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OUTCOMES OF BROLUCIZUMAB SWITCH IN WET AGE-RELATED MACULAR DEGENERATION: A TERTIARY PORTUGUESE HOSPITAL EXPERIENCE

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Introduction and Objectives: Age-related macular degeneration (AMD) is the leading cause of blindness in the developed world. The use of anti-vascular endothelial growth factor (VEGF) revolutionized the treatment of neovascular AMD (nAMD) despite being a known burden to both patients and healthcare systems. Brolucizumab is a newer anti-VEGF agent, whose noninferiority to Aflibercept in visual outcomes in treatment-naïve eyes with nAMD was demonstrated in two clinical trials. A secondary favorable outcome was the extended dosing intervals in more than half of eyes treated with this agent. Although it exhibited a safety profile comparable to Aflibercept, the rate of intraocular inflammatory events was superior. Few studies report the outcomes of non-naïve patients after switching to Brolucizumab. Our aim is to evaluate the functional and anatomic outcomes, and safety of Brolucizumab in nAMD patients previously treated with other anti-VEGF agents with poor response in our center.

Material and Methods: Retrospective and observational study in patients with nAMD receiving intravitreal treatment with anti-VEGF that showed no response or persistent presence of significant intra- and/or subretinal fluid despite injections intervals of 6 weeks or less. Those patients switched to therapy with Brolucizumab between January to August of 2022. Functional (best corrected visual acuity [BCVA], intraocular pressure [IOP]) and anatomical (central subfield thickness [CST], presence of intra- and/or subretinal fluid and presence of pigment epithelial detachment) outcomes were measured and analyzed both at baseline and at a posterior visit 8-to-12 weeks after the first injection. Any sign of adverse effect was reported. For statistical analysis SPSS v.28 was used. Results were deemed significant if $p < 0,05$, in the parametric, non-parametric and categorical tests used.

Results: 13 eyes of 12 patients, with a mean age of 77,4 ± 11,6 years and 41,7% of females, switched to Brolucizumab during the mentioned period, receiving a mean of 1,77 ± 0,8 injections. Patients were previously followed for a mean of 43,1 ± 25,6 months and received a median of 23 ± 31 other anti-VEGF injections. After the switch, it was observed a significant change in the treatment interval ($p = 0,008$). A significant mean change in BCVA of -0.17 ± 0,19 logMAR (95% CI: -0.278; -0.053, $p = 0,007$), as well as in CST of -43,38 ± 57,70 mm (95% CI: -78,25; -8,52; $p = 0,019$) was found. A significant reduction was observed regarding subretinal fluid ($p = 0,031$), but no change was observed in the presence of intraretinal fluid or pigment epithelial detachment. There were no reported adverse effects.

Discussion and Conclusion: Our results align with previous clinical trials and reports of real-world settings of naïve and non-naïve treatment patients treated with Brolucizumab. The improvement in functional and anatomical outcomes in addition to extending treatment interval demonstrates that this agent is a promising treatment against nAMD and reduces the burden of repeated intravitreal injections. Despite no reports of IOI in this cohort, careful patient selection, a vigilant follow-up and suitable patient education for warning signs is vital.