

Factors determining postoperative results after surgery for lamellar macular hole

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Advantages:

Surgery for lamellar macular hole enables visual acuity improvement in most cases. Additionally, Spectral OCT facilitates determining factors influencing postoperative outcome after vitrectomy.

Methods:

20 eyes of 20 subjects with lamellar macular hole were included into the study. Spectral OCT examination was performed before surgery and during the follow-up (6-30 months). Pars plana vitrectomy with ERM removal and ILM peeling was performed. Air was injected in 3 cases. During pre and postoperative evaluation visual acuity, tonometry and biomicroscopy were performed. Central retinal thickness, number, area and volume of cystoid spaces were measured. Additionally, photoreceptor defects and the presence of epiretinal membranes were evaluated.

Effectiveness / Safety:

Mean preoperative visual acuity was 0,21. Central retinal thickness before surgery was 148 μ m. The upper diameter of the lamellar defect was 670 μ m and the base defect diameter was 1338 μ m. Photoreceptor defects were noted in 5 cases. Epiretinal membranes and cystoid spaces were present in all cases. After surgery, mean visual acuity improved to 0,54. Visual acuity remained stable in one case and improved in 17 cases. Factors determining postoperative visual acuity include preoperative visual acuity and photoreceptor cell defects. Neither central retinal thickness nor the diameter of the lamellar defect or the amount of cystoid spaces have an influence on final visual acuity. After surgery the foveal contour remained slightly deteriorated in 11/20 cases. Epiretinal membranes were successfully removed in all cases.

Take home message:

Pars plana vitrectomy improves anatomic and functional results in patients with lamellar macular holes. Spectral OCT is a useful tool in diagnostics of macular hole and postoperative evaluation. Good initial visual acuity is not a contraindication for surgery in lamellar macular holes.