Is Residual Subretinal Fluid (SRF) Associated With Improved Vision Outcomes? Evaluation of Fluorescein Angiography (FA) Patterns From the HARBOR trial

Michael Singer, MD
San Antonio, TX
Lauren Hill, MS, Miranda Hemphill, PhD

Purpose:
To evaluate fluorescein angiography patterns in patients with neovascular age-related macular degeneration (nAMD) and investigate if residual subretinal fluid (SRF) is associated with improved outcomes.

Methods:
HARBOR (NCT00891735) is a phase 3 randomized trial of ranibizumab (0.5 mg and 2 mg pro re nata [PRN] or monthly) in eyes with nAMD. In this analysis, eyes with SRF at baseline and month (M) 12/24 were assessed using rates of staining and leakage from baseline to M12/24, stratified by good vision (≥20/40) and bad vision (<20/40). Rates of macular atrophy (MA), fibrosis, and pigment epithelial detachment (PED) were also evaluated at M12/24.

Results:
Numerous fibrosis, staining, and atrophy variables demonstrated correlation with vision outcomes. In eyes with residual SRF at M12, those with good vision versus bad vision were less likely to have subfoveal fibrosis at M12. Multivariable analysis demonstrated this relationship, with lower odds of good vision with subfoveal fibrosis in the PRN (odds ratio, 0.37 [95% CI, 0.16, 0.81]) versus monthly arms (0.77 [0.24, 2.40]). In eyes with residual SRF at M24, patients had greater odds of good vision when they had a window defect (3.04 [1.39, 6.67]) and lower odds of good vision with subfoveal atrophy (0.15 [0.04, 0.65]). In eyes with residual SRF, no meaningful differences were observed between good or bad vision in change in total area of macular neovascularization leakage from baseline to M12/24. In all eyes, at M12, a lower rate of MA was observed in eyes with only SRF present (10%) versus only intraretinal fluid present (24%) or no fluid (33%). Lower rates of fibrosis were observed in eyes with only SRF present (37% vs 55% vs 44%, respectively), although higher rates of PED were observed with SRF (59% vs 39% vs 33%, respectively); similar results were seen at M24.

Conclusions:
In this analysis, absence of subfoveal fibrosis or atrophy and presence of a window defect were associated with good vision in eyes with residual SRF at M12/M24. In all eyes, presence of SRF was associated with lower rates of MA and fibrosis, but higher rates of PEDs. Further analyses are warranted.