VIM pilot trial results favour verteporfin PDT for small, minimally classic neovascular AMD

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VERTEPORFIN (Visudyne®, Novartis) photodynamic therapy in eyes with minimally classic choroidal neovascularisation reduces the risk of vision loss and of progression to predominantly classic CNV, according to the long-term results of the Verteporfin In Minimally classic CNV due to AMD (VIM) trial.

"We believe these findings justify considering verteporfin PDT using the standard or reduced fluence for relatively small minimally classic lesions with characteristics similar to those enrolled in the VIM trial. Meanwhile, other pilot studies using the reduced fluence are being considered for larger lesions," said David S. Boyer MD, Sherman Oaks, California, US, who spoke on behalf of the VIM study group at the annual meeting of the Association for Research in Vision and Ophthalmology.

The multicentre, double-masked, placebo-controlled, pilot study occurred at 19 sites in North America and Europe and enrolled patients 50 years of age or older who had a minimally classic lesion of no more than six MPS disc areas and best corrected visual acuity Snellen equivalent of 20/250 or better.

The study randomised 117 patients to receive verteporfin therapy with a reduced light fluence (300 mW/cm^2) for 83 seconds (25 J/cm^2), verteporfin therapy with a standard light fluence (600 mW/cm^2) for 83 seconds (50 J/cm^2), or placebo injection followed by reduced fluence or standard fluence light treatment. If any eye showed development of a predominantly classic lesion, open-label verteporfin PDT could be administered using the standard fluence rate.

Preservation of vision greatest in reduced fluence group

Among the 103 (88%) patients seen at the 24-month visit, visual acuity loss of three or more lines occurred among 62% of 37 eyes in the placebo group, compared to only 26% of eyes in the reduced fluence PDT group, and 53% of 32 eyes treated with standard fluence PDT. The difference compared with placebo was statistically significant for the reduced fluence group only (P = 0.003). However, there was also a significant difference favouring PDT over placebo when data for both PDT groups were combined (P = 0.03).

Secondary vision efficacy outcomes showed statistically significant benefits for both the standard and reduced fluence groups. Severe vision loss (six or more lines) occurred in 35% of controls, compared to only 18% of patients in the reduced fluence group and 13% of the standard fluence patients. For this analysis, there was also a significant difference comparing the placebo and total verteporfin groups.

Mean visual acuity loss from baseline to month 24 was significantly less for eyes treated with the reduced fluence PDT compared with placebo (1.8 lines vs. 4 lines; P = 0.02). Eyes in the standard fluence group lost 2.2 lines of acuity (P = 0.08 vs. placebo). The difference between the two verteporfin groups was not statistically significant.

Progression rates lower in verteporfin groups

A total of 14 cases converted to predominantly classic CNV in the trial, including 28% among the 39 placebo-treated patients. Rates of progression to predominantly classic CNV were significantly lower in both the reduced fluence PDT group.

Eleven (79%) conversions occurred at or before the six-month visit, and nine (64%) were detected at three months or earlier. Of the latter nine, five were identified by the ophthalmologist and confirmed by the reading centre and four were first identified by the reading centre and subsequently confirmed by the ophthalmologist.

At the time of the conversions, vision was better than 20/200 in 79% of eyes and better than 20/160 in 64%. In addition, 79% of the lesions were less than six disc areas in size at the time of conversion. One eye was observed and the other thirteen received verteporfin PDT.

"At the time of conversion, the lesions were associated with vision and of a size that would make them eligible for PDT. The fact that the majority of conversions occurred within six months highlight the importance of early referral and treatment," commented Dr. Boyer.

The number of retreatments needed decreased for both the standard and reduced fluence approaches in the second year of the study compared with the first. During the first year, patients in the standard fluence group received an average of 3.2 PDT treatments. Patients in the reduced fluence group were treated an average of 3.5 times. In the second year of the study, the mean number of PDT treatments performed was 0.5 in the standard fluence group and 1.0 in the reduced fluence group.

No new ocular or systemic safety concerns associated with PDT emerged in this trial. The incidence of acute severe visual decrease, defined as a best-corrected visual acuity loss of 20 or more letters within the first seven days after PDT, occurred in a single patient in the combined PDT groups and in one placebo-treated patient.

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