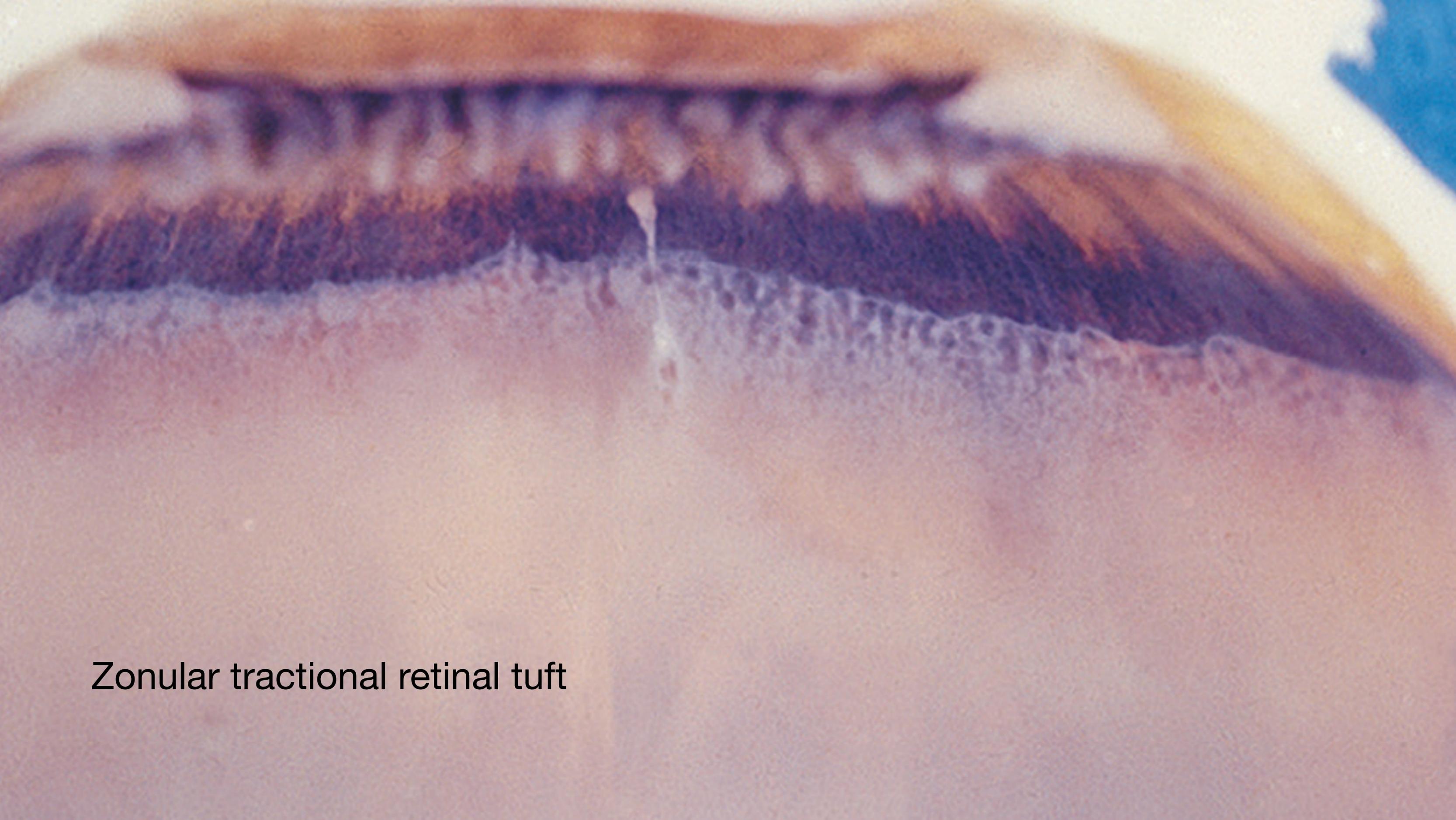
White without pressure

- Common in young age.

