

CLEAR-IT 1: A Phase I Safety, Tolerability, and Bioactivity Study of Intravitreal VEGF Trap in Patients with Neovascular AMD

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PURPOSE

CLEAR-IT 1 was designed to investigate safety, tolerability, and bioactivity of intravitreal (ITV) VEGF Trap, a fusion protein that binds all VEGF-A isoforms and Placental Growth Factor (PLGF), in neovascular AMD.

METHODS

Groups of 3-6 patients with either classic or occult subfoveal CNV, BCVA \geq 73 ETDRS letters, and retinal thickness in the central subfield \leq 250 μ received a single ITV VEGF Trap injection in this sequential cohort dose-escalation study. Patients were monitored for 12 weeks following VEGF Trap administration. Safety assessments included eye examinations, vital signs, and laboratory tests (including levels of circulating VEGF Trap and antibodies directed against VEGF Trap). Bioactivity assessments included changes from baseline in excess foveal thickness determined by optical coherence tomography (OCT), BCVA, and lesion size and leakage determined by fluorescein angiography.

RESULTS

Twenty-one patients were treated at dose levels, 0.05, 0.15, 0.5, 1, 2 and 4 mg. There have been no serious adverse events and no identifiable intraocular inflammation. On initial review, patients in all dose groups showed a rapid and substantial decrease in foveal thickness four weeks after their single injection of VEGF Trap. Three of 6 patients who received single 2 or 4 mg doses achieved gains of \geq 15 letters in BCVA at four weeks as well.

CONCLUSION

Intravitreal injection of up to 4 mg of VEGF Trap has been well-tolerated. Data to date suggests that VEGF Trap exerts rapid, substantial, and sustained bioactivity in patients with neovascular AMD. Further studies to optimize the intravitreal dosing regimen for VEGF Trap are being conducted.

* Financial interest disclosed