Suprachoroidal implantation of corticosteroid slow release implants for the treatment of cystoid macular edema

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Abstract

Purpose: In case of an instable iris-lens diaphragm, intravitreal corticosteroid slow-release implants (CSRI) may occidentally migrate into the anterior chamber, leading to damage of the corneal endothelium with consecutive corneal edema. A suprachoroidal application of these implants might overcome this problem. The purpose of this interventional case series was to test the efficacy and safety of a suprachoroidal application of dexamethasone (Ozurdex®) and fluocinolon acetonide (Illuvien®) intravitreal implants for the treatment of chronic cystoid macular edema (CME).

Methods: In this single-center, off-label proof of principle study, dexamethasone and fluocinolon acetonide implants were administered into the suprachoroidal space in patients with CME and instability of the iris-lens diaphragm (e.g. aphakia, scleral or iris fixated IOL, large iridectomy). The suprachoroidal implant was placed at the level of the pars plana at the transition to the retina. Surgical time, treatment responses of the CME on OCT, incidence of secondary intraocular pressure increases, visual acuity and surgery related complications were evaluated.

Results. In total, 16 patients were treated (14 dexamethasone and 2 fluocinolon acetonide). Mean age was 72.25+/-17 years and mean follow up was 1.8 ± 0.97 months. The procedure was well tolerated with no severe intraoperative or postoperative side effects. Mean central

retinal thickness (CRT) decreased significantly from 563.13 to 382.12 (p=0.002). There was no statistically significant difference between mean preoperative (16.38 mmHg) and postoperative (14.13 mmHg, p=0.15) intraocular pressure and no incidence of steroid induced glaucoma. Mean best corrected visual acuity (BCVA) significantly improved from 1.07 logMAR to 0.65 logMAR (p=0.01).

Conclusions. Suprachoroidal implantation of corticosteroid slow-release implants proves to be a safe and feasible alternative for complex eyes with CME and a disruption of the anterior-posterior segment border.