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КАФЕДРИ ІНОЗЕМНИХ МОВ

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TREATING MACULAR EDEMA FOLLOWING RVO

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Retinal vein occlusion (RVO) affects 16 million people worldwide, usually the middle-aged or older. It is caused by thrombosis, the clogging of the retinal veins, which may occur in the four branch veins – branch vein retinal occlusion (BVRO), or in the central vein, which is formed by the combination of the four branch veins – central vein retinal occlusion (CVRO). Left untreated (or if treatment fails), persistant RVO can lead to macular edema (ME), the swelling of thickening of the macula caused by leaking blood vessels.

The standart care was grid laser photocoagulation for ME and non-ischemic BRVO and observation of macular edema in the case of CRVO. Today, care differs: implantable and injectable drug-based options are available, notably a dexamethasone intravitreal implant (Allergan's Ozurdex) and inhibitors of vascular endothelial grows factor (VEGF), including an antibody and a fusion protein. Recently, pars plana vitrectomy has also been shown to be effective for improving macular thickness, volume, and sensitivity in patients with ME secondary to ischemic CRVO.

Dexamethasone is a potent, water-soluble corticosteroid with many therapeutic indications, mostly anti-inflammatory. The intravitreal dexamethasone-containing implant comprises micronized dexamethasone within a biodegradable copolymer of lactic and glycolic acids. The implant is inserted into the eye through a small pars plana puncture using a customized applicator system and it releases dexamethasone over a period of months.

It has been demonstrated that high concentrations of dexamethasone are sustained in the retina and vitreous during the first 2 months after the injection, and lower concentrations are sustained up to 6 months. Ozurdex has been proven effective, approved by the regulatory agencies in the United States and Europe, and is currently used in clinical practice for the treatment of ME associated with RVO and noninfectious posterior uveitis. It has also

been demonstrated to be effective for the treatment of diabetic ME in vitrectomized eyes.

All published studies of Ozurdex focused on its short-term efficacy and safety, following patients for 6 or 12 months only. Information regarding the response to multiple treatments, the optimal retreatment interval, and long-term follow-up is lacking. The purpose of this study is to evaluate the long-term visual prognosis and complications of patients who received Ozurdex injections for the treatment of ME in RVO.

VEGF inhibitors such as ranibizumab revealed a beneficial effect on visual function and reduced central macular thickness in eyes with BRVO and CRVO. However, with respect to the shorter half-life of ranibizumab, numerous injections are required to achieve and maintain this therapeutic effect. This is also valid for bevacizumab which is injected every 6 weeks for 12 months with a significant improvement of visual acuity (VA) and reduction of macular edema.

A pre-treatment with a VEGF inhibitor may have an impact on the time until a recurrence of macular edema following the first Ozurdex implantation is seen. However, it appeared that the time to recurrence could not be prolonged. Recurrences occurred after a period of 3.2 and 3.8 months. Interestingly, the number of recurrences (and subsequent retreatments) in patients receiving a monotherapy with the dexamethasone implant was lower in BRVO compared with CRVO patients, which may be well explained by the more favorable natural course of macular edema associated with BRVO.

In conclusion, combined treatment using Avastin (bevacizumab) and Ozurdex showed slightly better functional outcome for CRVO patients. Increased intraocular pressure and cataract progression was frequent and should be considered when an individual treatment is planned.