Abstract: 1530

Functional and Anatomic Outcomes of the Global Consortium of Autologous Retinal Transplantation for Primary, Refractory, and Macular Hole Retinal Detachments

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Purpose:

To report the anatomical and functional outcomes of autologous retinal transplantation (ART) for the surgical repair of primary (PMH) and refractory macular holes (RMH) and macular hole rhegmatogenous retinal detachments (MH-RRD).

Methods:

Multicenter, retrospective, consecutive case series.

Results:

130 ART surgeries were performed by 33 vitreoretinal surgeons around the world. Preoperative logMAR visual acuity (VA) was 1.37±0.12, which improved to 1.05±0.09 (p<0.001; mean follow-up 8.6±0.8 months). Patients underwent ART for PMHs (27%, n=35), RMHs (58%, n=76), and for complex MH-RRDs (15%, n=19). Mean maximum macular hole diameter was 1470±160 μm, mean minimum macular hole diameter 840±94 μm, and mean axial length was 24.6±3.2 mm. There was an 89% macular hole closure rate. 43% of patients experienced a 3-line gain in visual acuity (VA) and 29% gained at least 5 lines. Multivariate analysis conveyed that preoperative diagnosis (p=0.026) and preop VA (p<0.001) were significantly associated with post-op VA. Macular hole closure (p<0.001), reconstitution of the ellipsoid zone band (p=0.02), and a new finding of “linking of neurosensory layers” (p=0.01) on optical coherence tomography were predictive of better final VA. There were 5 cases of ART graft dislocation (3.9%).

Conclusions:

Patients undergoing ART achieved an 89% rate of macular hole closure. The surgery was safe with low complication rates.