# Giant Internal Limiting Membrane Tears: Incidence, Clinical Features, and Surgical Utility

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# Disclosures

I have no relevant financial disclosures.

# Summary

A dehiscence of the ILM (“giant ILM tear”) associated with epiretinal membrane is not uncommonly encountered and seldom reported.

Giant ILM tears are often associated with other features suggesting an underlying pathway of progressive ERM contractility.

Giant ILM tears may facilitate surgical removal of the ILM during ERM peeling.

# Definition

Giant ILM tear:

*A prominent scrolled edge of ILM between an ERM and a zone of ILM dehiscence.*

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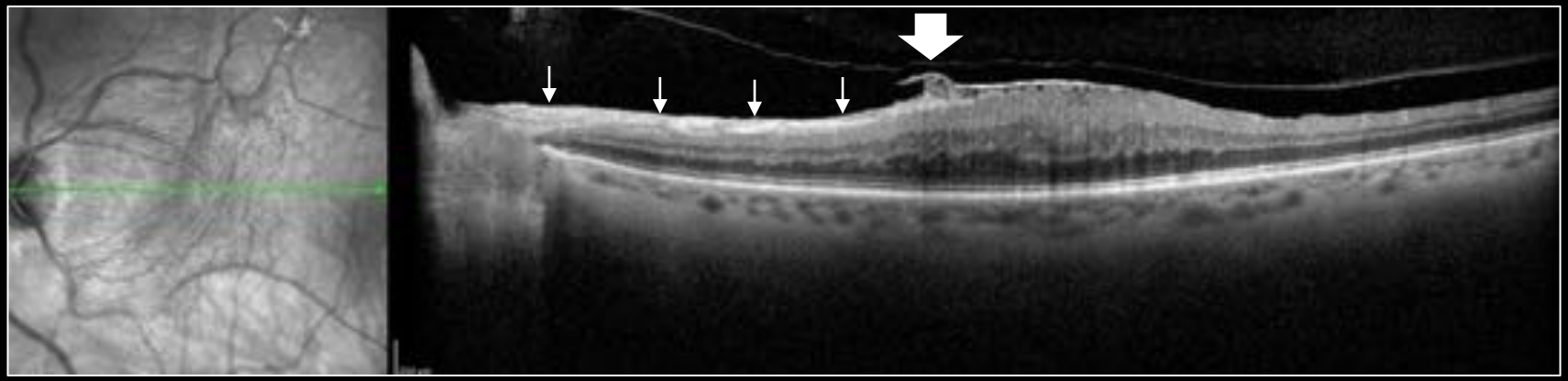


# Methods

Retrospective chart review of patients with an epiretinal membrane (ERM) that underwent surgery by a single vitreoretinal surgeon at the University of Michigan.

Demographic information, imaging and clinical data were collected from the medical record.

The study was approved by the IRB of the University of Michigan.

# Characteristics: surgical ERMs

| | Giant ILM tear present | Giant ILM tear absent | *P* value† |
|---|---|---|---|
| Number of eyes | 23 **31.9%** | 48 | -- |
| Age | 65.7 ± 9.0 years | 67.5 ± 9.0 years | 0.441* |
| % Female | 52.2 % | 52.1 % | 0.992 |
| Preoperative visual acuity (LogMAR) | 0.471 ± 0.280 | 0.480 ± 0.218 | 0.887* |
| Preoperative central subfield thickness | 538 ± 164 µm | 516 ± 96 µm | 0.359* |
| Pseudophakia | 34.8 % | 45.8 % | 0.378 |
| High myopia | 29.2 % | 8.3 % | 0.044 |
| Posterior vitreous detachment | 95.0 % | 82.3 % | 0.889 |
| Metamorphopsia | 65.0 % | 62.5 % | 0.826 |
| Macro/micropsia | 8.3 % | 8.3 % | 1.000 |
| Diplopia | 21.7 % | 18.8 % | 0.764 |
| Blurred vision | 100.0 % | 100.0 % | 1.000 |

