7/15/2022 08:00 am

Wet AMD 2 Symposium

Characteristics and Outcomes of nAMD Patients Managed in US Routine Clinical Practice: Analysis of the IRIS Registry Database

- Anita Barikian, MD
- Jaya Kumar, MD
- April McCullough, MD
- Fabiana Silva, MD
- Steven Sherman, MPH
- Hadi Moini, PhD
- Rishi Singh, MD

Objective:
To evaluate the management of neovascular age-related macular degeneration (nAMD), visual outcomes at 1 year, factors predicting sufficient treatment, and the impact of treatment sufficiency on visual outcomes using the Intelligent Research in Sight registry (IRIS)® database.

Purpose:
Understanding the relationships between different patterns for management of nAMD and their impact on visual outcomes can help identify gaps in care in US routine clinical practice.

Methods:
This retrospective analysis of the IRIS registry included treatment-naïve eyes diagnosed with nAMD between Jan 2013 and Dec 2019 with best-corrected visual acuity (BCVA) ≥20/400, anti-vascular endothelial growth factor (anti-VEGF) treatment within 3 months of diagnosis, and 1 year of follow-up. Eyes were considered sufficiently or insufficiently treated if they received ≥7 or <7 anti-VEGF injections in Year 1, respectively. Logistic regression identified factors associated with visual outcomes and treatment sufficiency, and the impact of treatment sufficiency on BCVA.

Results:
Of 295,561 eligible eyes, 206,517 eyes (69.9%) were treated and 89,044 eyes (30.1%) were not actively treated. After random selection of 1 eye per patient, 184,258 treated patient-eyes were included in the study; 109,696 (59.5%) received sufficient and 74,562 (40.5%) insufficient treatment. Baseline characteristics were largely comparable across treated groups; mean baseline BCVA was ~61 letters. Mean number of injections was 8.9 vs 4.0 with sufficient vs insufficient treatment, respectively. Asian, African American, Hispanic; Medicaid insured; or non-retina specialist treated patients were less likely to receive sufficient treatment (all $P<0.001$). Mean BCVA change from baseline at 1 year was significantly greater with sufficient vs insufficient treatment (3.5 vs –0.3 letters; $P<0.0001$), with larger gains in eyes with baseline BCVA of 20/100-20/200 (10.2 vs 3.1 letters) and <20/200-≥20/400 (19.9 vs 8.9 letters). Sufficiently treated eyes had higher odds of gaining ≥15-letters (odds ratio [OR], 1.7; 95% confidence interval [CI], 1.6, 1.7) and lower odds of losing ≥15-letters (OR, 0.7; 95% CI, 0.6, 0.7) compared to insufficiently treated eyes. Older age, having Medicaid insurance, and/or better baseline BCVA were factors associated with lower improvement in visual outcomes in both the sufficient and insufficient treatment groups (all $P<0.05$).

Conclusion:
A substantial number of eyes diagnosed with nAMD were insufficiently treated over 1 year, with worse visual outcomes compared with sufficiently treated eyes. Patient race, ethnicity, insurance type, and treating physician speciality impacted nAMD management. Such findings can identify gaps in care leading to suboptimal outcomes during management of nAMD.

IRB APPROVAL No - exempt

7/15/2022 08:04 am

Wet AMD 2 Symposium

AI-Based Spatiotemporal Observations of Retinal Fluid Dynamics Using the Notal Vision Home OCT

- Anat Loewenstein, MD
- Yingna Liu, MD
- Jeffrey Heier, MD
- Nancy Holekamp, MD, FASRS

Objective:
To describe spatiotemporal retinal fluid characteristics from home OCT monitoring of eyes with neovascular age-related macular degeneration (nAMD)

Purpose:
To introduce a novel spatiotemporal approach of retinal fluid characterization using an AI-based software. To mathematically analyze the location and pattern of retinal fluid reactivation and contraction in eyes with active nAMD undergoing treatments

Methods:
The Notal OCT Analyzer (NOA) provides AI-based analyses of Notal Vision Home OCT (NVHO) volume scans, by automatically conducting retinal segmentation, retinal fluid volume quantification and constructing fluid thickness maps. In this study, 29 eyes of 15 patients who have at least one eye with nAMD performed daily self-imaging at home for 3 months. A total of 24 or 83% of eyes had a diagnosis of nAMD, A total of 2380 volume scans were captured and analyzed by NOA. The proportions of cumulative fluid load in the central subfield and in the paracentral field were calculated. Fluid expansion rate (FER) and fluid contraction rate (FCR) were calculated as the added or reduced en-face fluid area divided by the area at the beginning of the phase of reactivation and response, respectively. The relationship between the assumed leakage foci and fluid spread during reactivation was calculated by the distance between the maximal fluid thickness at the start of reactivation and the maximal fluid thickness location during the peak of the reactivation. Similarity, between consecutive was evaluated by the distance between the points of maximal fluid thickness.

