



7. St.Galler Ophtag

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Internal limiting membrane flaps for large macular holes

Introduction

Success rate of traditional macular hole repair (PPV, ILM peel and tamponade) is approx. 90% (80-95%)

Jackson et al 2013

Problem...

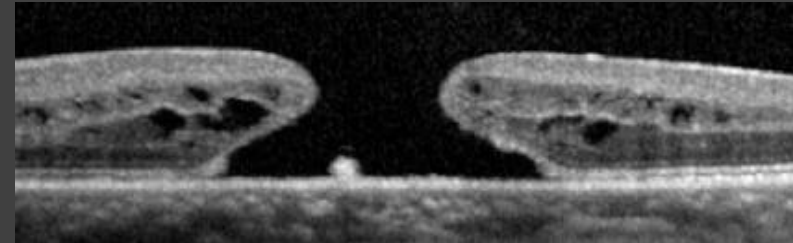
- LARGE FTMH (>400 μ m)
- NON CLOSED HOLES with no residual ILM

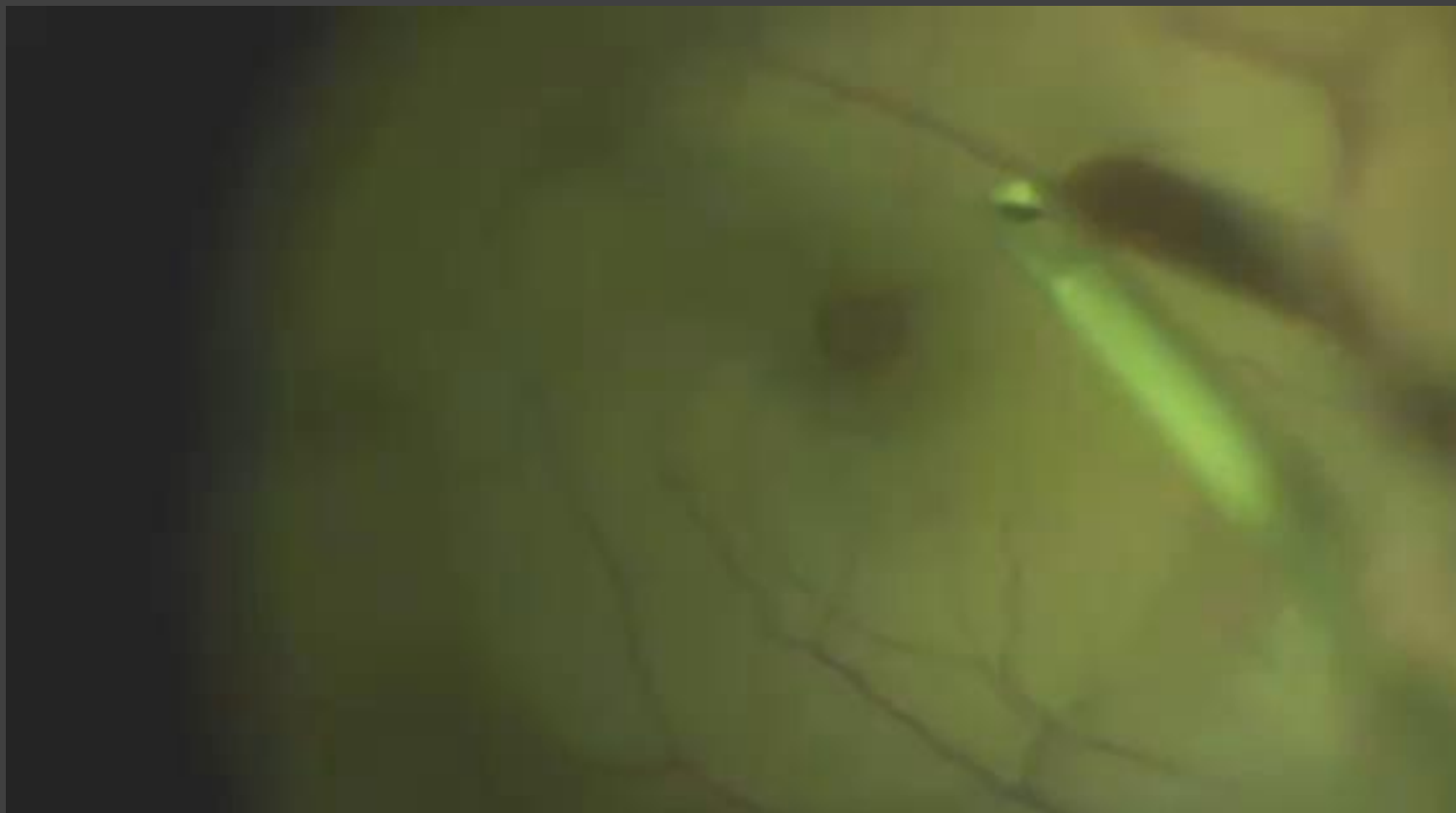
Management of large macular holes: INVERTED ILM FLAP