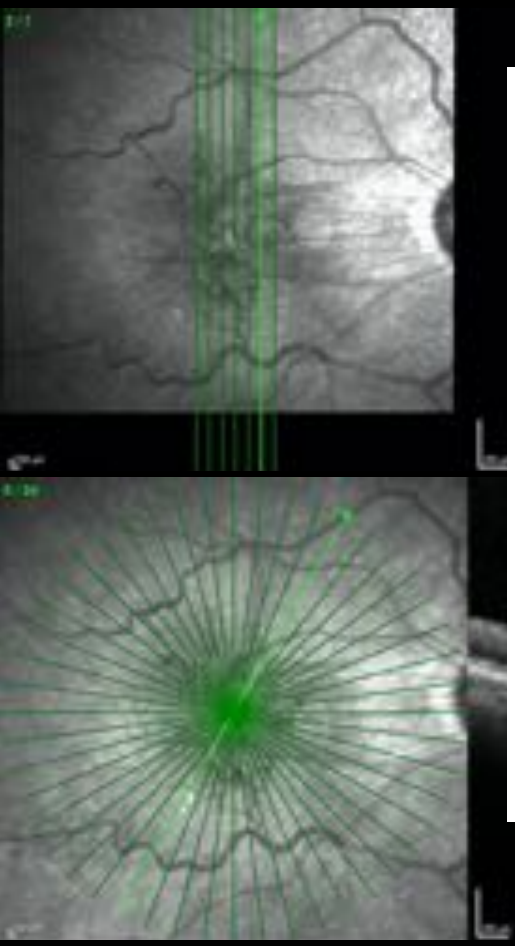
† *z* score (two-sided)
* *t*-test (two-sided)

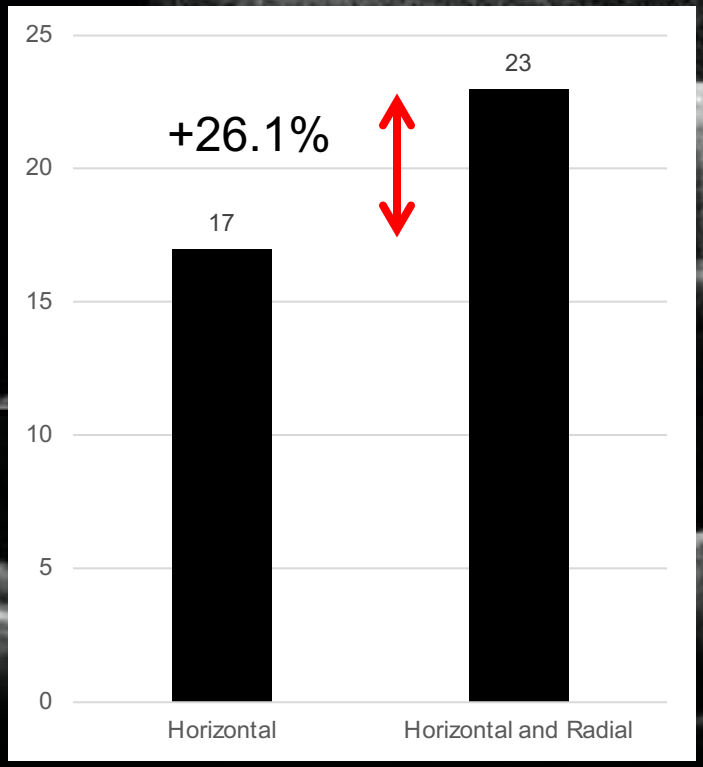
# Characteristics: non-surgical ERMs

| | Giant ILM tear present | Giant ILM tear absent | *P* value† |
|---|---|---|---|
| Number of eyes | 8 **8.0%** | 92 | -- |
| Age | 72.8 ± 13.8 years | 67.6 ± 11.1 years | 0.217* |
| % Female | 37.5 % | 45.7 % | 0.660 |
| Visual acuity (LogMAR) | 0.375 ± 0.175 | 0.278 ± 0.209 | 0.240* |
| Central subfield thickness | 517 ± 78 µm | 401 ± 119 µm | 0.008* |
| Pseudophakia | 25.0 % | 51.1 % | 0.156 |
| High myopia | 12.5 % | 14.1 % | 0.897 |
| Posterior vitreous detachment | 75.0 % | 66.3 % | 0.617 |
| Metamorphopsia | 50.0 % | 25.0% | 0.126 |
| Macro/micropsia | 0.0 % | 7.6 % | 0.418 |
| Diplopia | 12.5 % | 4.3 % | 0.313 |
| Blurred vision | 87.5% | 76.1 % | 0.459 |