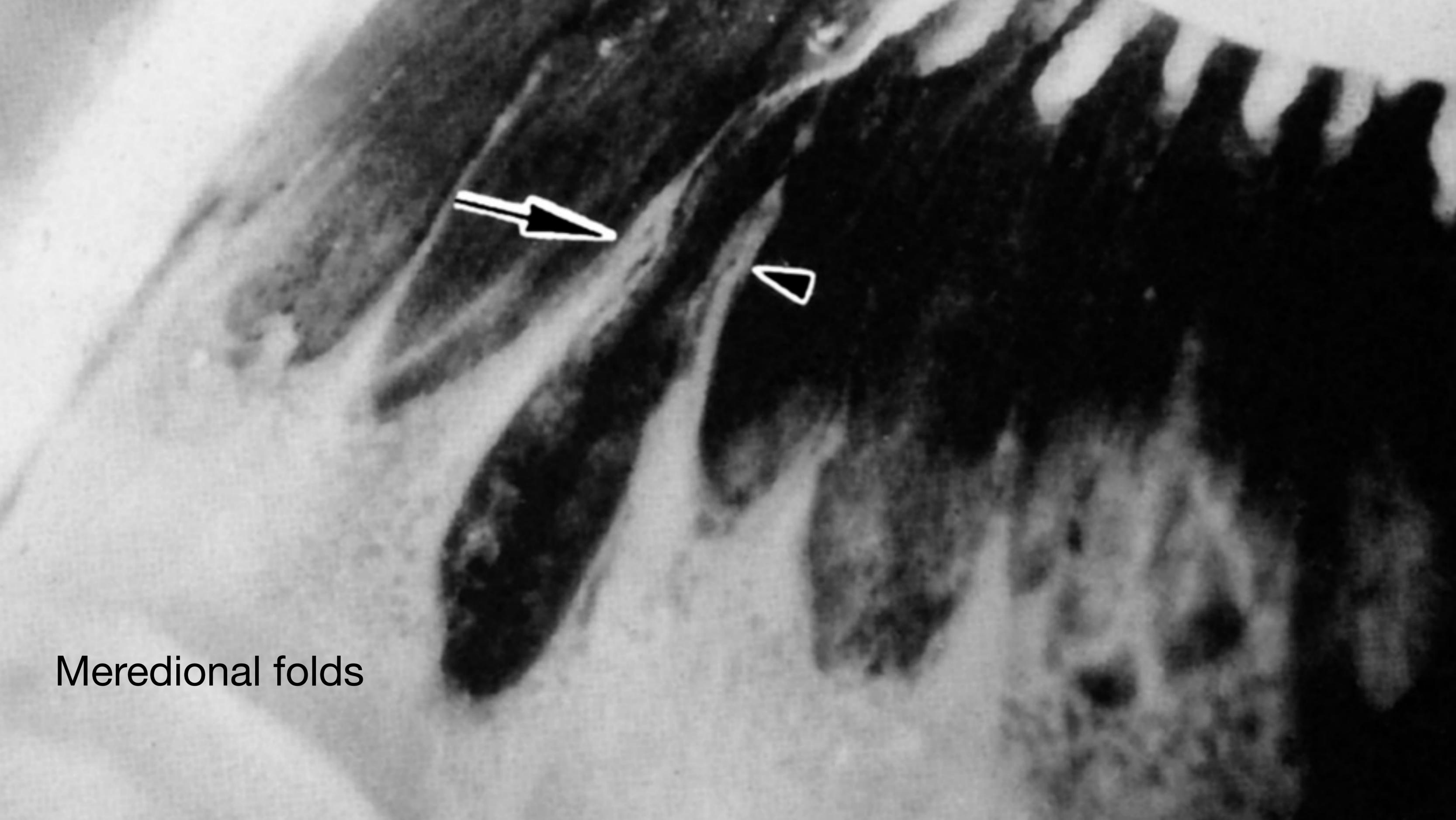
- Should be lasered in fellow eyes of Giant retinal breaks.

Cystic Retinal tuft with hole





Zonular tractional retinal tuft



Meredional folds



Enclosed Ora Bay



Meridional complex

Pre-operative Considerations

Facts

- Any break can cause a retinal detachment.
- Previous laser doesn't eliminate the incidence of new breaks.

Pre-operative Considerations

Risk factors for retinal detachment

- Symptoms (Flashes & Floaters).
- Family history.
- Residual traction.
- Presence of sub-retinal fluid.
- Size and location of the break.
- Pseudophakia or aphakia.
- YAGed IOLs.
- Myopia.
- fellow eye RRD.
- Acute trauma.
- Non-availability of follow-up.