Results:
A total of 24 reactivations were observed during the study. The proportion of cumulative fluid volume within the central subfield (95% CI) was 28% ± 11%. The mean FER was 17.5% per day; similarly, the mean FCR was 16.6% per day. The mean (SD) distance between the location of maximal retinal thickness at the beginning and the end of reactivations was 430 (660[GB1]) microns. Six eyes had recurring reactivations for which the mean (SD) distance between the peaks of the cumulative fluid thickness maps was 260 (300) micrometers (Figure 1). One eye displayed a unique instance of consecutive fluid activation in separate locations (Figure 2).

Conclusion:
Remote patient monitoring with the NVHO accompanied by NOA analysis allows exploration of previously unexplored spatiotemporal dynamics of retinal fluid. The findings can facilitate a new paradigm of describing and understanding nAMD phenotypes and treatment response by identifying the location of greatest fluid accumulation and fluid spread pattern over time. Further investigation may enable more personalized treatments to improve clinical outcomes

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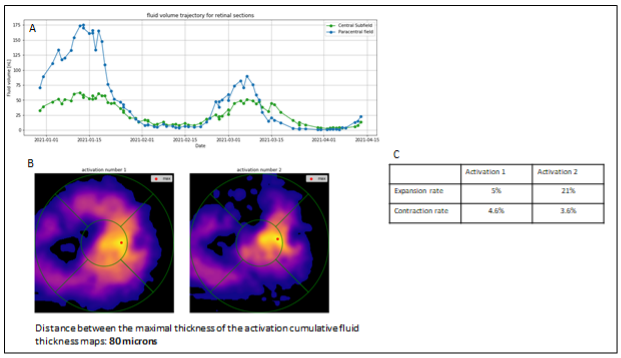

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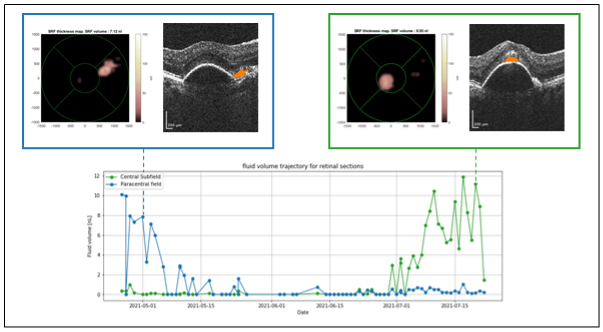
	Activation 1	Activation 2
Expansion rate	5%	21%
Contraction rate	4.6%	3.6%

Figure 1: Patient reactivation characteristics



consecutive fluid activation with a shift in dominant activation location

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Wet AMD 2 Symposium

Central Subfield Thickness Fluctuations and Their Impact on Vision Outcomes Over 96 Weeks in the Archway Trial of the PDS

- Veeral Sheth, MD, MBA, FASRS, FACS
- Steven Blotner
- Dominic Heinrich, MD
- Shamika Gune, MD
- Usha Chakravarthy, MD, PhD, CBE

Objective:
To characterize central subfield thickness (CST) fluctuations and their potential impact on vision outcomes over 96 weeks in the Archway trial of the Port Delivery System with ranibizumab (PDS).

Purpose:
To assess relationships between CST fluctuations and visual acuity in patients with neovascular age-related macular degeneration (nAMD) treated with either the PDS (an FDA-approved drug delivery system that includes an ocular implant for continuous delivery of a customized formulation of ranibizumab [RBZ] into the vitreous) or monthly intravitreal RBZ injections in the Archway (NCT03677934) trial.

Methods:
The Archway trial compared the PDS with RBZ 100 mg/mL with fixed 24-week refill-exchanges (PDS Q24W) vs intravitreal RBZ 0.5 mg injections every 4 weeks (monthly RBZ) in patients with nAMD. This post hoc analysis included patients with ≥16 study visits who had evaluable OCT images over 96 weeks and BCVA at baseline and week 96. CST was measured from the internal limiting membrane to Bruch's membrane. A fluctuation was defined as a change in CST ≥50 µm in either direction; changes <50 µm were considered clinically insignificant and not included. Associations between CST fluctuations and visual acuity at week 96 (4 full refill-exchange intervals; 2 study years [48 weeks per year]) were analyzed.

