Changes in Macular Perfusion after ILUVIEN® implant for Diabetic Macular Edema: an OCTA study

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Purpose:
To investigate changes in macular perfusion in patients affected by diabetic macular edema (DME) and treated with ILUVIEN® (fluocinolone acetonide intravitreal implant) 0.19 mg using optical coherence tomography angiography (OCTA).

Methods:
In this retrospective cohort study, patients older than 18 years of age and with type 2 non-proliferative diabetic retinopathy (DR) and DME at baseline were included. All patients were treated with the ILUVIEN® implant. A minimum of two OCTA (6x6-mm scans) were required to ensure that all cases had a baseline OCTA and a OCTA performed at 4 months of follow-up. On baseline and 4-month OCTA images, the main outcome measures were: (i) parafoveal and perifoveal perfusion density (PD); (ii) parafoveal and perifoveal vessel length density (VLD).

Results:
Ten eyes from 10 subjects were included in analysis. Mean age was 57.1±8.3 years. Mean±SD parafoveal PD was 64.1±1.8% at baseline and increased to 66.1±2.9% (p = 0.013). Mean±SD parafoveal PD was 64.4±2.1% at baseline and increased to 65.2±2.6% (p = 0.024). No statistically significant changes in VLD were found in both parafoveal and perifoveal regions.

Conclusions:
OCTA analysis detects improvements in macular perfusion after treatment with ILUVIEN®.