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LONG TERM FOVEATION PROCESSES AFTER EPIRETINAL MEMBRANE SURGERY

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Introduction:

To analyze the long-term visual functional outcome and anatomical structure recovery in restoring normal foveal profile after ERM surgery.

Materials and methods:

OCT examination of consecutive patients who underwent vitreoretinal surgery for epiretinal membrane with a minimum follow-up of 5 years were reviewed. The staging of ERM was performed according to the OCT-based classification system. According to the posterior pole thickness map, three circle-shaped scanning areas with 1 mm, 2 mm, and 3 mm were centred on the fovea and divided into nine macular fields. The average thickness and volume for each sector were reported.

Results:

Retrospective study of 32 eyes of 27 consecutive patients with iERM who received 25G PPV with ERM and ILM peeling and at least 5 years follow-up. A significant improvement in postoperative BCVA in all subgroups, with significant differences between stages 2 and stages 3-4. BCVA significantly improved regardless of the presence of ectopic inner foveal layers (EIFLs).
Central foveal thickness (CFT) significantly improved after surgery in all ERMs stages. A statistically significant reduction in all sectors was detected, greatest in central (24%) and 2mm-temporal (27%). The foveal restoration was higher in eyes with Stage 2 than those with Stage 3-4 ($p<0.001$). Earlier ERM stage ($rs=0.538$; $P<0.001$) and thinner CFT at baseline ($rs=0.665$; $P<0.001$) were significantly related to the final foveal pit recovery. Longer duration of symptoms greater than 6 months was significantly associated with EIFLs persistence and failure to foveal pit recover.

Conclusions:

Earlier ERM stage and thinner CFT at baseline were significantly related to the final foveal pit recovery. EIFLs persistence at 12 months follow-up was negative related to the foveal profile restoration. The main factor for EIFL persistence is the duration of symptoms that might lead to irreversible gliosis changes, making it impossible the foveation process of the internal retinal layers.