

Abstract 22

LONG-TERM INCIDENCE AND RISK FACTORS OF MACULAR FIBROSIS, MACULAR ATROPHY, AND MACULAR HOLE IN EYES WITH MYOPIC NEOVASCULARIZATION

Oral

Cicinelli M.V., La Franca L.*, De Felice E., Rabiolo A., Marchese A., Battaglia Parodi M., Introini U., Bandello F.

Department of Ophthalmology, IRCCS San Raffaele Scientific Institute, Milan, Italy ~ Milan ~ Italy

Purpose:

To identify the risk factors associated with myopic macular neovascularization (mMNV)-related complications in patients treated with intravitreal anti-vascular endothelial growth factor (VEGF) agents.

Methods:

Longitudinal cohort study of myopic eyes (n=313) with active mMNV and median[interquartile range, IQR] follow-up of 42[18-68] months after initiation of anti-VEGF treatment. Patients' clinical and mMNV characteristics were collected at baseline. Subsequent optical coherence tomography (OCT) scans were inspected for mMNV-related complications. Best-measured visual acuity (BMVA) values were retrieved from each visit. Main outcome measures: Incidence rate and hazard ratio (HR)(95% confidence interval, CI) of risk factors for fibrosis and macular atrophy calculated with Kaplan-Meier curves and Cox regression models. Crude incidence of macular hole (MH). Longitudinal BMVA changes.

Results:

Five-year incidence of fibrosis, atrophy, and macular hole were 34%, 26%, and 8%, respectively. Rate of fibrosis[95%CI] was 10.3[8.25-12.6] for 100 person-year. Risk factors were subfoveal mMNV location (HR[95%CI]=12.7[2.70-56.7]vs.extrafoveal, p=0.001) and intraretinal fluid at baseline (HR[95%CI]=1.75[1.05-2.98], p=0.03). Rate of macular atrophy[95%CI] was 6.5[5-8.3] for 100 person-year. Risk factors were diffuse (HR[95%CI]=2.20[1.13-5.45]vs.tessellated fundus, p=0.02) or patchy chorioretinal atrophy (HR[95%CI]=3.17[1.32-7.64]vs.tessellated fundus, p=0.01) at baseline, and more numerous anti-VEGF injections before baseline (HR[95%CI]=1.21[1.06-1.38] for each treatment, p=0.005). Eyes with fibrosis and macular atrophy had faster BMVA decay over follow-up. Twenty eyes (6%) developed MH. Two subtypes of MH were identified: "atrophic" and "tractional".

Conclusions:

mMNV-related complications are common in the long term despite initially successful treatment and have detrimental effects on visual acuity. Insights on their incidence and risk factors may help for future treatments to mitigate sight-threatening outcomes.