N=8

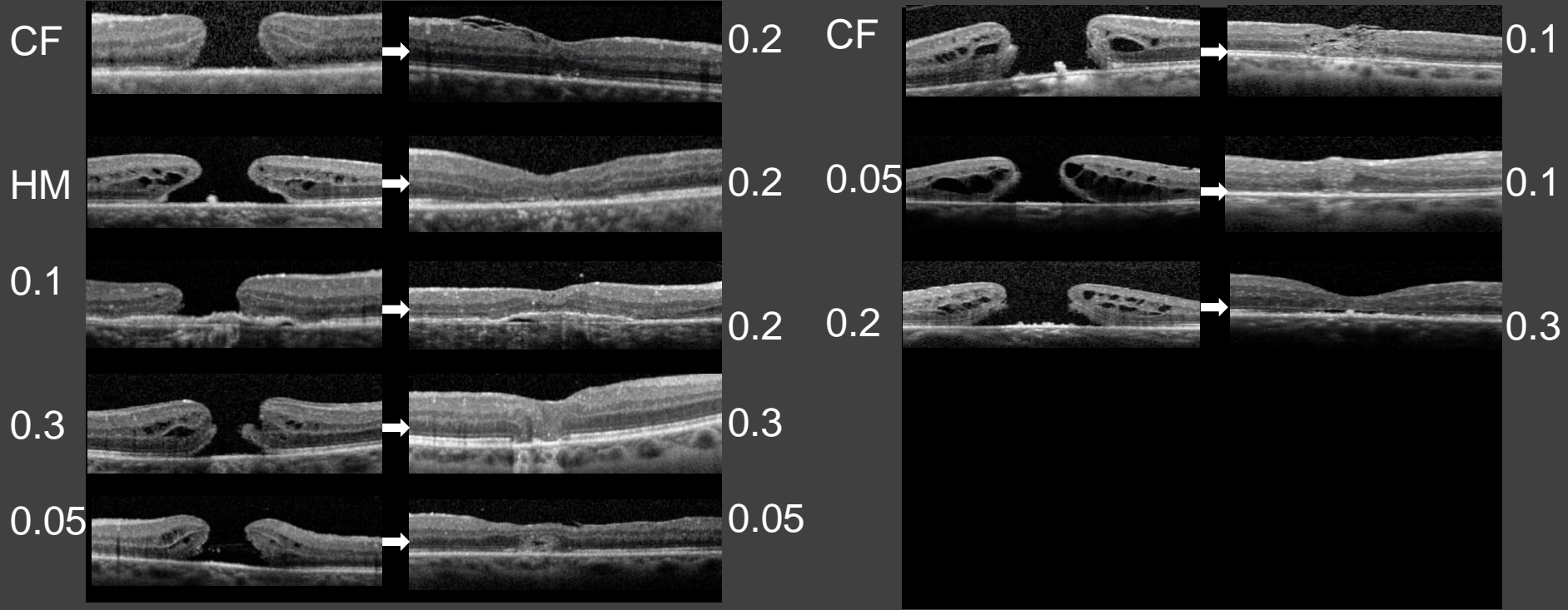
All FTMH >500 μ m

- *Basis: mean = 922 μ m*
- *Minimum: mean = 511 μ m*





All closed and all improved!