Results:
Analyses included 240 PDS Q24W and 158 monthly RBZ patients. Through week 96, 67.9% and 70.2% of patients in the PDS Q24W and monthly RBZ arms, respectively, did not experience any CST fluctuations ≥50 µm; these proportions were similar to those seen through week 48 (76.7% and 77.3%, respectively) and between weeks 48 and 96 (77.7% and 79.9%, respectively). Mean (95% CI) BCVA change from baseline (ETDRS letters) at week 96 in PDS Q24W vs monthly RBZ patients, respectively, was −2.5 (−4.6, −0.3) vs −2.6 (−5.8, 0.6) in patients who had CST fluctuations ≥50 µm and 0.3 (−1.2, 1.7) vs −0.7 (−2.8, 1.4) in patients without CST fluctuations ≥50 µm. Observed BCVA at week 96 in PDS Q24W vs monthly RBZ patients, respectively, was 72.7 vs 71.5 letters in patients with fluctuations and 74.1 vs 75.7 letters in patients without fluctuations.

Conclusion:
In Archway, fewer than one third of patients in each treatment arm experienced clinically meaningful CST fluctuations over 96 weeks. Visual acuity was similar across treatment arms at week 96; however, patients with CST fluctuations experienced numerically worse visual acuity. Overall, CST fluctuations were uncommon and visual acuity was similar in the PDS Q24W and monthly RBZ treatment arms.

IRB APPROVAL Yes

7/15/2022 08:16 am

Wet AMD 2 Symposium

ADVM-022 Intravitreal Gene Therapy for Neovascular AMD: Phase 1 OPTIC Trial Update

- Dante Pieramici, MD
- Adam Turpcu, PhD
- Kristina Oresic Bender, PhD
- Elinore Chung, PharmD
- John Han, PharmD
- Jon Williams, PhD
- Susan Baglino, MS

Objective:
To assess the safety, tolerability, and efficacy of a novel intravitreal (IVT) anti-VEGF gene therapy in neovascular AMD (nAMD).

Purpose:
A single-injection IVT gene therapy that durably expresses intraocular anti-vascular endothelial growth factor (VEGF) could reduce the burden of repeated anti-VEGF injections and optimize long term anatomical and visual outcomes in nAMD. OPTIC is an ongoing phase 1 study assessing safety, tolerability and efficacy of ADVM-022 (AAV.7m8-aflibercept) in treatment-experienced nAMD patients.

Methods:
Multicenter, open-label, multiple cohort, dose-ranging, 104 week study in patients with nAMD with a demonstrated a response to anti-VEGF therapy. Patients were administered a single intravitreal injection of ADVM-022 at 6E11 vg/eye for cohorts (C) 1 (n=6) and 4 (n=9) and at 2E11 vg/eye for C2 (n=6) and C3 (n=9). Incidence and severity of adverse events, change in best corrected visual acuity (BCVA), change in central subfield thickness (CST) and number of and need for aflibercept rescue injections were evaluated.

Results:
As of July 16, 2021, median follow-up was 104 weeks (C1&C2), 88 weeks (C3) and 56 weeks (C4). Patients received a mean of 6.6–9.2 anti-VEGF injections 12 months prior to ADVM-022; mean baseline BCVA was 64.7–65.9 ETDRS letters. ADVM-022-related ocular adverse events were mild (83%) to moderate (17%). Ocular inflammation was minimal at 2E11 vg/eye and responsive to steroid eye drops. There were no cases of retinitis, vasculitis or clinically relevant decreases in intraocular pressure. Both doses showed robust, sustained aflibercept expression. 12/15 patients receiving 6E11 and 8/15 receiving 2E11 vg/eye were supplemental anti-VEGF injection free; mean annualized anti-VEGF injection frequency reduced by 97% and 83% after 6E11 and 2E11 vg/eye ADVM-022 respectively. BCVA was maintained (mean change -2.8 to +2.6 ETDRS letters) and CST improved (mean change of -8.7 to -142.3 µm). Additional 2-year data for cohorts 1 through 3 will be updated.

Conclusion:
ADVM-022 is designed to provide continuous stable expression of aflibercept following a single intravitreal injection. ADVM-022 continues to be well tolerated with a favorable safety profile in nAMD patients and has the potential to reduce treatment burden and improve long term visual and anatomical outcomes. Further investigation of the 2E11 vg/eye and lower doses are warranted in larger studies.

