Prestained, Preloaded DMEK grafts

A SURGEON’S Experience

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Financial Disclosures

• Authors have financial disclosures relevant to this presentation
WHY USE PRELOADED DMEK?

• **ADVANTAGES**
  - The surgeon avoids complications related to preparing tissue and risk of tissue loss
  - Saves time in the OR (estimated 15 minutes or more)
  - Cost savings to the operating facility (no direct costs of trephine, Trypan blue, or Straiko glass injector)

• **DISADVANTAGES**
  - GRAFT size needs to be determined preoperatively
  - Surgeon cannot personally inspect graft quality in O.R.
### ASSESSMENT of ECL on preloaded DMEK grafts

<table>
<thead>
<tr>
<th>Type</th>
<th>Calcein-AM</th>
<th>FIJI Segmented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unstained</td>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
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<tr>
<td>Prestained</td>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
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<tr>
<td>Manual Staining</td>
<td><img src="image5.png" alt="Image" /></td>
<td><img src="image6.png" alt="Image" /></td>
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N = 5
RESULTS

Average ECL: 14.9 ± 2.8%

Average ECL: 15.5 ± 3.8%

Average ECL: 18.3 ± 1.5%

$P = 0.06$
Simulated surgery 3 day post-processing
Conclusions

- Possible to pre-stain and preload DMEK grafts without causing significant increase in ECL.
- We observed a slight association between increased manipulation and increased ECL (e.g. staining and washing inside of the Jones tube), but all tissues were within acceptable range for transplant.
- Pre-staining limitations: Stain intensity decreases with time: grafts stained 3 days prior to ‘transplant’ were acceptable, but stain was noticeably less intense.
- Pre-Loaded DMEK grafts decrease O.R. time and decrease potential complications from intraoperative tissue preparation.
- Potential cost savings on supplies to surgical centers
Thank You/Questions