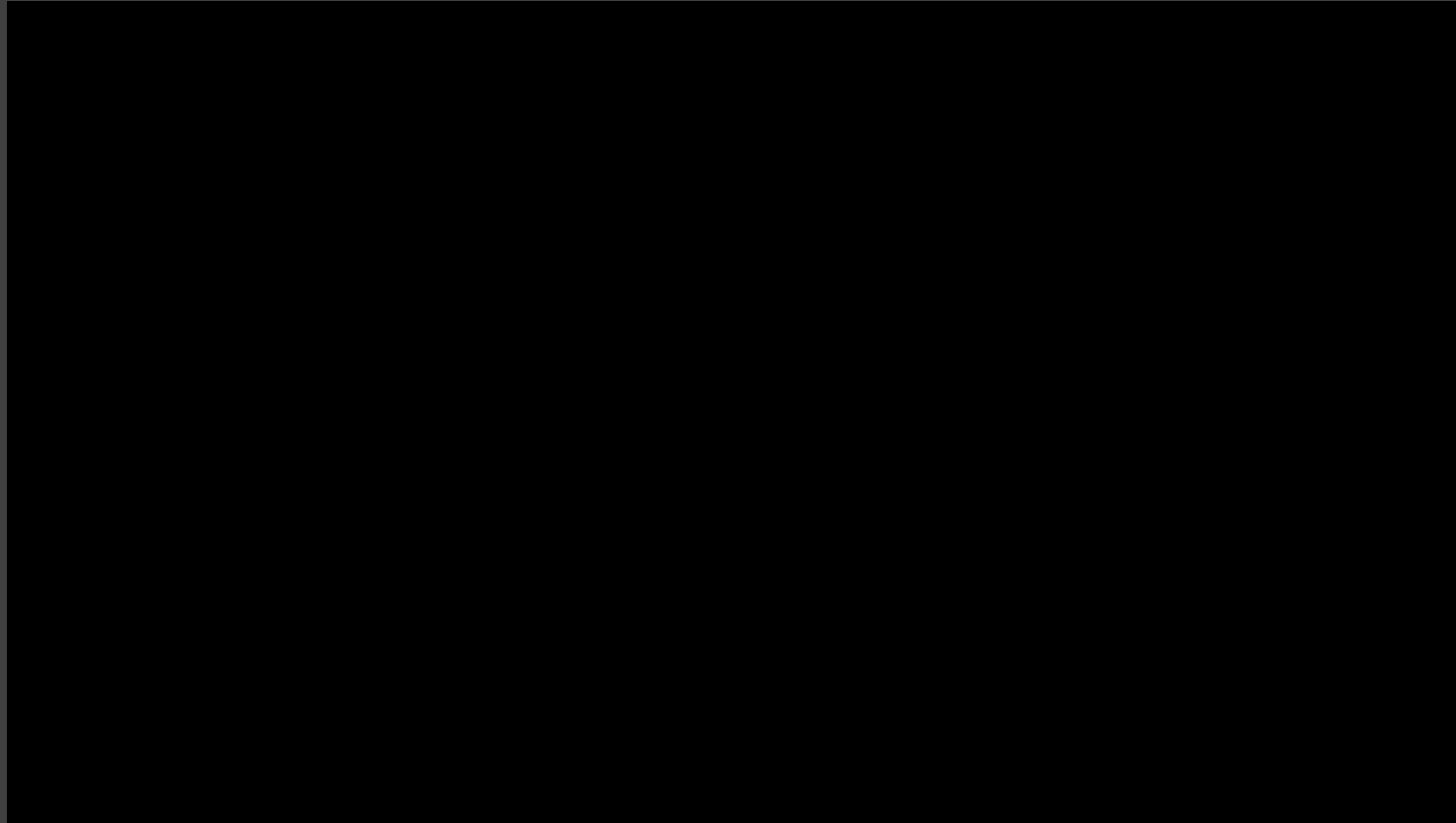


Management of non closed holes: ILM FREE FLAP GRAFT

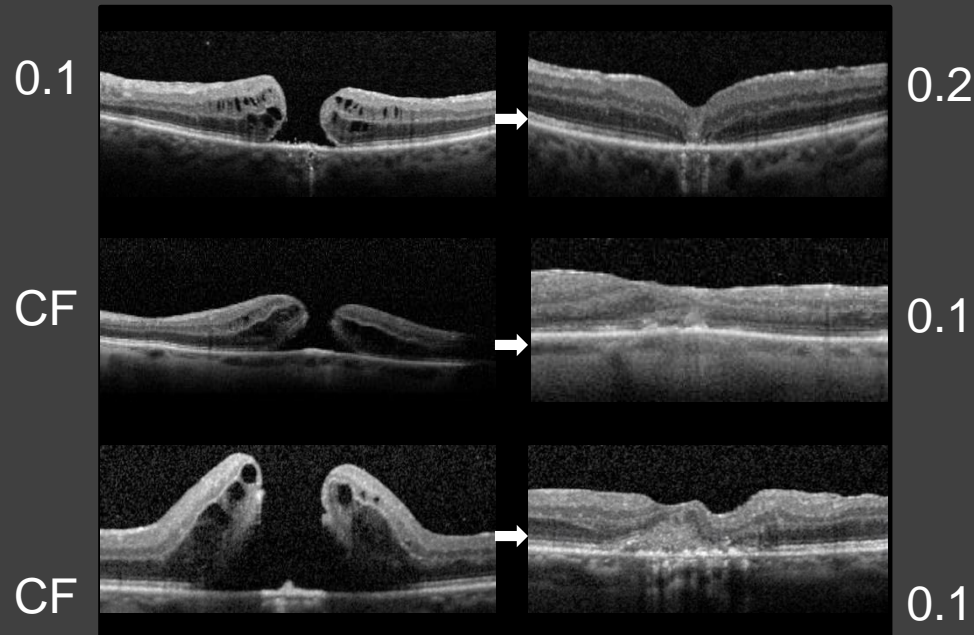
N=3

All FTMH $>500\mu\text{m}$

- *Basis: mean = 1038 μm*
- *Minimum: mean = 438 μm*



All closed and all improved!