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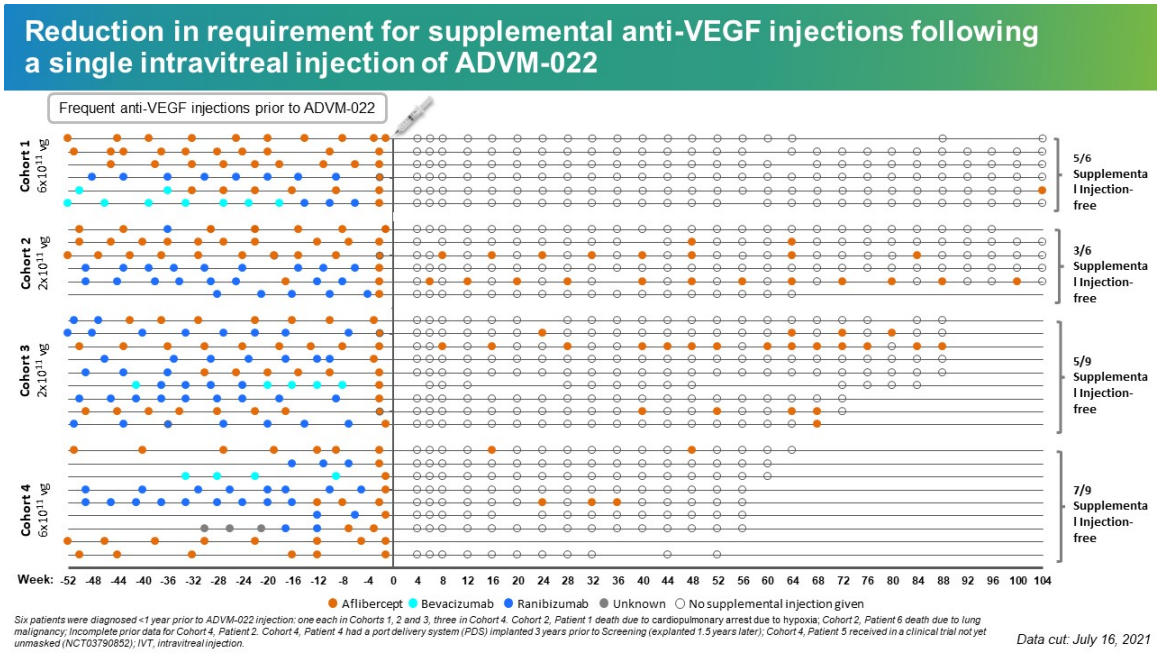
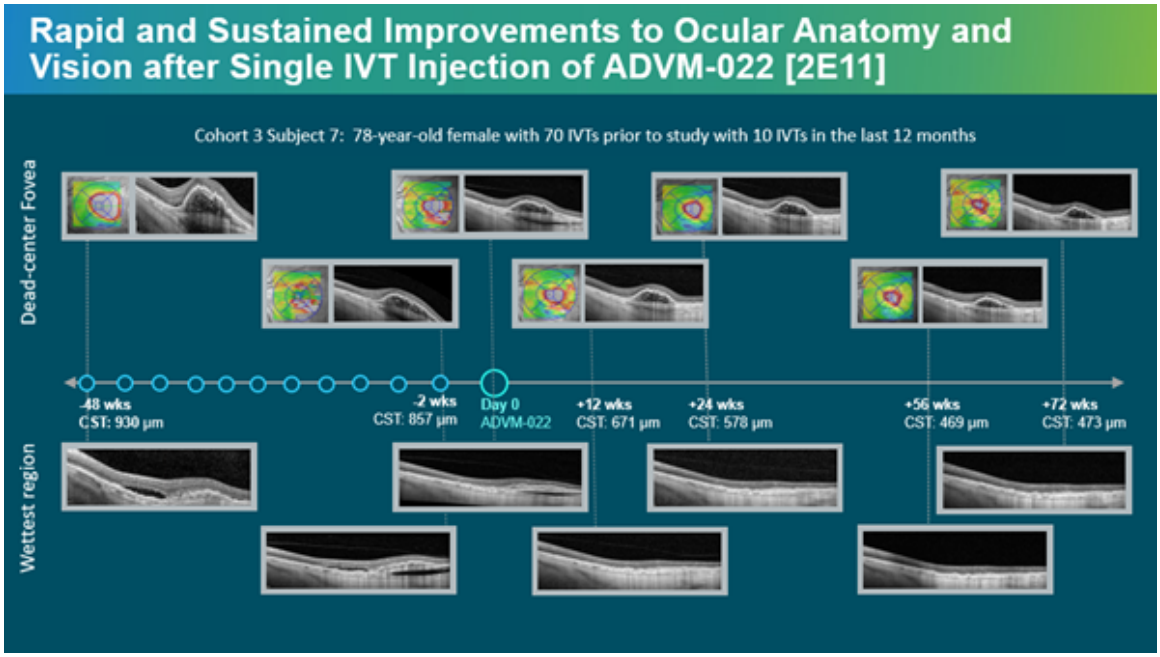


Supplemental aflibercept injections following single ADVM-022 IVT injection



Images of significant reduction in fluid after single dose of ADVM-022 2E11

7/15/2022 08:22 am

Wet AMD 2 Symposium

Phase IIIb TALON study of brolucizumab versus aflibercept in a matched treat-and-extend regimen to treat neovascular AMD: 32-week primary outcomes

- Carl Regillo, MD
- Peter Kertes, MD, FRCS(C)
- Peter Kaiser, MD FASRS
- Ramin Tadayoni, MD, PhD
- Mark Gillies
- Frank Holz, MD, FEBO
- Tina Maio-Twofoot
- Divya dsouza
- Iryna Lobach

Objective:
Is brolucizumab superior to aflibercept in durability to treat neovascular AMD?

