CLOSURE OF LARGE MACULAR HOLE AND RESOLUTION OF PIGMENT EPITHELIAL DETACHMENT WITH AUTOLOGOUS RETINAL TRANSPLANT

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RELEVANT DISCLOSURES

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INTRODUCTION

• Several techniques for chronic large macular holes that do not close with traditional technique (vitrectomy/ILM peel/gas tamponade) have been proposed

• Autologous retinal transplant first described by Grewal and Mahmoud (2016)

• Technique has evolved to using a ‘staged’ approach

‘STAGED’ TECHNIQUE

• Graft initiated outside major vascular arcades using diathermy and vertical scissors
• Perfluorocarbon liquid (PFCL) used to stabilized posterior pole/graft
• Graft harvested using loop scraper and microforceps
• Graft positioned over macular hole
• Eye filled with PFCL
• PFCL removed 7-14 days later after confirming graft in position on post-operative OCT

PATIENT CASE

- 76 year old man presented with seven months of vision loss OD
- History of amlyopia OS
- VA 20/200 OD, 20/50 OS
- 2-3+ NSC OU
- OCT: large full-thickness MH with underlying PED
PATIENT CASE

• Patient underwent combined CE/IOL/PPV/MP/ICG/AFX/C3F8 with prone positioning
• POM#1 VA 20/400
• OCT obtained
• MH still open, PED same
PATIENT CASE

• Decision made to proceed with autologous retinal transplant with staged removal of PFCL 14 days later
GRAFT POSITIONING
POD#1

- OCT with graft over hole, PED resolved, PFCL
POW#1 AFTER PFCL REMOVAL

- OCT with graft over hole, PED resolved
POM#1 AFTER PFCL REMOVAL

- OCT with graft over hole, PED resolved
- VA 20/400 OD
POM#5 AFTER PFCL REMOVAL (DELAY DUE TO COVID-19)

- OCT with graft over hole, PED resolved
- VA 20/80 OD
DISCUSSION POINTS

• What is mechanism? Scaffold versus tissue incorporation
• PED resolution → secondary to PFCL or to closure of the MH?
• Visual acuity improvements noted over time
• Importance of dominance
• Value of this technique for non-myopic chronic, large MHs demonstrated