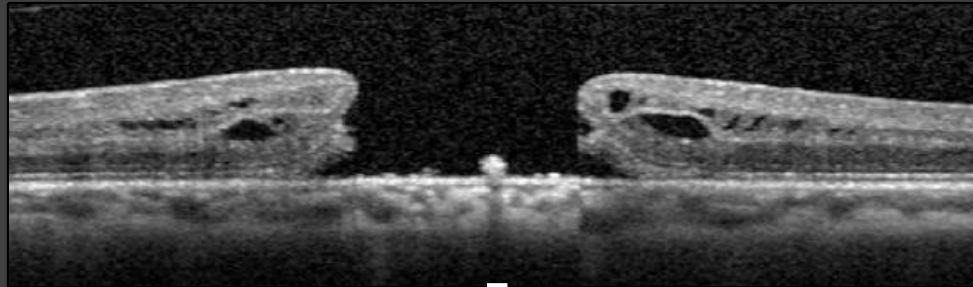


Conclusion

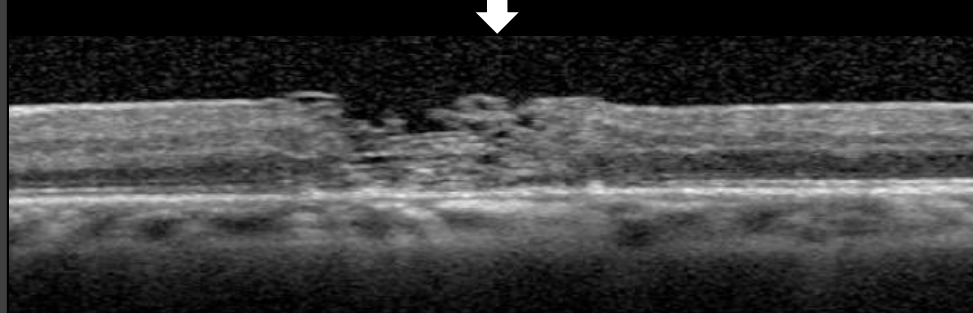
- Use of inverted / free ILM flaps preferred in such patients
- All cases had good anatomical and functional outcomes
- Visual results were good