Purpose:
To present the 32-week (wk) results from TALON, a prospective Phase IIIb superiority study evaluating the efficacy and safety of brolucizumab (BRO) 6mg compared with aflibercept (AFL) 2mg using a matched (Treat-and-Extend) treatment regimen in patients with neovascular age-related macular degeneration (nAMD).

Methods:
TALON is a 64-wk, two-arm, randomized, double-masked, multicenter, active-controlled study. Patients with treatment-naive nAMD and best-corrected visual acuity (BCVA) between 83-38 ETDRS letters were included. Patients were randomized 1:1 to either BRO 6mg or AFL 2mg with injections at wks 0, 4, 8 and 16 followed by 4-wk interval adjustments depending on disease activity (DA) up to an interval of 16 wks. At the wk 32 time point, by design the longest potential interval is 12 wks. If DA recurred at any visit, interval was shortened by 4 wks at a time to a minimal interval of 4 wks. Co-primary endpoints were distribution of the last treatment interval with no DA at wk 32 and average change in BCVA from baseline to wks 28 and 32. Secondary endpoints included average change from baseline in central subfield thickness (CSFT) at wks 28 and 32, and incidence of ocular adverse events (AEs).

Results:
Demographics and baseline characteristics of patients (BRO: n=368; AFL: n=369) were balanced between treatment groups. Co-primary endpoints were met, with BRO achieving superiority to AFL in the distribution of last interval with no DA (proportion of patients on treatment intervals of 12 wks: 36.3% vs 19.6%; 8 wks: 32.8% vs 33.4%; 4 wks: 30.9% vs 47.0% in BRO vs AFL, respectively; $P<0.001$) and non-inferiority (margin of 4 letters) to AFL for LS mean difference in average change in BCVA from baseline at Wks 28 and 32 in study eye (BRO +5.3 vs AFL +4.9; difference 0.4 [95% CI: -1.0, 1.8 letters; $P<0.0001$]). LS mean difference in average change in CSFT in study eye from baseline at Wks 28 and 32 (BRO -166.8 µm vs AFL -139.3 µm) was -27.4 µm (95% CI: -47.0, -7.8; $P=0.006$). The incidence of ocular AEs, serious ocular AEs, AEs of special interest (IOI, vasculitis, retinal vascular occlusion, and endophthalmitis) in the BRO vs AFL arms were 26.5% vs 21.5%, 2.2% vs 0.5%, 5.5% vs 1.1% respectively.

Conclusion:
The 32-wk results from TALON show that BRO achieved superior distribution of treatment intervals with no DA and non-inferior vision gains compared with AFL, with an overall favorable benefit-risk profile.

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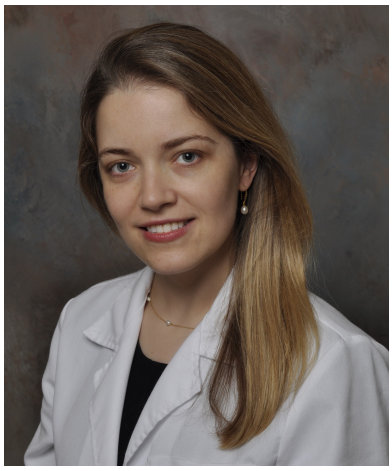
7/15/2022 08:37 am

Wet AMD 2 Symposium

End-of-Study Retinal Fluid and Vision Outcomes in the Archway Phase 3 Trial of the Port Delivery System With Ranibizumab in Patients With nAMD



- Aleksandra Rachitskaya, MD, FASRS
- Steven Blotner
- Dominic Heinrich, MD
- Shamika Gune, MD

Objective:
To describe the relationship between retinal fluid and vision outcomes over 96 weeks in the Archway trial of the Port Delivery System with ranibizumab (PDS) in neovascular age-related macular degeneration (nAMD).

Purpose:
The PDS is an innovative drug delivery system designed for continuous delivery of a customized formulation of ranibizumab (RBZ) into the vitreous and is approved for nAMD in the US. This analysis describes the incidence of intraretinal fluid (IRF) and/or subretinal fluid (SRF) in the phase 3 Archway trial through end of study (week 96 [W96]) and assesses vision outcomes by fluid presence/location.