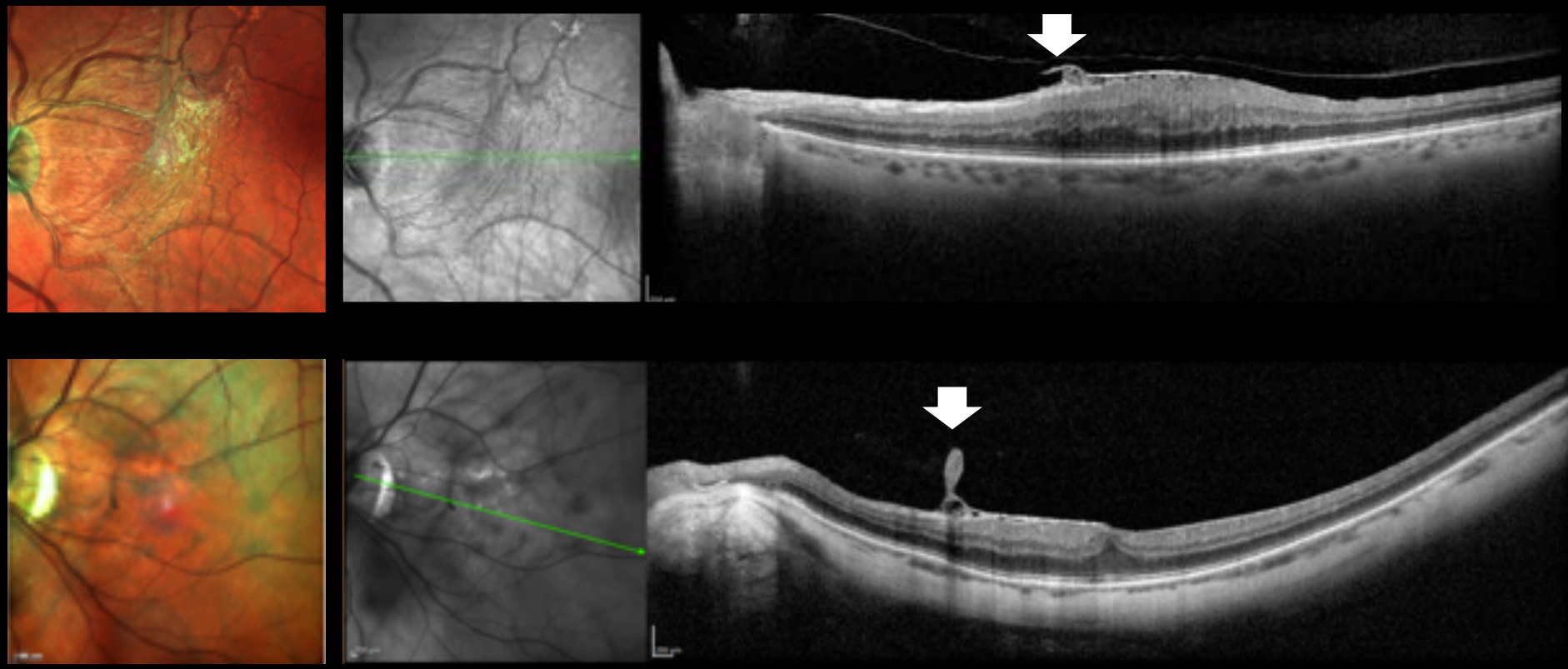
† *z* score (two-sided)
* *t*-test (two-sided)