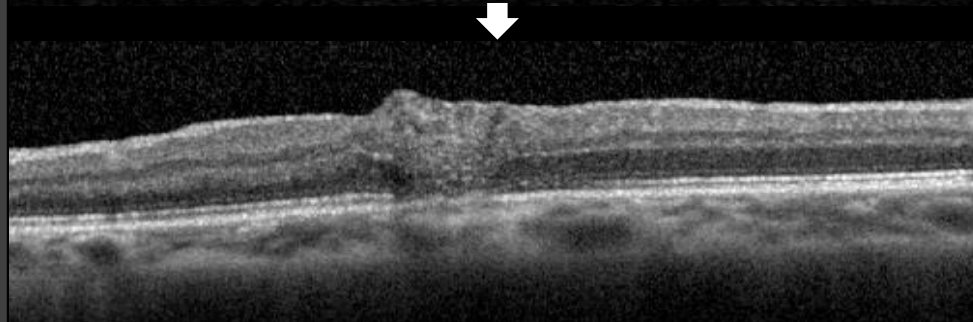
Preop



1/12

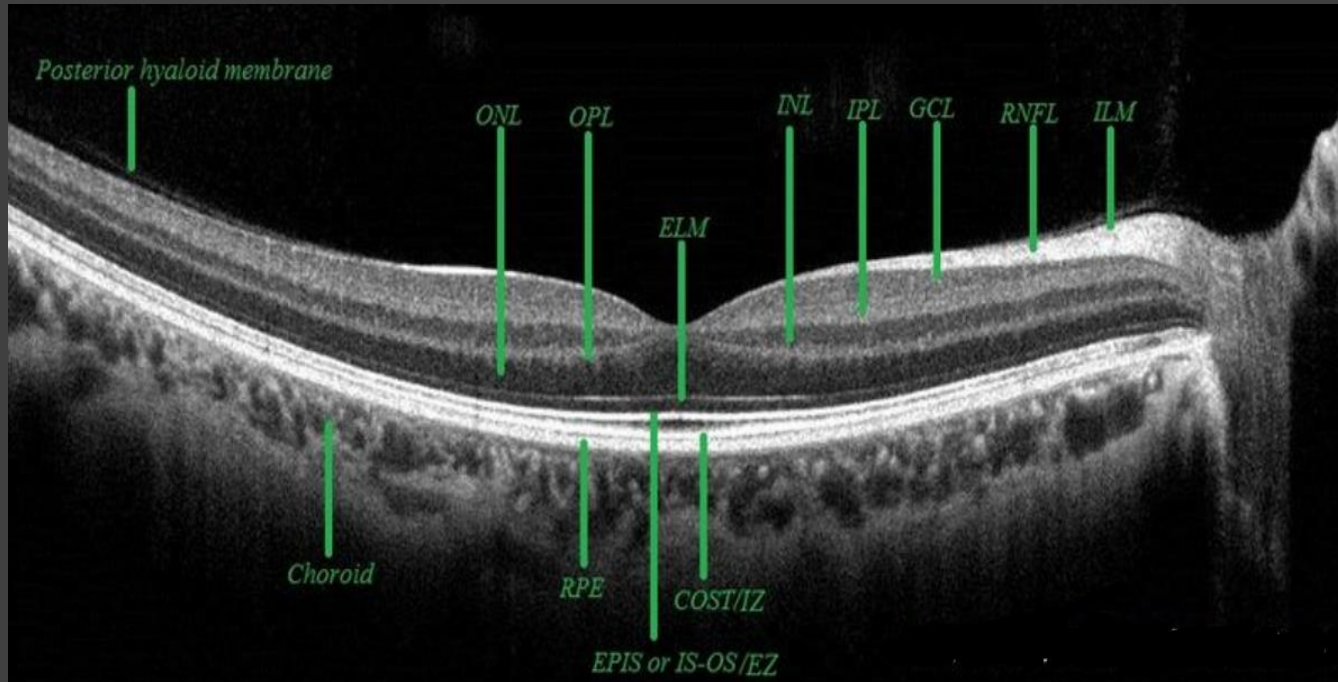


2/12



Follow-up study after ILM flaps

- Review after 6 and 12 months
- Visual acuity and measurements' of the ellipsoid zone