Pre-operative Considerations

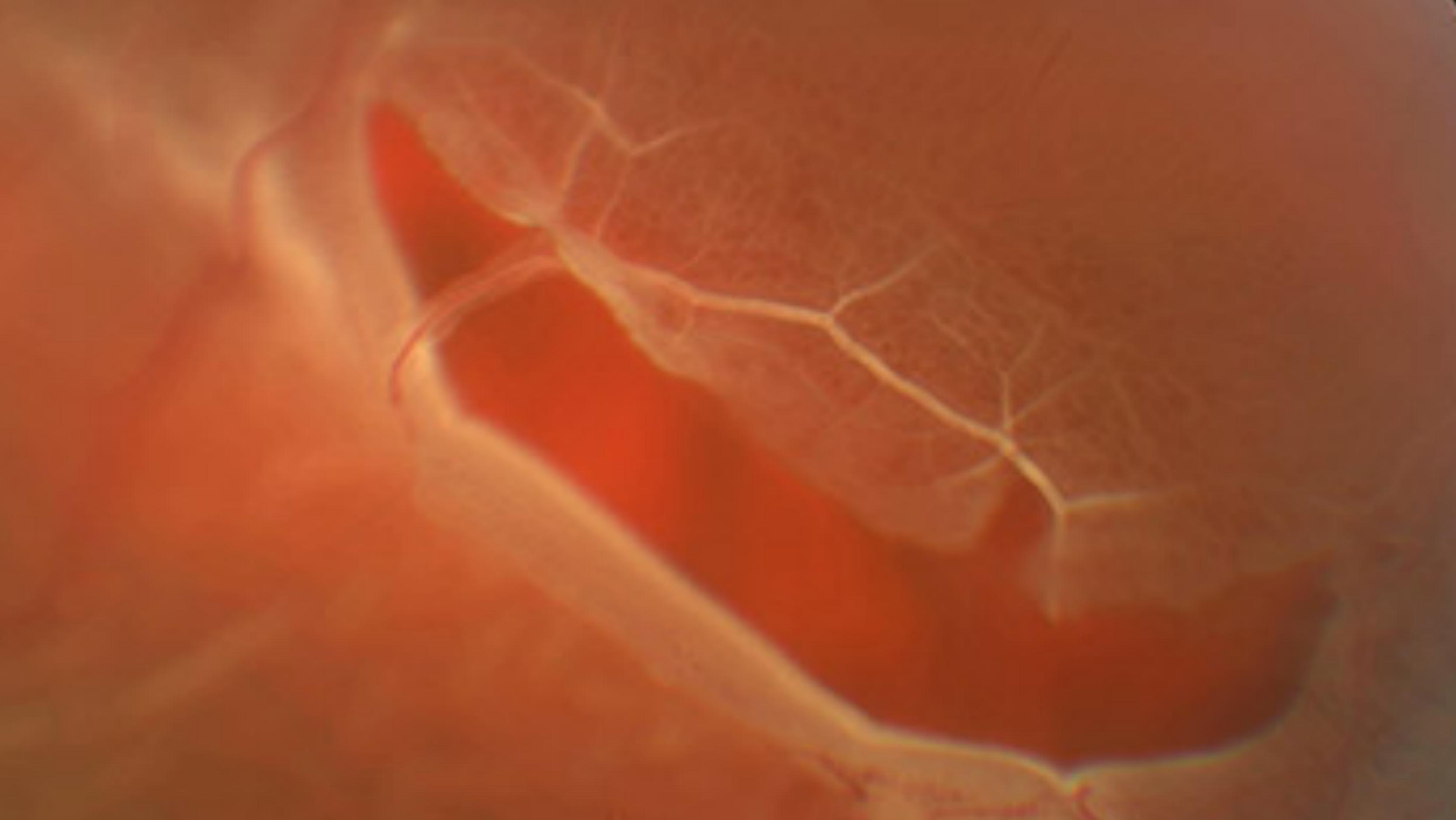
Risk factors according