Visco Trap technique and Small Incision Extraction for Subluxated IOL

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Evolution of Cataract Surgery For Cases with Weak Zonules

- Development of Phaco machine allows efficient fragmentation and stable AC
- Capsule devises make placement of IOL in the bag easier,
- but increase the frequency of postoperative IOL dislocation

Problems encountered in extracting Subluxated IOLs:

- Many cases have good visual acuity before the IOL subluxation
- significant hurdle to overcome to avoid decrease in patient’s QOV

Methods used to avoid decrease in QOV in the management of subluxated IOLs:

1. Small incision IOL extraction+ new IOL fixation
2. IOL re-fixation without IOL extraction

Tools to lead the subluxated IOL to AC

- use of viscoelastic materials (PAL, ViscoTrap)
- suction
- forceps
- PFCL
- thread

Purpose of Viscoelastic Materials

- space formation
- mass transfer (PAL)
- protection
- trap (ViscoTrap)
Usage of viscoelastic materials in extracting the subluxated IOL

1. Levitation of the subluxated IOL to the AC (PAL) by the viscoelastic material
   - PAL technique (posterior assisted levitation) Originally described by Charles Kelman, M.D. in 1994
   - The use of visco described by Richard Packerd in 2000
   - Hanemoto reported the uses of Viscoadaptive materials in 2003

The usage of viscoelastic materials in extracting the subluxated IOL

2. IOL capture into the viscoelastic material, thus avoiding luxation (Visco Trap)
   - Filling the AC with viscoadaptive
   - IOL was trapped into viscoadaptive
   - Visco trap technique

PAL TECHNIQUE + VISCO TRAP

Filling the AC with viscoadaptive, IOL was trapped into viscoadaptive after PAL. (Visco trap technique)

Comparison of viscoelastic materials in extracting the IOL

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<thead>
<tr>
<th></th>
<th>Viscoat™</th>
<th>Healon5™</th>
<th>High molecular OVD</th>
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<tbody>
<tr>
<td>Space formation</td>
<td>weak</td>
<td>strong</td>
<td>moderate</td>
</tr>
<tr>
<td>Endothelium protection</td>
<td>storing</td>
<td>moderate</td>
<td>moderate</td>
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<tr>
<td>Removal difficulty</td>
<td>Difficult</td>
<td>But safe</td>
<td>a little difficult</td>
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<tr>
<td>Vitreous control</td>
<td>moderate</td>
<td>strong</td>
<td>moderate</td>
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