

Monitoring of the impact of modern surgical procedures on the central portion of retina using electrophysiological methods.

Libor Hejsek

We evaluate annual anatomical and functional results of 20G pars plana vitrectomy for idiopathic macular hole, with peeling of the membrana limitans interna and instillation of gas tamponade (20% SF<sub>6</sub>).

The observed group consisted of 32 eyes of 32 patients (3 men and 29 women), mean age 69 years (range 59-76). Objectification of ocular anatomy was done with: anterior segment slit lamp, the biomicroscopy in artificial mydriasis and optical coherence tomography (Stratus OCT™, Carl Zeiss). Function of the central area of the retina was evaluated: the best corrected visual acuity in the distance (BCVA) with ETDRS optotype, multifocal electroretinography (mfERG) and pattern reversal electroretinography (PERG). For the statistical processing of results we used non-parametric Wilcoxon paired test.

Anatomical results: the primary closure of the IMD occurred in 29 (90%), the IMD was not closed, but it's edges were flattened in 2 eyes (6%).

Functional results: the visual acuity improved by 2 or more lines in 27 eyes (84%), of 3 or more lines in 18 eyes (56%), and 4 or more lines in 5 eyes (16%). PERG results did not have significant difference. Statistically significant difference (improvement) was found in the mfERG (values of P1 wave amplitude).

Due to the favorable anatomical and functional results we consider surgical treatment of macular holes through PPV with peeling MLI as a safe technique.