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BROLUCIZUMAB IN CHRONIC DIABETIC MACULAR EDEMA: 1 MONTH FUNCTIONAL AND STRUCTURAL OUTCOMES

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Background: Brolucizumab, an anti-vascular endothelial growth factor (anti-VEGF) drug (Beovu, Novartis, Basel, Switzerland) was approved for the treatment of vision impairment associated with diabetic macular edema (DME).

Objectives: To assess functional and anatomical outcomes after 1 month of treatment with a single intra-vitreal brolucizumab injection in patients with chronic responsive and unresponsive DME.

Methods: A retrospective review was conducted on eyes with DME who received a single intravitreal injection of the newest anti-vascular endothelial factor drug brolucizumab. The study was designed to assess visual function and OCT biomarkers at baseline and 1 month following a single brolucizumab intra-vitreal injection. A sub-analysis was conducted between patients with previous responsive and unresponsive DME. In patients with previous responsive DME, brolucizumab was administered to reduce treatment burden and increase compliance. Parameters were also used to assess safety.

Results: A total of 59 eyes from 42 patients were included in this study. A total of 47 eyes were previous DME responders to intra-vitreal therapy, with 12 eyes considered non-responders. At 1 month, patients had an overall improvement of 2 ETDRS letters on BCVA (p=0,020), lower central foveal thickness (p=<0,001), fewer hyperreflective dots (p=0,016), less outer plexiform layer disruption (p=0,004), less inner and outer nuclear layer cysts (p=<0,001 and p=0,001, respectively) and a better relation between ONL and INL cysts (p=0,022). Results remained significant in the group of patients with previous responsive DME. No adverse events were reported.

Conclusions: This study supports the effectiveness and safety of brolucizumab in the management of chronic diabetic macular edema, especially in previous responsive DME patients.