

Galileo: Aflibercept Improved Visual Acuity in CRVO

Second phase 3 trial mirrors positive results of VEGF Trap-Eye in Copernicus trial.

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Monthly intravitreal injections of aflibercept ophthalmic solution (VEGF Trap-Eye, Regeneron Pharmaceuticals, Inc./Bayer HealthCare) resulted in a significant improvement in visual acuity in patients with central retinal vein occlusion (CRVO) compared with those receiving sham control treatment in a phase 3 clinical trial,¹ mirroring results of an almost identical trial announced last year.² The drug was generally well-tolerated and had a favorable safety profile in both trials.

Aflibercept is a highly potent blocker of vascular endothelial growth factor (VEGF) and placental growth factor. It is thought that VEGF inhibition may help decrease vascular permeability and edema in the retina and prevent the inappropriate growth of new retinal blood vessels in patients with CRVO.

Regeneron and Bayer HealthCare sponsored two almost identical phase 3 clinical trials of aflibercept in patients with CRVO. Top line results of the Copernicus trial were announced last December, and the top line results of the Galileo trial, announced in April, confirm the positive results of the first trial.

STUDY DESIGN

In both trials, patients were randomly assigned in a 3:2 ratio to receive six monthly intravitreal injections of aflibercept ophthalmic solution 2 mg or sham injection control. In Copernicus, 114 patients were randomized to the treatment arm and 73 to the control arm. In Galileo, 104 patients were randomized to the treatment arm and 68 to the control arm.

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At the end of 6 months in both studies, patients in the treatment arm continued to be dosed with the drug on an as-needed (PRN) basis for an additional 6 months. Patients in the control arm could be crossed over to receive the drug on a PRN basis in the second 6 months.

The primary endpoint in both trials was the percentage of patients gaining at least 15 letters of visual acuity at 6 months on the Early Treatment Diabetic Retinopathy Study chart. A secondary endpoint in both trials was mean change in visual acuity at 6 months. Safety and tolerability were also assessed at 6 months in both trials.

RESULTS

In the Galileo study at 6 months, 60.2% of patients receiving aflibercept 2 mg gained at least 15 letters of visual acuity from baseline, compared with 22.1% of patients receiving sham injection ($P<.0001$). Treated patients gained a mean 18 letters of visual acuity, compared with a mean gain of 3.3 letters in those receiving sham injection ($P<.0001$).

In the Copernicus study at 6 months, 56.1% of patients receiving monthly aflibercept 2 mg gained at

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least 15 letters of visual acuity from baseline, compared with 12.3% of patients receiving sham injections ($P<.0001$). Treated patients gained a mean 17.3 letters of visual acuity, compared with a mean loss of 4.0 letters in those receiving sham injections ($P<.001$).

The drug was generally well tolerated in both trials. The most common adverse events seen in the trials were those typically associated with intravitreal injection or the underlying disease. Serious ocular adverse events were uncommon, and were seen less frequently in the treatment groups (3.5% in Copernicus, 2.9% in Galileo) than in the sham injection groups (13.5% and 8.8%, respectively). The incidence of serious nonocular events was generally well balanced between the two study arms in both trials.

LOOKING AHEAD

Regeneron and Bayer HealthCare are collaborating on the global development of aflibercept for treatment of neovascular age-related macular degeneration (AMD), diabetic macular edema, CRVO, and other eye diseases. The companies are planning to submit regulatory applications for marketing approval for VEGF Trap-Eye for the treatment of wet AMD in Europe and the United States in the first half of 2011. Bayer HealthCare will market the drug outside the United States, while Regeneron will maintain exclusive rights in the United States. ■

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1. Regeneron and Bayer Report Positive Results for VEGF Trap-Eye in Second Phase 3 Study in Central Retinal Vein Occlusion [press release]. Tarrytown, NY, and Berlin: Regeneron Pharmaceuticals, Inc., and Bayer HealthCare; April 27, 2011
2. Boyer DM. Anti-VEGF therapy for CRVO: COPERNICUS study. Paper presented at: Angiogenesis, Exudation and Degeneration 2011; February 12, 2011; Miami, FL.