Characteristics and Surgical Outcome of Macular Holes that Develop after Rhegmatogenous Retinal Detachment Repair

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Introduction

Secondary macular hole after rhegmatogenous retinal detachment with ILM peeling

- First reported by Brown et al. in 1988
- Can occur after three type of RD repair: scleral buckling, scleral encircling and vitrectomy
- Reported incidence: 0.85%

No report in Korean population

Purpose

To report the characteristics and surgical outcome of macular holes that develop subsequent to rhegmatogenous retinal detachment repair (RD repair).

Patients and Methods

Retrospective study

Patients who developed a new full thickness MH after a RD repair at Kim’s Eye Hospital, Seoul, Korea from May 2010 to July 2013

Surgery of RD: depend on operator

Surgery of MH: Pars plana vitrectomy with internal limiting membrane pealing a pig gas tamponade

Diagnosis of MH

Optical coherence tomography

Surgery of MH

Results

Table 1. Characteristics of 14 patients who had macular holes th at develop after primary rhegmatogenous retinal detachment repair

<table>
<thead>
<tr>
<th>Patient number</th>
<th>Sex</th>
<th>Age (yr)</th>
<th>Macula Off/MD at RD repair</th>
<th>Late station</th>
<th>Refractive shift (Dioptr)</th>
<th>Area (mm²)</th>
<th>Length (mm)</th>
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<tbody>
<tr>
<td>1</td>
<td>M</td>
<td>50</td>
<td>Macula Off</td>
<td>0.06</td>
<td>0.00</td>
<td>0.26</td>
<td>27.26</td>
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<td>2</td>
<td>F</td>
<td>45</td>
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<td>0.00</td>
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<tr>
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<tr>
<td>13</td>
<td>M</td>
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</tr>
</tbody>
</table>

Abbreviations


Discussion

Incidence of secondary macular hole after RD repair

0.5 %, similar or less than prior reports

Pathophysiology of secondary macular hole

Scleral buckling

Remained vitreous and vitreomacular traction occurred due to RD repair or after surgery

Vitrectomy

Remained posterior vitreous and traction force to macular hole

Secondary epiretinal membrane or cystoid macular edema lead to full thickness macular hole

In this study, 3 of 10 vitrectomized eyes showed ERM and 7 of 10 vitrectomized eyes showed CME.

Surgical outcome of secondary macular hole

Vitrinectomy + ILM peeling

88% of hole closure

Similar in idiopathic macular hole surgery

Conclusion

Secondary MHDs were seen predominantly after fovea-detached RD, most commonly occurring after primary vitrectomy. The surgical outcome and postoperative visual acuity gain was good, although the final BCVA was dependent on the macular status noticed during the RD repair.

References