Impact of initial visual acuity (VA) on anti-VEGF treatment outcomes in patients with macular edema secondary to retinal vein occlusions (RVO) in routine clinical practice

In this paper, the researchers determined the impact of initial visual acuity on anti-vascular endothelial growth factor (VEGF) treatment outcomes in patients with macular edema secondary to retinal vein occlusions in routine clinical practice.

This retrospective study was conducted at a single academic institution to identify 177 treatment-naïve patients with macular edema secondary to branch retinal vein occlusion (BRVO), hemiretinal vein occlusion (HRVO) and central retinal vein occlusion (CRVO) treated with intravitreal anti-VEGF agents. Exclusion criteria included prior intravitreal injection or presence of active confounding ocular disease.
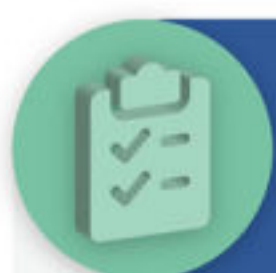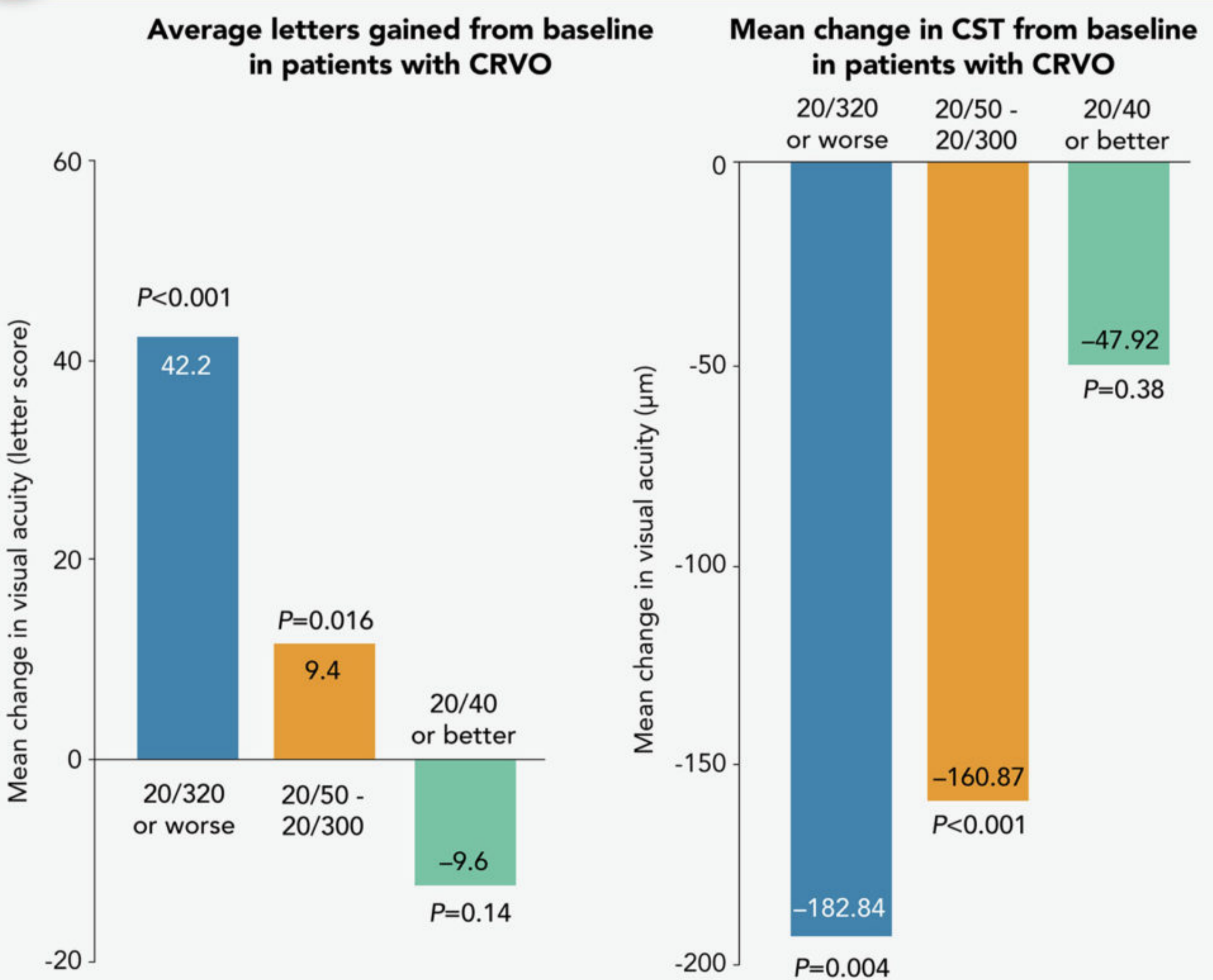
Patients with BRVO with initial VA of 20/40 or better had no significant changes in average letters gained and central subfield thickness (CST) from baseline compared with patients with initial VA between 20/50 and 20/300 after 12 months.