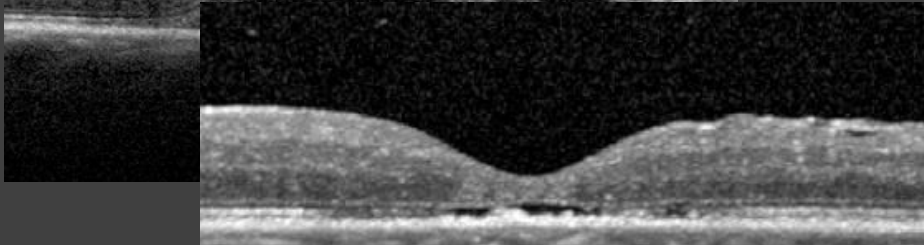


ILM inner limiting membrane
 RNFL retinal nerve fiber layer
 GCL ganglion cell layer
 IPL inner plexiform layer
 INL inner nuclear layer
 OPL outer plexiform layer
 ONL outer nuclear layer
 ELM external limiting membrane
 EPIS or EZ or IS/OS junction-ellipsoid portion of the inner segments or ellipsoid zone, previously referred to as inner segment outer segment junction line;
 COST or IZ- cones outer segment tips line or interdigitation zone;
 RPE- retinal pigmented epithelium.

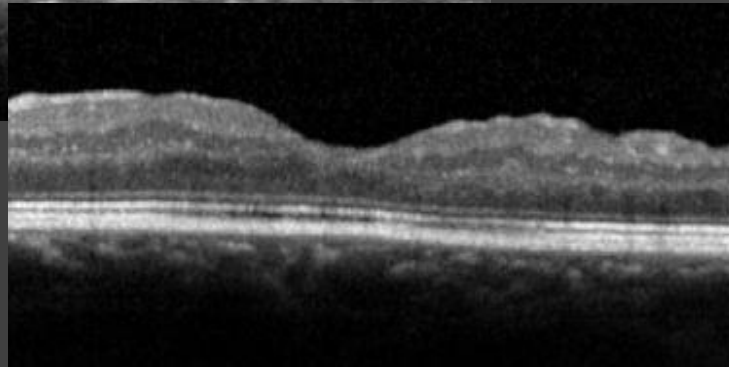
Regeneration of the ellipsoid zone