# Utility of pre-operative radial OCTs

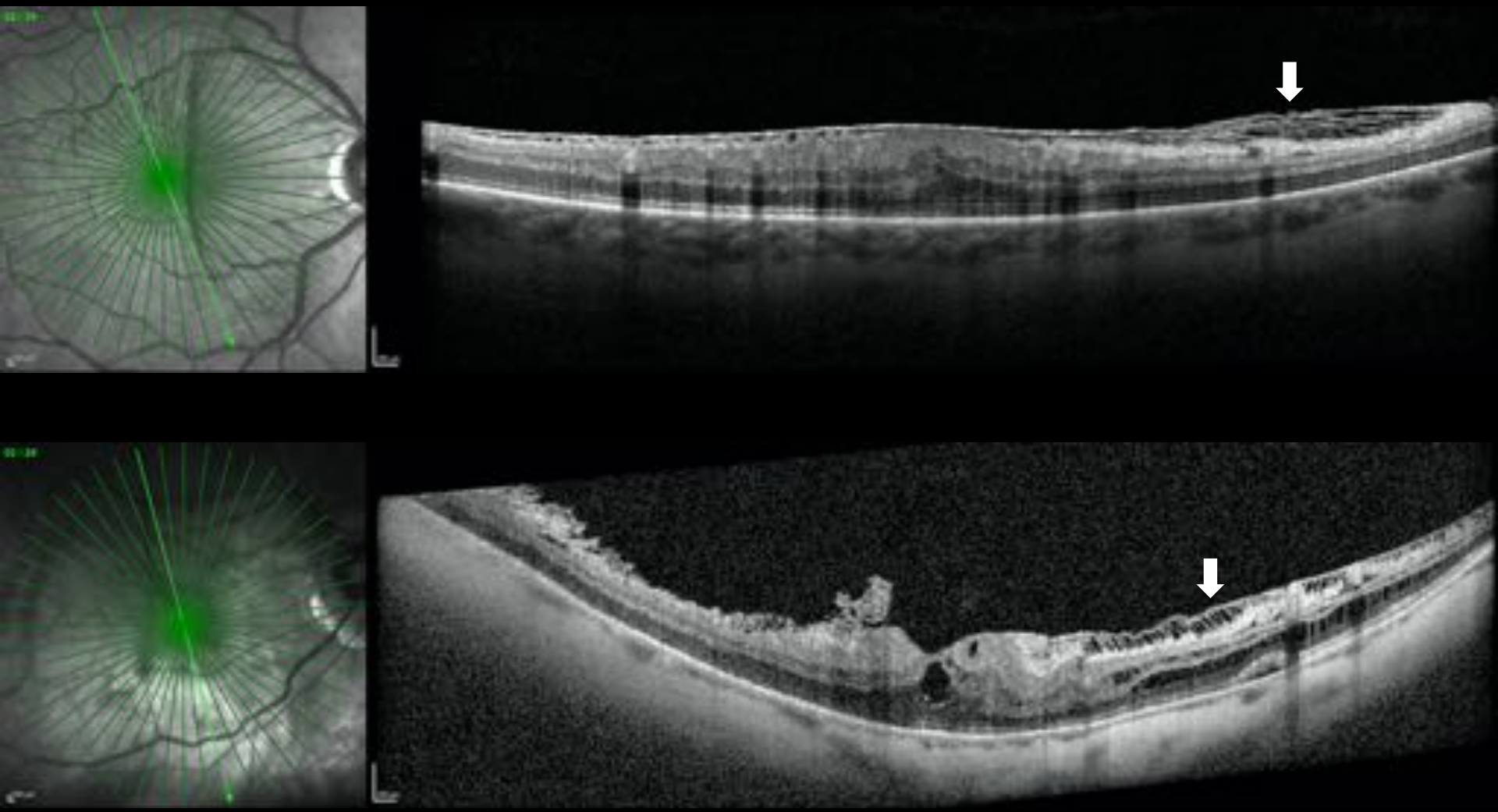




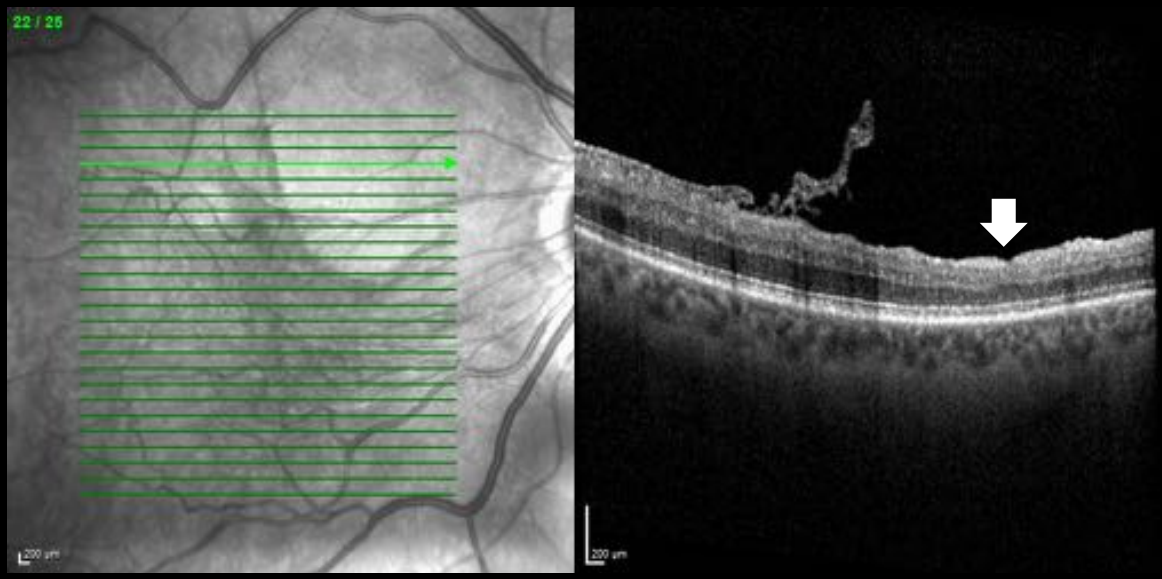
# Features associated with giant ILM tears