Methods:
Archway (NCT03677934) was a randomized phase 3 trial that compared the PDS with RBZ 100 mg/mL with fixed 24-week refill-exchanges (PDS Q24W) with intravitreal RBZ 0.5 mg injections every 4 weeks (monthly RBZ) for nAMD. This post hoc analysis consisted of Archway patients (pts) with IRF or SRF presence/absence data at baseline (BL) and W96. Presence of retinal fluid was assessed by OCT at each monthly visit and independently graded for IRF or SRF. Analysis outcomes included proportion of pts with any IRF or SRF, IRF in the center 1mm (IRF 1mm), SRF in the center 1mm (SRF 1mm), and mean best-corrected visual acuity (BCVA) change (ETDRS letters) from BL.

Results:
Percentages of pts with either IRF or SRF in the PDS Q24W and monthly RBZ arms at BL were 47.6% (118/248) vs 50.9% (85/167), and at W96 were 57.8% (133/230) vs 56.1% (87/155). At W96, mean (95% CI) BCVA change from BL was comparable regardless of presence/absence of any retinal fluid and presence/absence of SRF 1mm between PDS Q24W and monthly RBZ (any fluid presence, –1.1 [–2.5, 0.4; n=130] vs –1.4 [–3.8, 1.0; n=83]; any fluid absence, –0.5 [–3.2, 2.2; n=94] vs –0.7 [–3.2, 1.8; n=67]; SRF 1mm presence, –1.9 [–4.3, 0.5; n=47] vs –1.8 [–5.4, 1.9; n=22]; SRF 1mm absence, –0.6 [–2.2, 1.1; n=177] vs –1.0 [–2.9, 1.0; n=128]). Change in BCVA at W96 was also comparable between PDS Q24W and monthly RBZ in the absence of IRF 1mm (–0.7 [–2.2, 0.7; n=209] vs –0.6 [–2.1, 1.0; n=138]), but BCVA appeared to be reduced more with monthly RBZ vs PDS Q24W in the presence of IRF 1mm (PDS Q24W, –2.1 [–7.2, 2.9; n=15] vs monthly RBZ, –6.9 [–20.2, 6.4; n=12]).

Conclusion:
In Archway, incidence of retinal fluid at W96 was generally comparable across treatment arms. Vision outcomes were generally comparable in both arms regardless of SRF presence. When IRF was present in the center 1 mm, there was a trend for better maintenance of vision outcomes in the PDS Q24W arm than the monthly RBZ arm.

IRB APPROVAL Yes

7/15/2022 08:43 am

Wet AMD 2 Symposium

Treatment Outcome of Wet Age-Related Macular Degeneration Management in Thailand (TOWER) Study Report No. 2: The Fluid Analysis

- Yodpong Chantarasorn, MD
- Prut Hanutsaha, MD, Thai Board of Ophthalmologist
- Somanus Thoongsuwan, MD
- Sritatath Vongkulsiri, MD
- Pavinee Kungwanpongpun, MSc
- Paisan Ruamviboonsuk, MD

Objective:
What are the predictive biomarkers associated with highly fluctuating macular thickness over the course of neovascular age-related macular degeneration (nAMD) treatment?

Purpose:
Fluctuations in macular thickness have been associated with poor visual outcomes in nAMD patients, particularly in the real-world setting where the treatment interval cannot be as sustaining as that in the clinical trials. This real-world study aimed to determine risk factors of high retinal fluid instability, and its effects on visual outcomes in nAMD.

Methods:
This was a nationwide retrospective cohort study conducted at five tertiary centers in Thailand (2016-2018). We included one eye per each treatment-naïve nAMD patient who received anti-VEGF injections based on a treat-and-extend regimen for a duration ranged from 1 to 3 years. The standard deviation (SD) of 1-mm central subfield thickness (CST) from month 3 to 24 in each eye was arranged into ascending order from lowest to highest, and split equally into three groups: low, moderate, and high CST fluctuation group. For the secondary outcomes, visual results were analyzed based on the proportion of fluid-free visits. These were categorized into persistent, moderately persistent, and frequently dry, representing 0-33th percentile (P0-33), P34-66, and P67-100 of distribution of the fluid-free visits, respectively.

