EFFICACY AND SAFETY OF INTRAVITREAL RANIBIZUMAB IN EYES WITH RETINAL ANGIOMATOUS PROLIFERATION: A LONG-TERM FOLLOW-UP

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Purpose
To assess the long-term (≥36 months) efficacy and safety of intravitreal ranibizumab (IVR) in the treatment of retinal angiomatous proliferation (RAP) lesions and to identify predictive factors associated with functional improvement using multimodal retinal imaging.

Materials and methods
Retrospective case series including 75 eyes of 65 patients with a confirmed diagnosis of RAP and ≥36 months of follow-up. Baseline evaluation included complete ophthalmologic evaluation complemented with color fundus photography, fluorescein angiography (FA), indocyanine-green angiography (ICGA) and optical coherence tomography (OCT). RAP stage at diagnosis was identified by a senior retina specialist according to the three vasogenic stages defined by Yannuzzi. All the patients were treated in a pro re nata regimen. Best-corrected visual acuity (BCVA) and central retinal thickness were registered for every visit. Since both spectral-domain (SD) and time-domain OCT exams were available, all the measurements were scaled to Cirrus SD-OCT to achieve standardization. Statistical correlations were conducted to evaluate the relative contribution of baseline VA, baseline and final OCT features, RAP stage at diagnosis and number of injections on the final visual outcome. Adverse events associated with IVR were registered.

Results
Mean age at diagnosis was 79.5±6.8 years and mean baseline BCVA was 50.2±19.2 letters. Mean follow-up time was 56.9±16.1 months. All eyes had at least 3 years of follow-up, 62.6% had more than 4 years, and 40.0% more than 5 years. At 36 months, 29.3% of patients had an increase in BCVA (gain >5 letters), 50.7% worsened (loss >5 letters) and in 20.0% there was no significant change (variation between -5 and 5 letters). The mean number of IVR at 36 months was 2.50±1.98/year. During the whole length of follow-up, BCVA improved in 21.3%, decreased in 60.0%, and didn’t change in 18.7%, with a mean number of 2.2±1.2 IVR injections/year (range 0.4-8). Baseline subretinal fluid was associated with a final improvement in BCVA (p=0.001). Integrity of the outer retina layers in baseline OCT was significantly associated with final BCVA (R=0.050, p<0.001) and inversely correlated to the total number of IVR injections (R=-0.278, p=0.017). The stroke incidence in the study population was 0.093% (n=7). However, a direct correlation between the advent of vascular events and IVR treatment was not identified.

Conclusions
RAP lesions constitute a distinct neovascular phenotype of age-related macular degeneration. To our knowledge, this is the largest cohort of patients with ≥3 years of follow-up after IVR treatment for RAP lesions. In our long-term follow-up of IVR treatment in eyes with RAP, stabilization or improvement of BCVA was noted in 40% of study eyes. Baseline subretinal fluid and integrity of the outer retina layers in OCT were associated with better final BCVA.