Preop, VA 0.2, Basis 1119 μ m



1/12, VA 0.3, Epis 457 μ m

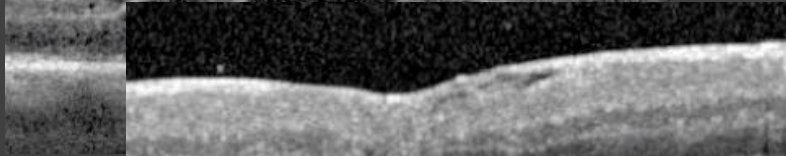


6/12, VA 0.4, Epis 0 μ m

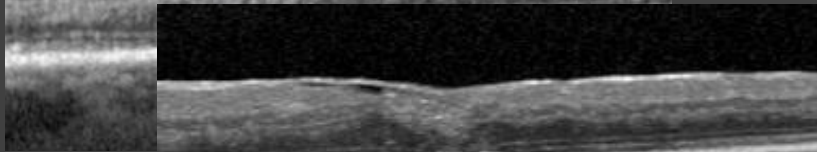
Regeneration of the ellipsoid zone



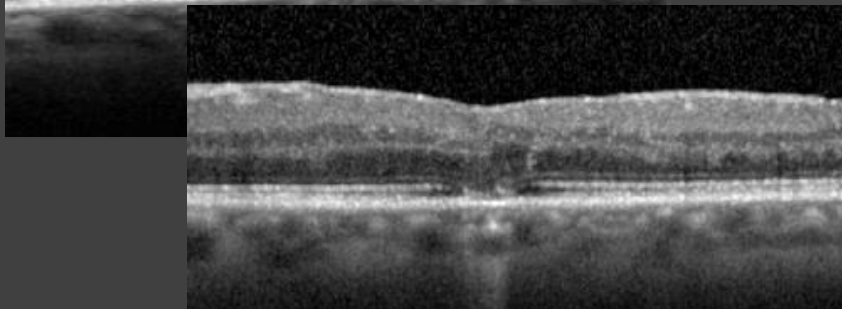
Preop, VA CF, Basis 764 μ m



1/12, VA 0.2, Epis 503 μ m

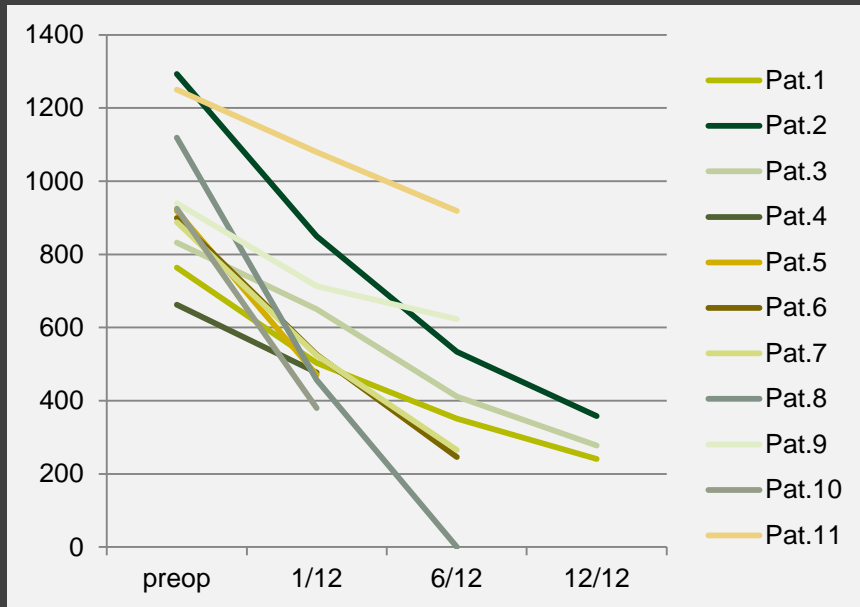


6/12, VA 0.3, Epis 351 μ m

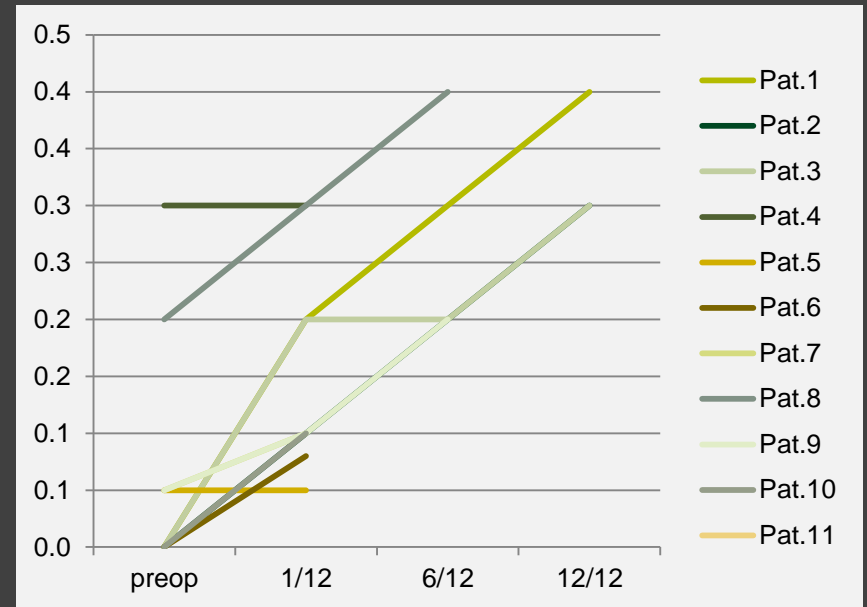


12/12, VA 0.4, Epis 241 μ m

Preliminary results



Epis defect



VA

Conclusion

- Outer retinal layer recovery over few months proven by OCT
- Ongoing improvement of VA
- Pathophysiology unknown

DANKE