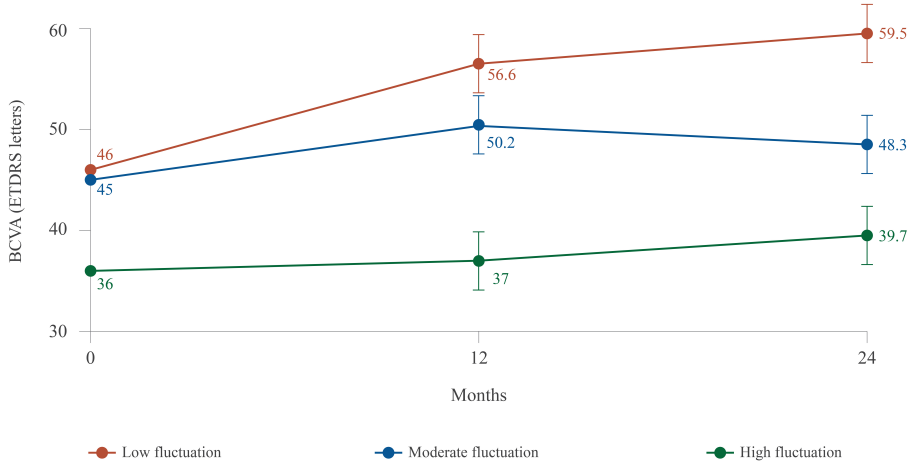
Results:
Of 558 eyes, the SD of CST from month 3-24 was 11± 6, 40±10, and 114±59 in the low, moderate, and high CST fluctuation group, respectively (n=186 in each group). After controlling for age, baseline CST and a total number of injections, eyes with low fluid fluctuation significantly gained more ETDRS letters than those in the moderate and high fluctuation group at 24 months (mean differences, 10.1 and 14.0 letters, respectively) (Figure 1). No significant differences were observed in final CST among groups (p=0.34). Baseline CST>405 µm (adjusted odds ratio (AOR), 3.27) and baseline presentation of intraretinal fluid (IRF) coincided with subretinal fluid (SRF) (AOR, 2.48) significantly correlated with highly fluctuating CST during the maintenance phase. Such correlations were not observed in baseline BCVA, the presence of polypoidal lesion, and Bevacizumab uses (Figure 2).

At 24 months, logMAR BCVA of eyes with frequently dry IRF (0.62±0.50) was significantly better than those with moderately persistent (0.87±0.50) and persistent IRF (0.93±0.64) (mean differences in BCVA gain, 12 and 15 ETDRS letters, respectively). Such differences in BCVA among groups were not observed in the model analyzing SRF or PED.

Conclusion:
A combination of SRF and IRF at the baseline visit predicted highly fluctuating retinal fluid over this 2-year cohort. Apart from the retinal fluid persistency, unstable retinal thickness over the course of anti-VEGF treatment may be an additional factor contributing to poor visual outcomes.

IRB APPROVAL Yes

Figure 1 Mean Changes (with their 95% CI) in BCVA Over 2 Years Categorized based on the Degree of Fluid Fluctuation



Plots of visual acuity improvement based on Generalized Estimating Equation

Table Multiple Logistic Regression Identifying Predictive Types of Retinal Fluid for Highly Fluctuating Macular Thickness Over 2 Years of nAMD Treatment

Types of Retinal Fluid at the Baseline Visit	High Fluctuation (186 eyes)	Low to Moderate Fluctuation (372 eyes)	Odds Ratio (OR)			
			Crude OR (95% CI)	*p*-value	Adjusted OR* (95% CI)	*p*-value
SRF	117 (62.90%)	183 (49.19%)	1.75 (1.22-2.51)	0.002	1.82 (1.26-2.62)	0.001
IRF	68 (36.56%)	85 (22.85%)	1.95 (1.33-2.86)	0.0007	1.91 (1.30-2.81)	0.001
SRF+IRF	60 (32.26%)	60 (16.13%)	2.48 (1.64-3.74)	<0.0001	2.48 (1.64-3.75)	<0.0001
PED	112 (60.22%)	210 (56.45%)	1.17 (0.82-1.67)	0.39	1.21 (0.84-1.73)	0.31
PED with SRF or IRF	183 (98.39%)	366 (98.39%)	1.00 (0.25-4.04)	1.0000	1.05 (0.26-4.24)	0.95

nAMD = neovascular age-related macular degeneration; SRF = subretinal fluid; IRF = intraretinal fluid;
PED = pigment epithelial detachment
*Analysis was controlled by age

Multiple logistic regression analyzing predictors of high CST fluctuation

7/15/2022 08:47 am

Wet AMD 2 Symposium

Long-Term Use of Antivascular Endothelial Growth Factor Therapy for Neovascular Age-Related Macular Degeneration

- Tedi Begaj, MD
- Daeun Jeong
- George Williams, MD

Objective:
To describe the clinical characteristics of patients with neovascular age-related macular degeneration (nAMD) who have received a large volume of anti-Vascular Endothelial Growth Factor (anti-VEGF) intravitreal injections over a long treatment course.

Purpose:
In the last decade, the use of anti-VEGF intravitreal injections for nAMD has grown exponentially. However, long-term clinical data about the prolonged use (>5 years) of the various anti-VEGF agents is not well characterized. Here, we describe the characteristics of a cohort of patients with nAMD who have been followed for >5 years and have received >100 anti-VEGF injections.

