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COMPARISON OF THE EFFECT OF PAN-RETINAL PHOTOCOAGULATION VERSUS INTRAVITREAL ANTI-VASCULAR ENDOTHELIAL GROWTH FACTOR INJECTION ON THE FOVEAL VASCULATURE USING OPTICAL COHERENCE TOMOGRAPHY ANGIOGRAPHY

Oral

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Purpose:

To evaluate and compare macular vasculature changes in 1 and 3-months after initiating treatment with either panretinal photocoagulation (PRP) or Intravitreal bevacizumab (IVB) injection.

Methods:

A total of 62 eyes from 33 diabetic patients without macular edema were included in this prospective case series. Of these, thirty-nine eyes (21 patients) were allocated to the PRP group, while 23 eyes (12 patients) were treated with IVB. Optical tomography angiography (OCTA) was performed to measure foveal avascular zone (FAZ) characteristics as well as superficial (SCP) and deep vascular plexus (DCP) densities.

Results:

After the initiation of IVB injections, the FAZ area expanded modestly at month 1 but returned to baseline level after three months. In the PRP group, however, FAZ was rather steady. FAZ area changes were significantly different between treatment groups at month 1 ($p=0.02$), but not at month 3 ($p=0.31$). The foveal vessel density changes in the SCP were not statistically significant between the two groups, at both month 1 and 3 (all $P>0.05$). A comparison of two treatment arms based on mean DCP density change revealed a significant difference at month 1, but not at month 3 ($p=0.01$ and $p=0.49$).

Conclusions:

Some vascular metrics changes in OCTA (FAZ area, Perim, Foveal DCP vascular density) may be significantly different between two types of therapies in the very early short-term (1 month) after treatment initiation. In the third month following treatment, all of these differences diminished to insignificance.