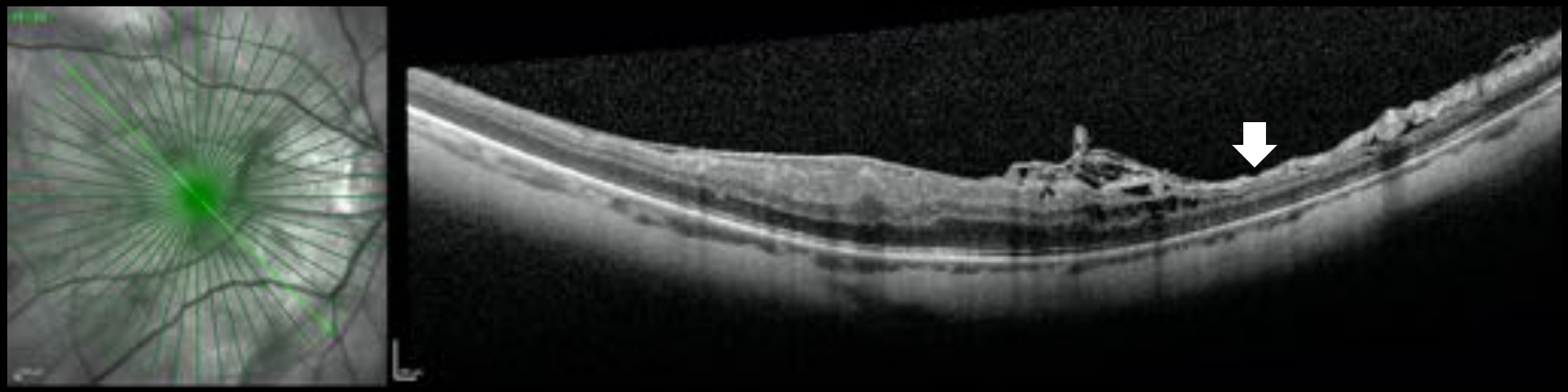


# Retinal nerve fiber layer schisis

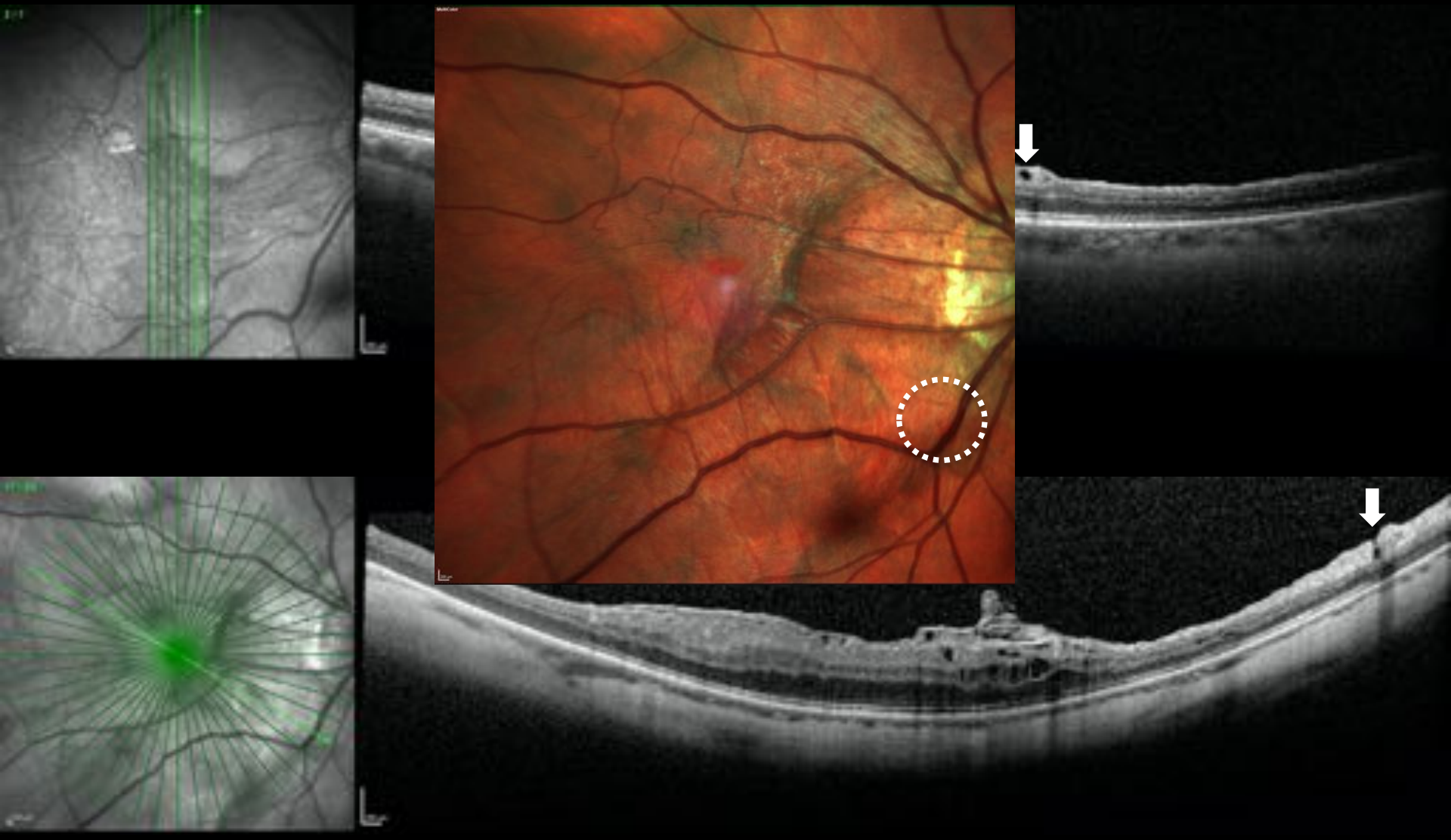


# Inner retinal dimpling

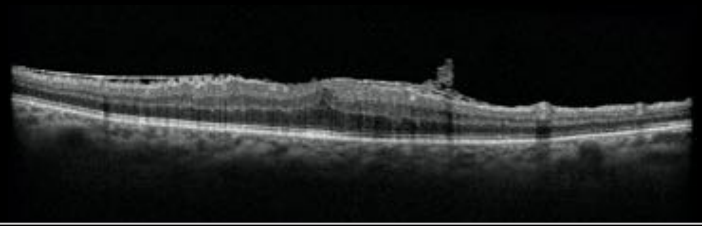


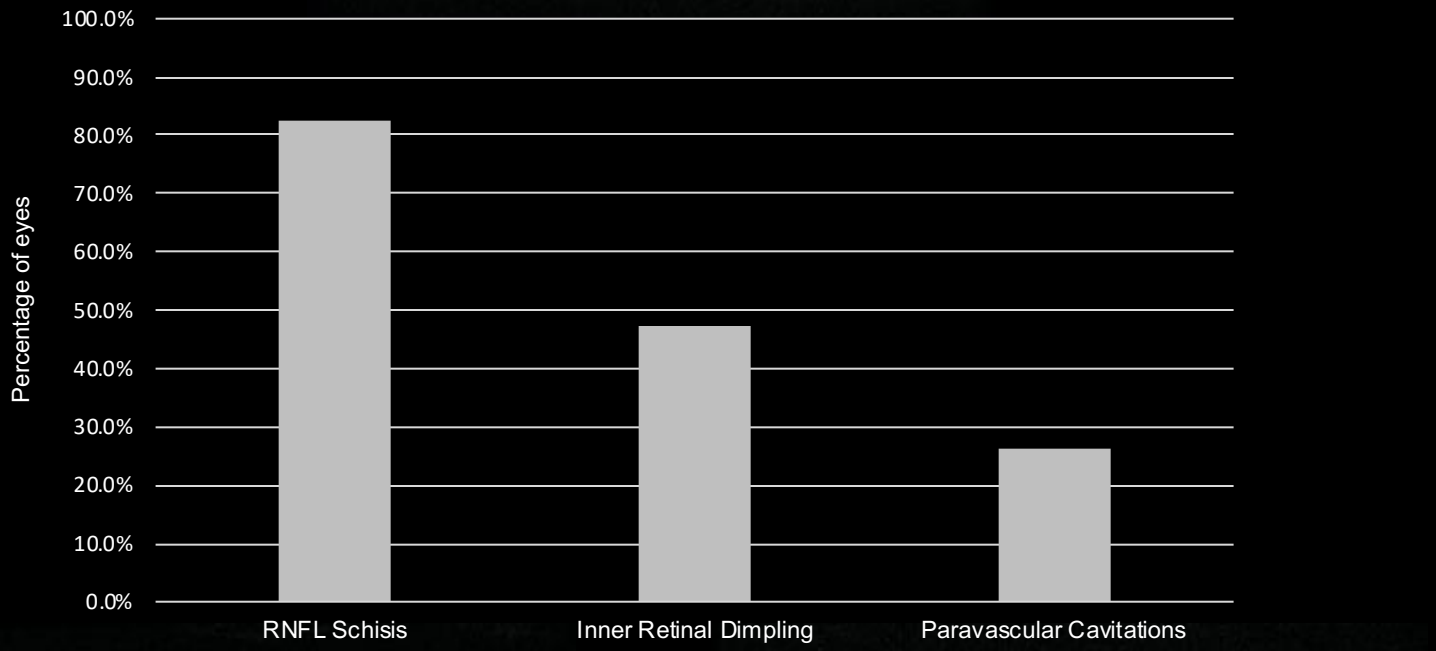



