Ranibizumab in Myopic Choroidal Neovascularization (CNV): The 12-Month Results from the REPAIR Study

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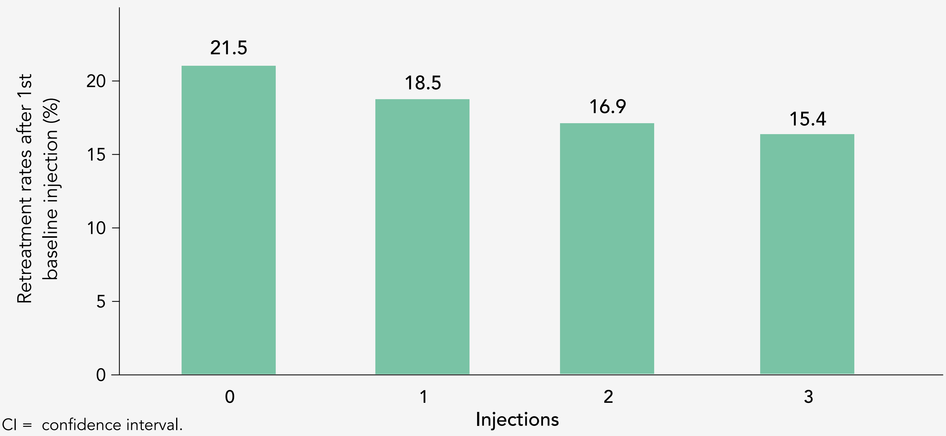
The REPAIR study was a phase II, prospective, multicenter, industry-sponsored study of intravitreal ranibizumab in myopic CNV. Pathologic myopia was defined as myopic spherical equivalent of ≥6 diopters (preoperatively if the eye had previously undergone cataract or refractive surgery) and active CNV was diagnosed using spectral domain optical coherence tomography (OCT) and fundus fluorescein angiography (FA). The primary outcome was mean change in best-corrected visual acuity (BCVA) score on the Early Treatment of Diabetic Retinopathy Study (ETDRS) eye chart at 12 months.

The median number of ranibizumab injections over 12 months was 3 (mean 3.6), with a median time to first retreatment of 2 months for 50% of patients (95% CI, 1.25-3.42).

Proportion of retreatment rates after first baseline injection over 12 months



CI = confidence interval.

Primary outcome results were comparable to recent smaller studies of ranibizumab therapy in myopic CNV.

The *primary outcome* in terms of **mean change in BCVA score** on the ETDRS eye chart was **13.8 letters** (SD, 14.0; 95% CI, 10.2–17.3; *P*< .001)

In the planned *interim analysis at 6 months*, the **mean gain in BCVA** was **12.2 letters**

The *greatest improvement* was observed in the first month of treatment with a mean change of **+8.7 letters**

There was a **significant mean reduction in CMT** (500 µm radius around the fovea) by **135 µm** from baseline to month 12 (SD, 134 µm; *P*< .001).

Mirroring visual acuity improvement, the greatest improvement in mean CMT was observed within the first month (−109 µm; SD, 127 µm).

SD = standard deviation; CMT = central macular thickness.

Conclusions

At the time of conduction, the REPAIR study was the largest multicenter, prospective study to date of the treatment of myopic CNV with ranibizumab. Mean change in BCVA at 12 months was comparable with recent but smaller studies of ranibizumab therapy in myopic CNV. Encouraging improvements in patient-reported outcome measures were also found and retreatment rates were low.

One limitation was the lack of a control arm. Limitations should be better addressed in future comparative trials such as the phase III RADIANCE study comparing ranibizumab with verteporfin-PDT. Currently, this report provides useful evidence to support the use of primary ranibizumab therapy in treatment-naïve myopic CNV, gives an estimate of the likely burden of treatment, and provides a pragmatic retreatment algorithm that is easily translated into clinical practice.