



## Correlation of Optical Coherence Tomographic Features in Diabetic Macular Edema and Therapeutic Outcome after Intravitreal Bevacizumab Injection

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**Background and objective:** To study the retinal morphology and investigate correlation between optical coherence tomography (OCT) findings and visual acuity in patients with diabetic macular edema (DME) after intravitreal Bevacizumab injection.

**Methods:** This was a Retrospective interventional case series. Sixty seven eyes were included. All cases had diffuse DME with no history of any previous treatment. Optical coherence tomography was evaluated in all visits. The retinal thickness was measured automatically using OCT retinal mapping software. Presentation of hard exudate, subretinal fluids, retinal traction, configurations of IS-OS junction were recorded.

**Statistics:** Correlation between visual acuity and central macular thickness (CMT) was analyzed by using the two-sample t-test. The Pearson's chi-squared test were used to compare OCT findings between each groups.

**Results:** Average central macular thickness was 408.28 (+/-202.46  $\mu$ m). After IVB injection, visual improvement was shown in 39 eyes (58.21%) and average central

macular thickness was 436.15 (+/- 34.87  $\mu$ m). Average central macular thickness in non-improvement group was 369.46 (+/- 33.14  $\mu$ m). Hard exudate was found in 60 eyes (89.55%), irregular pattern of IS-OS junction was presented in 30 eyes (44.78%), subretinal serous fluids (SRD) was presented in 26 eyes (38.80%) and epimacular membrane was found in 15 eyes (22.39%). Presentation of subretinal serous fluid was found to have correlation with visual improvement group ( $P=0.049$ ) and irregular pattern of IS-OS junction was correlated with non improvement group ( $p=0.007$ ).

**Conclusion:** Short-term follow up visual outcomes after IVB injection in diffuse diabetic macular edema was correlated with OCT finding (irregular pattern of IS-OS junction and presentation of SRD). This indicate that vascular endothelial growth factor may plays a role in management of DME and OCT finding (irregular IS-OS junction, SRD) and possible determine visual prognosis.

**Keyword:** optical coherence tomography, diabetic macular edema