Average letters gained from baseline in patients with BRVO

Mean change in CST from baseline in patients with BRVO
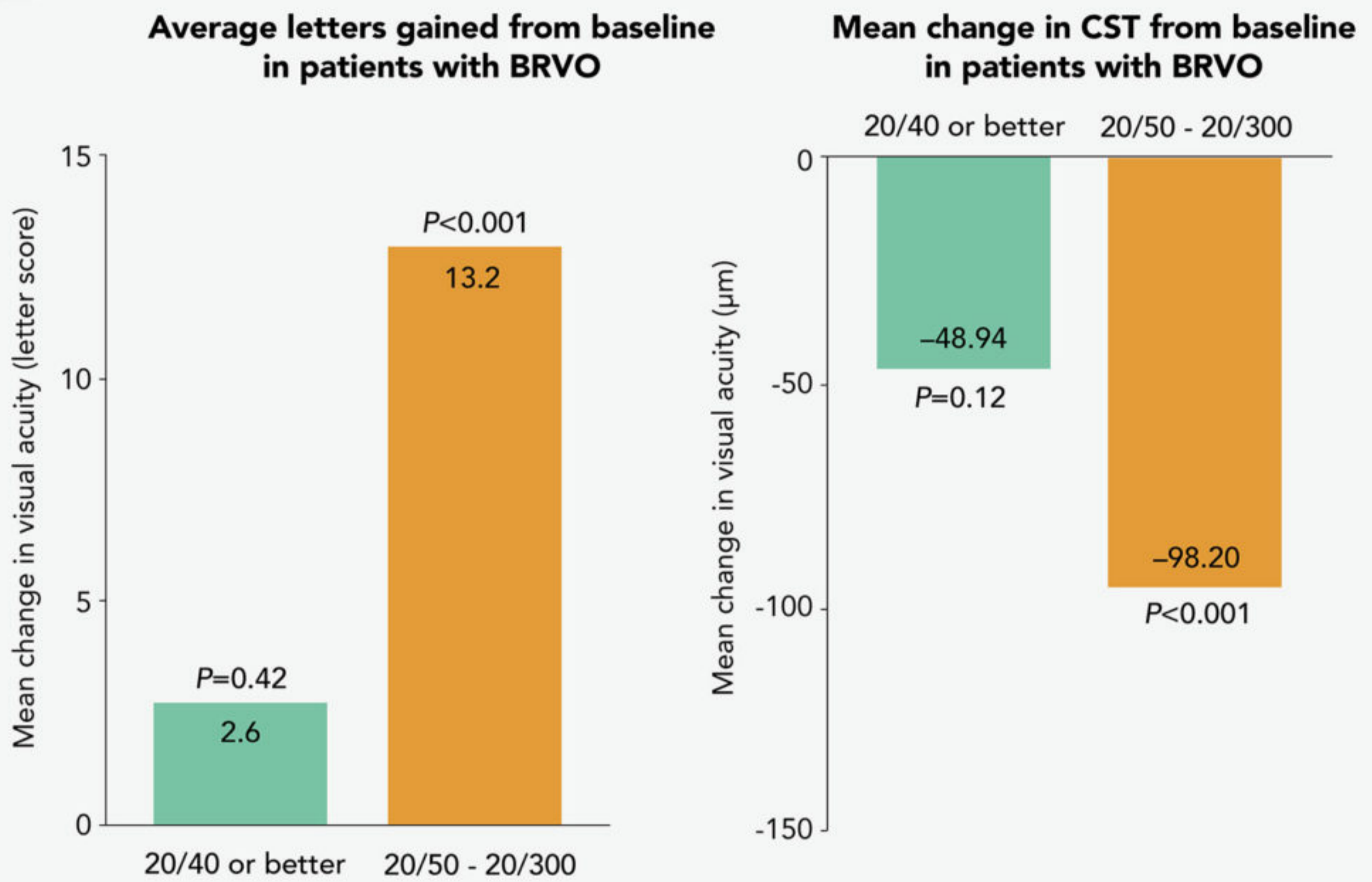
At 6 months, the 20/40 or better VA group showed a non-significant decrease in CST (−28.54 μm, P=0.28), while the 20/50–20/300 group demonstrated a large decrease in CST (−102.87 μm, P<0.001). At 12 months, the 20/40 or better group continued to show non-significant decreases in their CST (−48.94 μm, P=0.12). In comparison, the group with initial VA between 20/50 and 20/300 showed a significant improvement in their CST at 12 months (−98.20 μm, P<0.001).

Patients with CRVO/HRVO with initial VA of 20/320 or worse had the most improvement with anti-VEGF therapy compared with patients with initial VA between 20/50 and 20/300 and patients with initial VA of 20/40 or better.

Average letters gained from baseline in patients with CRVO

Mean change in CST from baseline in patients with CRVO

Conclusions

For macular edema secondary to retinal vein occlusion, anti-VEGF treatment can result in a greater improvement in average letters gained and in CST for those with poor initial VA compared with those with better initial VA.