

## **Randomized trial of intravitreal bevacizumab alone or combined with triamcinolone vs macular photocoagulation in diabetic macular edema**

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### **Advantages:**

To compare the results of intravitreal bevacizumab (IVB) injection alone or in combination with intravitreal triamcinolone acetonide (IVT) versus macular laser photocoagulation (MPC) as a primary treatment of diabetic macular edema (DME).

### **Methods:**

In this randomized three-arm clinical trial One-hundred fifty eyes of 129 patients with clinically significant diabetic macular edema and no previous treatment were enrolled. The eyes were randomly assigned to one of the three study arms: the IVB group, patients who received 1.25 mg IVB (50 eyes); the IVB/IVT group, patients who received 1.25 mg of intravitreal bevacizumab and 2 mg of IVT (50 eyes); and the MPC group, patients who underwent focal or modified grid laser (50 eyes). Retreatment was performed at 12-week Intervals whenever indicated.

### **Effectiveness / Safety:**

VA changes among the groups were statistically significant at 6 (P: 0.001) and 24 (P=0.012) weeks. The significant treatment effect was demonstrated in the IVB group at all follow up visits and in the IVB/IVT group at 6 and 12 weeks. VA changes  $\hat{\pm}$  standard deviation at 36 weeks were  $-0.28 \hat{\pm} 0.25$ ,  $-0.04 \hat{\pm} 0.33$ , and  $+0.01 \hat{\pm} 0.27$  logarithm of minimum angle of resolution in the IVB, IVB/IVT, and MPC groups, respectively (P=0.053). Significant central macular thickness (CMT) reduction was observed in all groups only up to 6 weeks; however, CMT changes were not significant among the groups in all visits. Overall, retreatment was required for 27 eyes up to 36 weeks; 14 in the IVB group, 10 in the IVB/IVT group, and 3 in the MPC group. In the IVB group, in which a greater VA improvement was observed, only one injection was required in 72% of the cases. VA improvement >2 Snellen lines at 36 weeks were detected in 37%, 25%, and 14.8% in the IVB, IVB/IVT, and MPC groups, respectively.

### **Take home message:**

Intravitreal bevacizumab injection in patients with DME yielded a better visual outcome at 24 weeks compared to macular photocoagulation. A change in CMT beyond the six-week time point that corresponded to the vision change was not detected. No adjunctive effect of IVT was demonstrated.