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Influence of Intravitreal Bevacizumab Therapy on the Patterns of Diabetic Maculopathy on Optical Coherence Tomography

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Objective: To evaluate the effect of intravitreal Bevacizumab (Avastin™) on optical coherence tomography (OCT) patterns of patients with different subtypes of diabetic macular edema (DME).

Setting: Ophthalmology Department, King Hamad University Hospital, Bahrain.

Design: A Retrospective Study.

Method: Seventy-one patients (142 eyes) with clinically significant diabetic macular edema who received intravitreal Bevacizumab therapy for six weeks were included in the study. Visual acuity and OCT patterns before and after receiving treatment were documented. Diabetic macular edema was subdivided into four groups: diffuse retinal thickening (DRT), cystoid macular edema (CME), pigment epithelial detachment (PED), and mixed features (both DRT and CME). Macular thickness, macular volume, and visual acuity before and after treatment were compared.

Result: Changes in patients' macular thickness and macular volume were significantly different for all four subtypes of DME (p=0.002, p=0.001) after treatment with Bevacizumab. Compared to CME and PED, eyes with DRT showed the greatest change in macular thickness, macular volume, and visual acuity after receiving intravitreal Bevacizumab. The change in visual acuity six weeks after treatment was not statistically significant (P= 0.61). Eyes affected with CME or PED were more likely to persist with chronic DME even after receiving treatment.

Conclusion: Patients with DRT had major benefit from intravitreal Bevacizumab. The study advocates the sub-classification of DME on OCT scans in order to predict patients' visual prognosis after receiving intravitreal Bevacizumab.

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