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LONG-TERM OUTCOMES AND PROGNOSIS IN VITRECTOMY WITH AUTOLOGOUS PLATELET CONCENTRATE INJECTION FOR LARGE, HIGH MYOPIC, OR RECURRENT MACULAR HOLES

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Introduction:

Macular holes (MHs) are debilitating disruptions in the foveal retina, causing severe visual impairment. While pars plana vitrectomy (PPV) with internal limiting membrane (ILM) peeling is the standard treatment, challenges persist, especially in complex cases. This study investigates the long-term efficacy and safety of Autologous Platelet Concentrate (APC) injection as an adjunct to PPV in the treatment of MHs with a high risk of surgical failure, including large, highly myopic, or recurrent MHs.

Materials and methods:

Conducted as a retrospective, single-center study, it included patients who underwent PPV with or without APC injection for MHs at Seoul St. Mary's Hospital between March 2017 and February 2020. Anatomical success rates, alterations in foveal microstructure, and improvements in best-corrected visual acuity (BCVA) was evaluated.

Results:

Fifty-four patients were included, exhibiting a trend toward enhanced anatomical success in the PPV+APC group, though not statistically significant. Significant findings included increased glial proliferation within the PPV+APC group, sustained for up to one year, and a significant correlation between glial proliferation and MH closure. Improvements in BCVA were substantial and found to be significantly associated with preoperative BCVA, and the reconstruction of the external limiting membrane (ELM) and ellipsoid zone (EZ).

Conclusions:

The use of APC as adjuvant to PPV can be advantageous in cases of challenging MHs, reflecting comparable anatomical success rates, potential for glial proliferation critical for hole closure, and established safety profile.

Sources:

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2. Arias JD, Hoyos AT, Alcántara B, et al. PLASMA RICH IN GROWTH FACTORS FOR PERSISTENT MACULAR HOLE: A PILOT STUDY. *Retin Cases Brief Rep* 2022; 16:155-160.