Internal Limiting Membrane Graft for Persistent Macular Holes after Primary Surgical Failure

Hospital de Braga, Braga, Portugal

Porto, 5th September 2014
Macular hole surgery was first reported in 1991 by Kelly and Wendel.

Surgical advances have improved the primary success rate of the surgery to close to 95%.

Surgical failure is rare…

…but difficult to treat.
Several different techniques have been employed with varying degrees of success…

- Enlargement of the area of ILM peel
- Tamponade with silicone oil or long-lasting gases
- Autologous platelets/thrombin
- Brushing the margins of the hole together
- Arcuate superficial retinal incision
- Radial incision around the hole
- LASER....
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Inverted Internal Limiting Membrane Flap Technique for Large Macular Holes

Zofia Michalewska, MD, PhD, Janusz Michalewski, MD, PhD, Ron A. Adelman, MD, MPH, Jerzy Nawrocki, MD, PhD


- High closure rate
- ILM could serve as a scaffold for cell growth…
After previous surgical failure…

…no ILM around the macular hole!!!

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Nuno Gomes

Porto, 5th September 2014
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Peripheral ILM graft placed on Macular Hole bed

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- ILM could serve as a scaffold for cell growth…
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Methods

• Persistent MH
  – Failed vitrectomy with ILM peel and gas tamponade

• Six eyes of 6 patients

• All pseudophakic
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Methods
Surgical Technique

• 23G *pars plana* vitrectomy
• BBG to stain the remaining ILM
• Peel a graft of peripheral ILM and placing it on the bed of the MH
• Carefull fluid-air exchange
• Gas-tamponade with C₃F₈ (14%)
• Avoid prone position for 3 days
Pre-op MH measurements:
• Minimum MH diameter – 659 µm (range 392 – 1073 µm)
• Base diameter – 1627 µm (range 964 – 2847 µm)
• Hole height – 465 µm (range 316 – 662 µm)
• Macular Hole Index <0.5 in all cases

Pre-op Visual acuity
• CF in 3 patients
• 20/400 in 1 patient
• 20/200 in 2 patients
Internal Limiting Membrane Graft for Persistent Macular Holes after Primary Surgical Failure

Results

- Macular Hole closure achieved in all cases
- VA improvement in 4 cases - No change in 2 cases
- No major complications

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Conclusions

- This technique should be considered an option for persistent macular holes
- Less trauma to the retina than some of the alternative techniques
- Easily performed and safe
- More cases...
Obrigado!
Thank you!
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Which side of the ILM is up?

Impossible to know!!!!
Does it matter???
Hole closes and VA improves....
• Tips and tricks?
  
  • Stain
  • Lower pressure (valves are great!)
  • Grab flap gently
  • Bimanual surgery
  • Slow fluid/air exchange
  • Patience is a virtue!!!!