Assessment of the DRCR Retina Network Approach to Management With Initial Observation for Eyes With Center-Involved Diabetic Macular Edema and Good Visual Acuity: A Secondary Analysis of a Randomized Clinical Trial

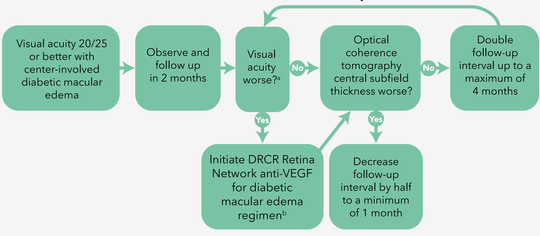
Glassman A R, Baker C W, Beaulieu W T, et al. *JAMA Ophthalmol*. 2020;138(4):341-349.
doi: 10.1001/jamaophthalmol.2019.6035

In this paper, the researchers assessed the Diabetic Retinopathy Clinical Research (DRCR) Retina Network protocol-defined approach and outcomes of initial observation with aflibercept. Among eyes with center-involved diabetic macular edema (CI-DME) and good visual acuity (VA), randomized clinical trial results showed no difference in VA loss between initial observation plus aflibercept only if VA decreased, initial focal/grid laser plus aflibercept only if VA decreased, or prompt aflibercept. Understanding the initial observation approach is relevant to patient management.

This was a post hoc, secondary analysis of a randomized clinical trial of the DRCR Retina Network Protocol V that included 91 US and Canadian sites from November 2013 to September 2018. Participants were adults (n = 236) with type 1 or 2 diabetes, 1 study eye with CI-DME, and VA letter score at least 79 (Snellen equivalent, 20/25 or better) assigned to initial observation. Data were analyzed from March 2019 to November 2019.

The DRCR Retina Network initial observation treatment algorithm was used.

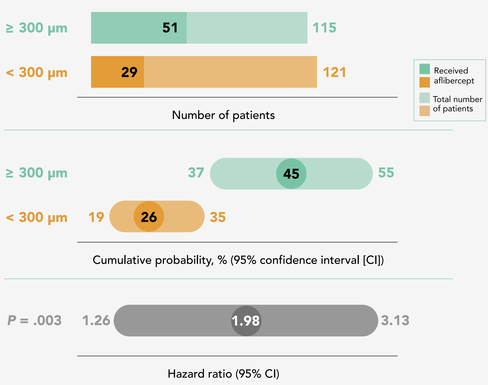
During 2 years, 80 of 236 eyes (34%) assigned to initial observation received aflibercept.



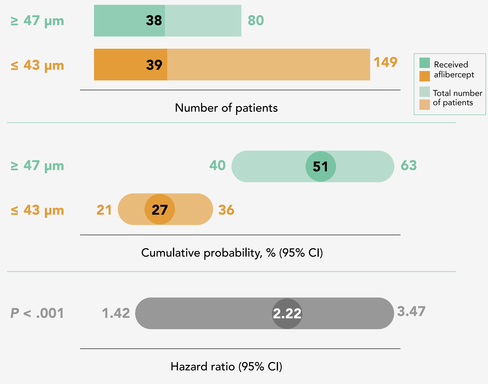
[a]Visual acuity was considered worse if it was 5 to 9 letters (1 line) worse from baseline at 2 consecutive visits every 4 weeks (±2 weeks) apart or at least 10 letters (2 lines or more) worse at any visit. Of note, increasing central subfield thickness or change in any other parameter did not initiate injections if the visual acuity was not worse. [b]Once injections were initiated, the DRCR Retina Network anti–vascular endothelial growth factor (VEGF) therapy for diabetic macular edema regimen was followed. [c]If central subfield thickness worsened by at least 10% from the last visit or became greater than 400 µm (Zeiss-Stratus equivalent) without vision loss, the follow-up interval was halved with a minimum interval of 4 weeks. If central subfield thickness subsequently stabilized at 2 consecutive visits without vision loss, follow-up could be extended to 8 weeks and then to 16 weeks.

Participants who had thicker retinas, more severe diabetic retinopathy, or a nonstudy eye receiving diabetic macular edema treatment within 4 months of baseline were more likely to receive aflibercept.

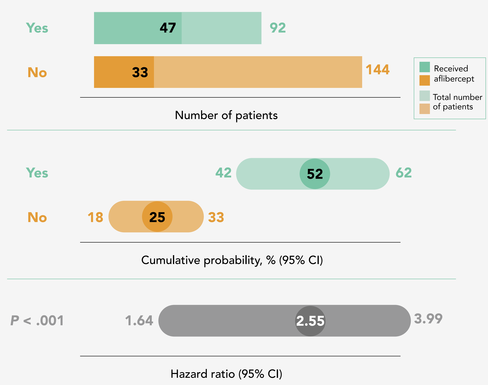
OCT central subfield thickness (Zeiss-Stratus equivalent)



Diabetic retinopathy severity graded on color fundus photographs (ETDRS retinopathy severity level)



Recent or planned (within 4 months) diabetic macular edema treatment in the nonstudy eye



Conclusions

Based on the results of Protocol V, many clinicians and patients might choose initial observation for eyes with CI-DME and good VA while withholding anti-VEGF treatment unless vision worsens. These analyses explored whether select baseline characteristics within the initial observation group were associated with receiving aflibercept injections during 2 years of follow-up. Greater baseline CST in the study eye, more severe diabetic retinopathy in the study eye, and recent or planned treatment for DME in the nonstudy eye were associated with greater likelihood of initiating anti-VEGF treatment. Each of these characteristics approximately doubled the likelihood of receiving an injection.

Most eyes managed with initial observation plus aflibercept only if VA worsened maintained good vision at 2 years and did not require aflibercept for VA loss. However, the eyes in the trial were approximately twice as likely to receive aflibercept for VA loss if they had greater baseline central subfield thickness, worse diabetic retinopathy severity level, or a nonstudy eye receiving treatment for DME.

The findings suggest that understanding this approach to initial observation is important for clinicians who manage eyes with center-involved diabetic macular edema and good visual acuity.