to type of break

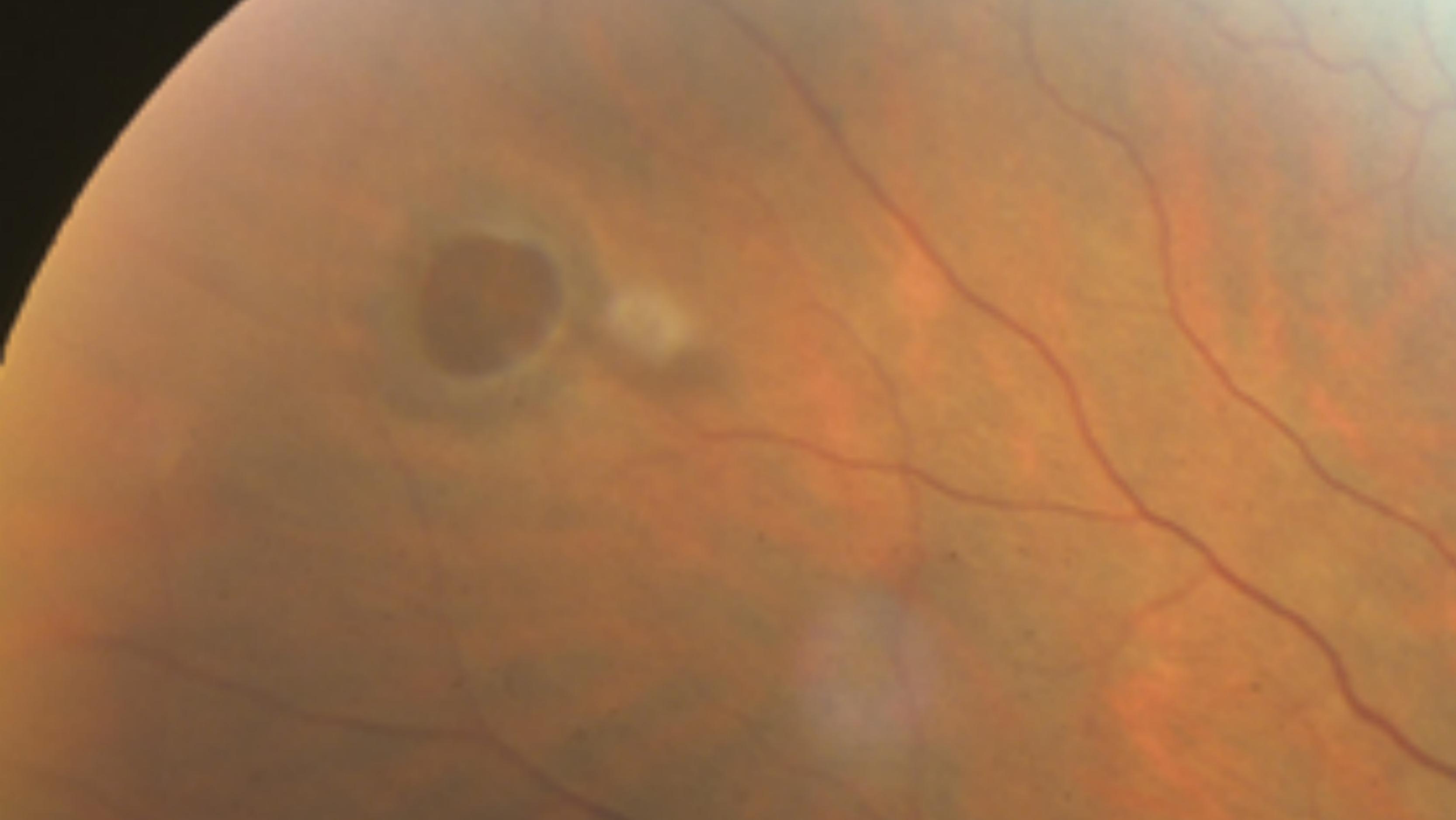
Risk of RD from high to low:

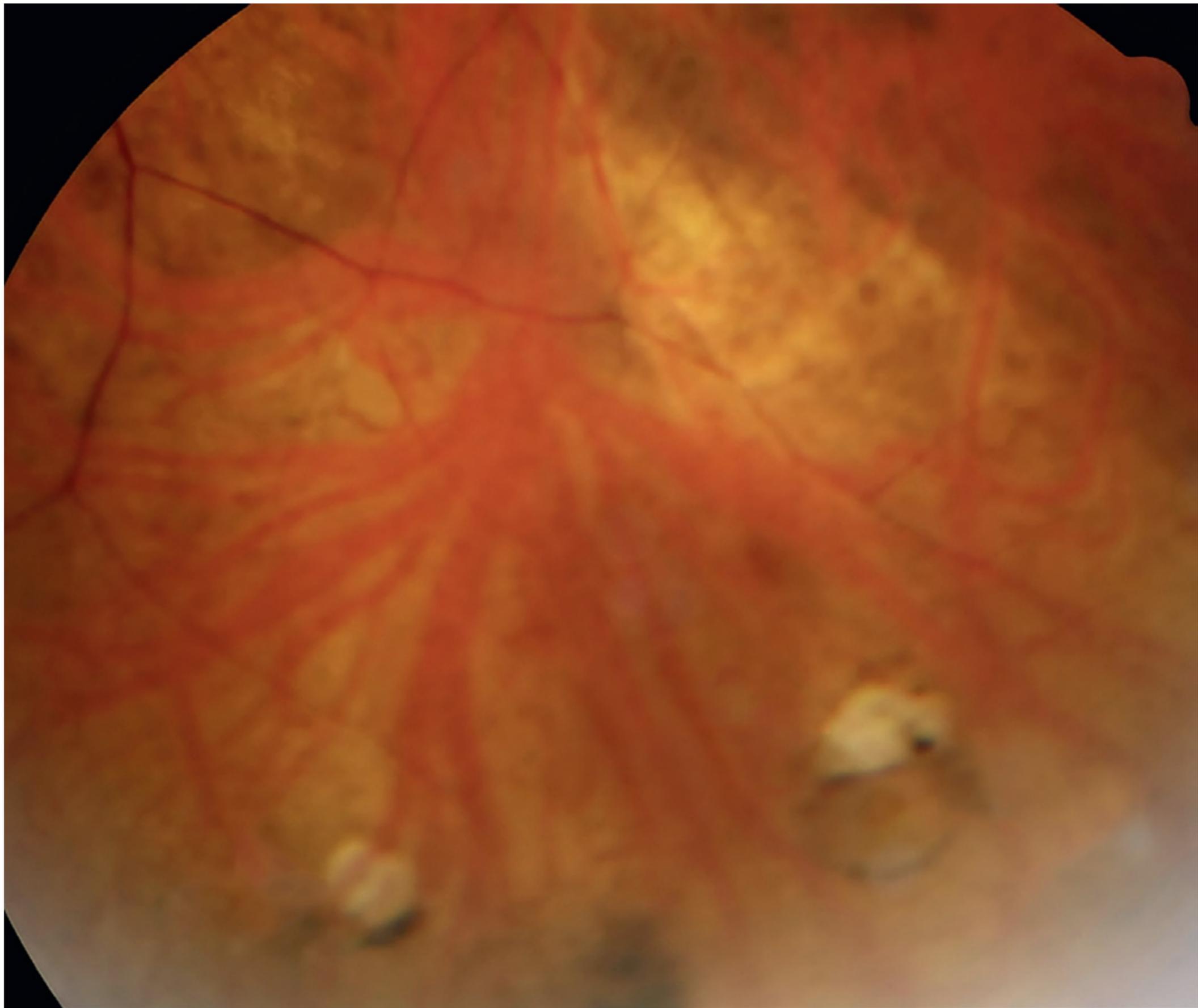
1. Symptomatic flap tears with traction (symptoms = persistent adjacent traction)
2. Symptomatic operculated holes.
3. Asymptomatic flap tears (5% risk of RD).
4. Asymptomatic operculated holes and atrophic holes (low risk).



