Summary

New approaches in the treatment of macular edema. Intravitreal triamcinolone acetonide application.

We evaluate the efficacy of 4 mg intravitreal triamcinolone injection (IVTA) in patients with macular edema (ME) of various etiology. This prospective study included 54 eyes. Group I consisted of 30 eyes with diabetic macular edema (DME), group II included 16 eyes with ME after retinal vein occlusion and group III contained 8 eyes with cystoid macular edema (CME) after standard cataract surgery. All patients were examined prior to injection and at the 1, 3, 6, 9 and 12 months as followed: the best corrected visual acuity (BCVA) using ETDRS charts, intraocular pressure (IOP) by applanation tonometry, anterior segment and macula biomicroscopy at the slit lamp. Colour fundusphotography was done and macular thickness (MT) was measured by optical coherence tomography (OCT).

In all groups of ME, the reduction of MT and improvement of BCVA was observed during and at the end of the study. Mean BCVA in group I improved from 0.19 to 0.23 and MT decreased from 518μm to 375μm. Statistically significant improvement of BCVA ($p<0,05$) was demonstrated for 1, 3, 6 and 9 months after IVTA. At the 12th month follow up improvement of BCVA was not significant ($p=0,057$). Reduction of ME was significant in all follow up months ($p<0,001$). Mean BCVA in group II improved from 0.19 to 0.39 and MT decreased from 476μm to 309μm. Improvements of BCVA and MT were significant in all follow up controls. In group III mean BCVA improved from 0.22 to 0.75 and MT reduced from 537μm to 244μm. Improvements of BCVA and MT were again significant in all follow up controls.

The best results after IVTA were observed in the group with pseudophakic CME. BCVA in this group was improved much more than in other groups and was statistically very significantly different from the values in other groups in all follow ups. No significant correlation between BCVA and MT was observed in any groups of ME postoperatively. The most common side effects of the therapy were the origin or progression of cataract and elevation of IOP. Increase of IOP after IVTA was not observed in any pseudophakic patients ($p=0,005$).

On the basis of our results, IVTA can be recommended for the treatment of CME after cataract surgery unresponsive to the standard treatment. IVTA in other causes of macular edema can be recommended for therapeutic balance sheet as a complementary treatment in combination with other therapeutical procedures (laser, anti VEGF, pars plana vitrectomy).