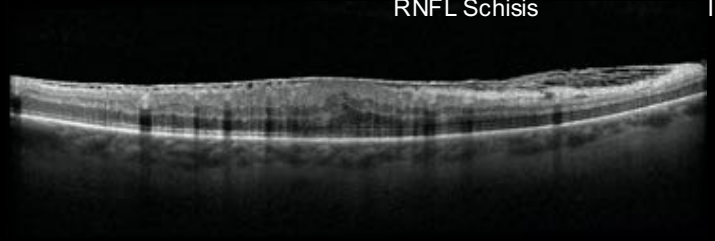
# Paravascular cavitations

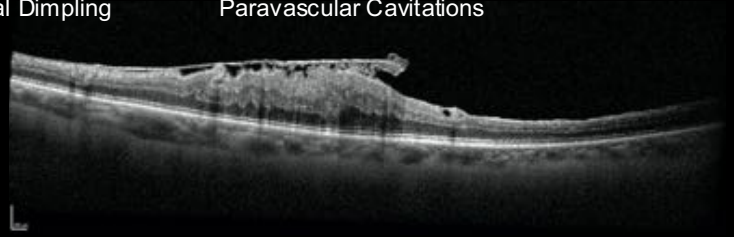


# Features associated with giant ILM tears



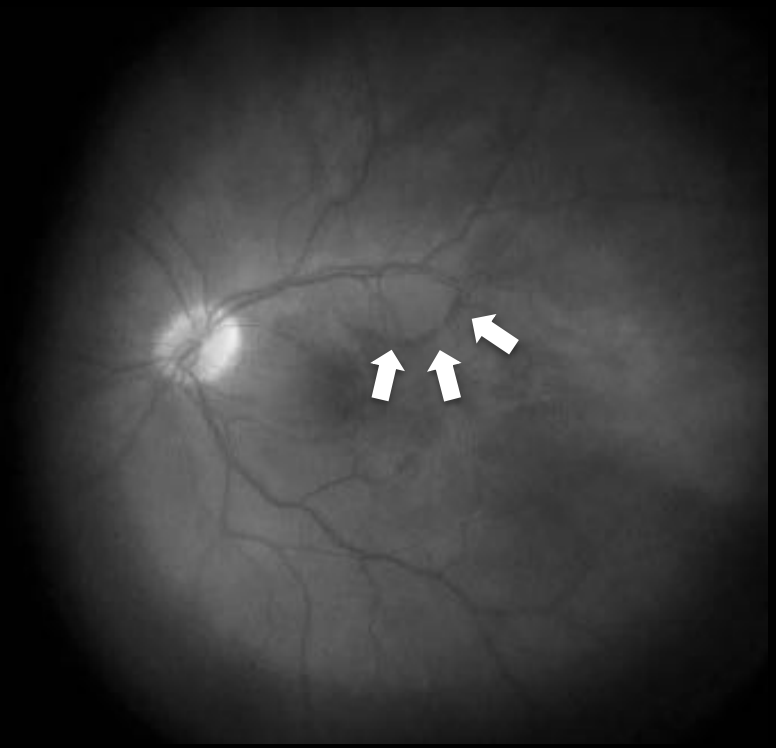


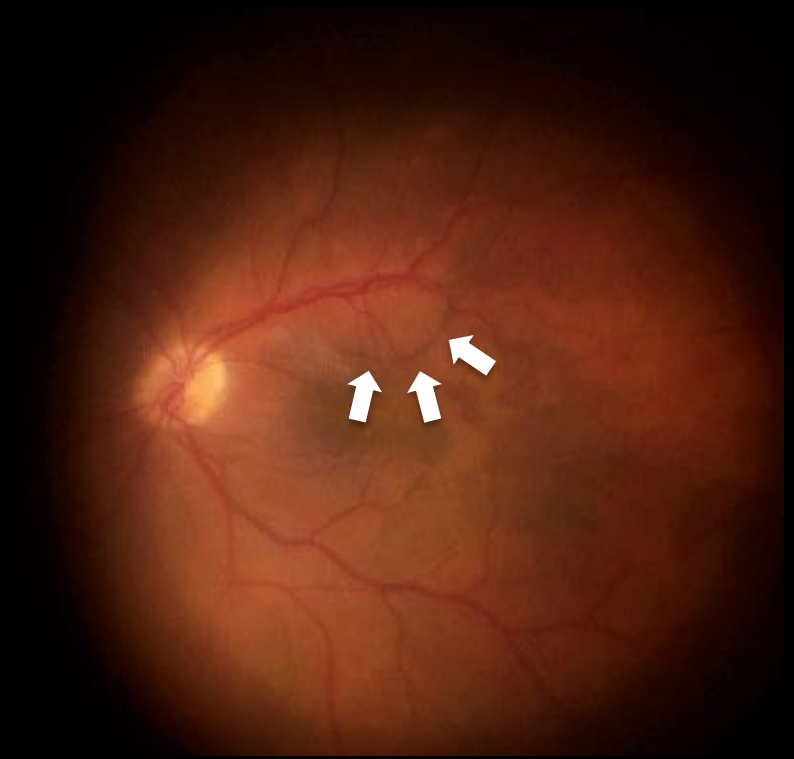





# Giant ILM tears: surgical utility

Brilliant Blue G highlights giant ILM tears intraoperatively





# Giant ILM tears: surgical utility

# Conclusions

Giant ILM tears may be encountered frequently in patient with symptomatic ERMs undergoing surgical management.

Radial OCT scans and the recognition of associated imaging features may assist in the surgical removal of an ERM.

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# Acknowledgements

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