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CRUNCH SYNDROME FOLLOWING ANTI-VEGF INJECTION IN PROLIFERATIVE DIABETIC RETINOPATHY. A CASE REPORT

Pietras Trzpiel M.^[1], Lewicka Chomont A.^[2]

^[1]Eyemed, University Hospital- Department of Ophthalmology ~ Lublin, Rzeszów ~ Poland, ^[2]University Hospital. Department of Ophthalmology ~ Rzeszów ~ Poland

Crunch Syndrome occurs when there is excessively rapid regression of fibrovascular retinal neovascularization following anti-VEGF treatment (drugs inhibiting vascular endothelial growth factor) or, in some cases, overly intense retinal photocoagulation. In terms of the pathophysiology of neovascular regression, anti-VEGF therapy inhibits activity and reduces oxygen demand in the retina, leading to contraction of abnormal blood vessels. When this process occurs too quickly, fibrous tissue forms, which, upon contracting, may lead to retinal detachment or, at times, hemorrhage due to vessel rupture. This typically occurs 1-6 weeks after injection, with an average onset of 13 days

The study presents a case report and details the surgical course in the left eye (OS) of a 42-year-old female patient suffered from proliferative diabetic retinopathy associated with newly diagnosed type II diabetes and uncontrolled blood glucose levels. The patient was initially qualified for retinal photocoagulation in both eyes. At the first visit, visual acuity was on logMAR scale 0,18 in the right eye (OD) and 0.1 in the left eye (OS).

After partial retinal photocoagulation, approximately one month later, the patient experienced a hemorrhage in the left eye and worsening vision. Due to the inability to proceed with further laser treatment, the patient was qualified for intravitreal injection of anti-VEGF (Aflibercept) in the left eye. Within a few days, the patient exhibited regression of neovascularization, absorption of the hemorrhage, fibrosis, and ultimately, total tractional retinal detachment. At the time of surgery, visual acuity in the left eye was 1,6 (counting fingers at 1,5 meter).

The patient underwent vitrectomy with peeling of the epiretinal membranes and cataract removal, followed by the injection of silicone oil. At the second procedure the silicon was removed, 12 months after the first surgery.

Retinal reattachment was achieved, and visual acuity improved to 0,7 on logMAR scale.

Due to the potential complications arising from anti-VEGF therapy, such as rapid vascular regression, we do not recommend anti-VEGF therapy in such cases. A better approach in this would be gradual photocoagulation or, in cases where hemorrhage poses a barrier, early vitrectomy combined with retinal photocoagulation during surgery, with anti-VEGF administration 1-3 days prior to the procedure. To emphasize - anti-Vegf therapy for proliferative diabetic retinopathy is not the first-line treatment. Anti-VEGF therapy is a standard treatment for diabetic macular edema (DME).

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