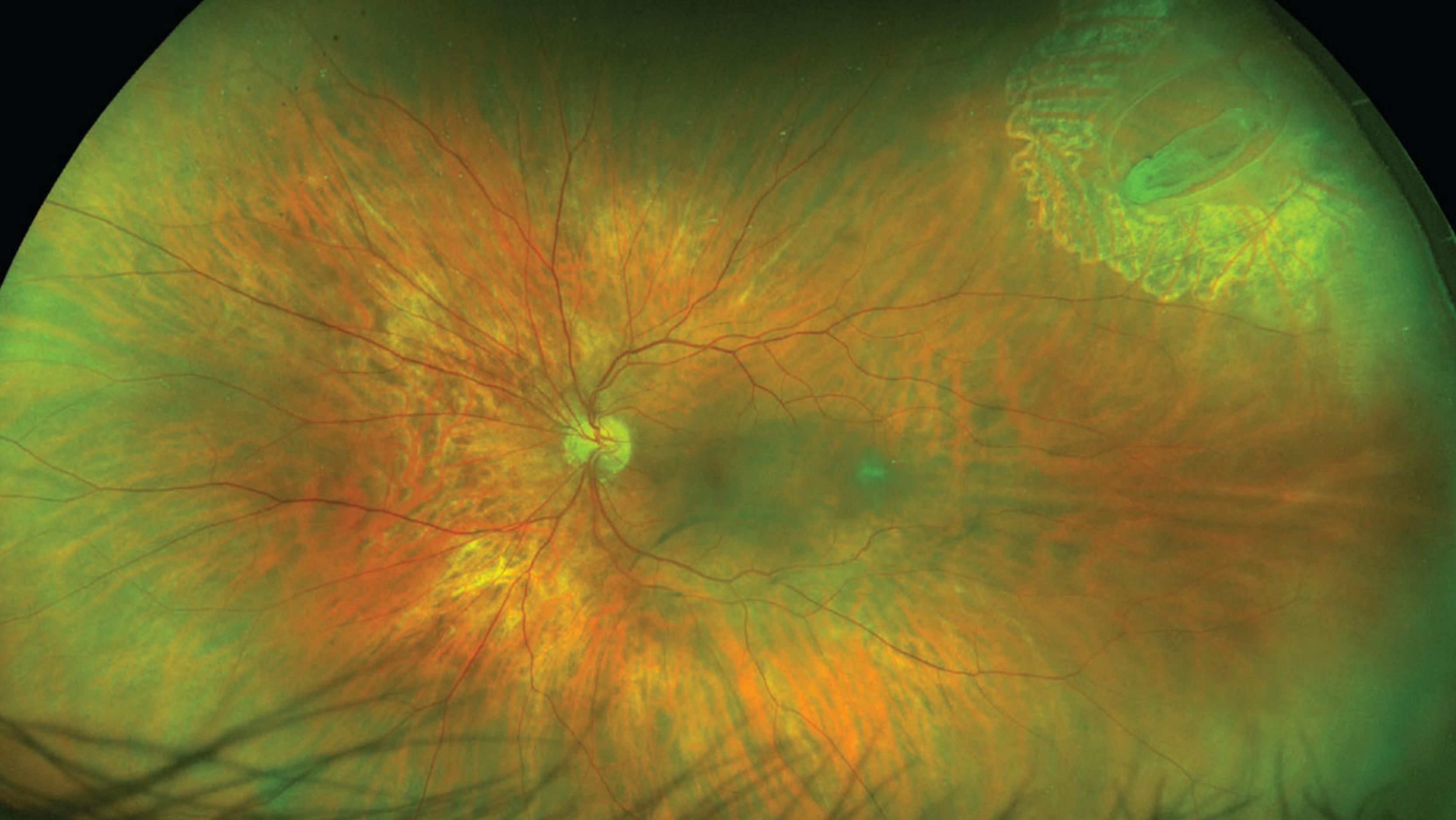
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Pre-operative Considerations

Important facts about risk of retinal detachment

What is the probability of RD after **Clear Lens Extraction** in High myopes?

2-7%

Greater in first year (X11) compared to following 5-20 years (x4).

Increased risk (x20) after vitreous loss.

Higher risk in young myopic males.

Bilateral Detachments are not uncommon.

Pre-operative Considerations

Important facts about risk of retinal detachment

What is the risk of RRD in the fellow eye with RRD?

- Phakic: **10%**
- Pseudophakic: **20%**
- Specially in absence of PVD

Pre-operative Considerations

Important facts about risk of retinal detachment

Is 360° laser barrage effective for prevention of RRD before CLE surgery?

No, Tears can occur posterior to the barrage.

To Sum Up

Retinal Considerations in Myopes before Refractive Surgery

- Be Meticulous in pre-operative examination.
- Feel free to order investigations when in doubt (OCT, wide field Imaging).
- Follow guidelines for management of retinal diseases.
- Retinal patients need well-managed follow up after cataract surgery.



THANK YOU

See you next year

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