Methods:
We first conducted a billing search to identify all patients who had received an intravitreal anti-VEGF injection from 2013 to 2021. Next, all patients who had received >100 anti-VEGF injections with a follow up of at least 5 years were included. Demographic and clinical data from office visits were recorded. Main outcome measures included Snellen visual acuity (VA), initial medication choice, and changes in subsequent anti-VEGF agent.

Results:
After screening through 6015 patients, we identified a total of 91 patients (176 eyes) who had received >100 anti-VEGF injection over an average follow up period of 7.4 years (1.3 std dev). Most patients were Caucasian (97.8%) women (70.3%) with an average age of 86.1 years and exhibited nAMD in both eyes (93.4%). The average total number of injections per eye was 64 (16.5 std dev); a total of 11262 injections were given throughout the study period and 6 (0.05%) cases of endophthalmitis were observed. The proportion of the initial anti-VEGF agent used was bevacizumab 16 eyes (9.1%), ranibizumab 112 eyes (63.6%), and aflibercept 48 eyes (27.3%). While 65% of eyes maintained treatment with the same agent throughout the follow up period, 35% of eyes were switched to a different agent. All eyes initially on bevacizumab were switched to either ranibizumab (12 eyes [75%]) or aflibercept (4 eyes ([25%]), while 32 eyes (28.6%) were transitioned from ranibizumab to aflibercept, and conversely 13 eyes (27.1%) from aflibercept to ranibizumab. Overall, there was no statistical difference in average Snellen VA at injections #3, #6, #10, #20, #30, #40, and #50 as compared to baseline (p=0.13, p=0.28, p=0.42, p=0.17, p=0.14, p=0.15, p=0.5, respectively). However, subgroup analysis showed patients between Snellen VA 20/50-20/200 had statistically significant improvement in VA by injection #3 and maintained this improvement until injection #30 (baseline logMAR 0.560 vs 0.393, #3, p=0.001; vs 0.392, #6, p=0.001; vs 0.454, #10, p=0.008; vs 0.386, #20, p =0.005), where at this time there was no further statistical difference (baseline logMAR 0.560 vs 0.451, #30, p=0.31; vs 0.403, #40, p=0.21; vs 0.427, #50, p=0.33). Patients in the 20/20-20/40 subgroup and >20/200 subgroup did not show any statically significant improvement in VA as compared to baseline pre anti-VEGF VA.

Conclusion:
A small cohort of patients with nAMD required frequent anti-VEGF injections over a follow up period of approximately 8 years. Patients with good (Snellen VA ≥20/40) initial baseline vision maintained their VA while patients with Snellen VA 20/50-20/200 had a robust initial improvement that however diminished by injection #30. Most patients were maintained on the same initial drug of choice and the rates of endophthalmitis were low despite the overall large number of injections per eye.

IRB APPROVAL No - exempt

7/15/2022 08:53 am

Wet AMD 2 Symposium

Prophylactic Intraocular Pressure–Lowering Measures in Antivascular Endothelial Growth Factor Therapy: Systematic Review and Meta-Analysis

- Parnian Arjmand, MD, MSc, FRCSC
- Caberry Yu, MD
- Marko Popovic, BHSc Candidate
- Aaditeya Jhaveri
- Efrem Mandelcorn, MD FRCSC

Objective:
This meta-analysis investigates the role of IOP-lowering measures, including anterior chamber paracentesis (ACP), ocular hypotensive medications, and/or oral acetazolamide in reducing intraocular pressure (IOP)-spikes following intravitreal anti-vascular endothelial growth factor (anti-VEGF) injections (IVI).

Purpose:
IVIs pose a risk for post-treatment IOP spikes, retinal nerve fiber (RNFL) thinning, and glaucoma progression. There is a postulated but controversial role for prophylactic IOP-lowering therapy in this setting.

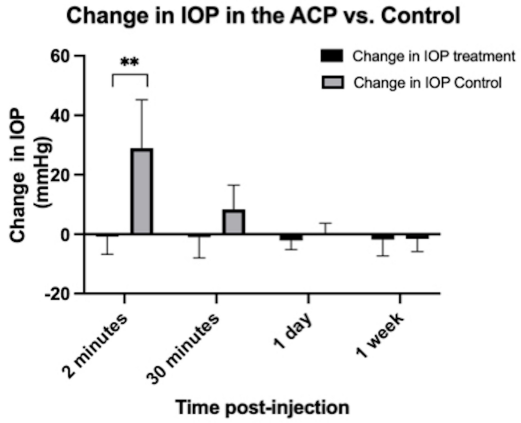
Methods:
We searched MEDLINE, EMBASE, and the Cochrane Library from inception to February 2021. Studies were included if they measured an IOP-lowering intervention to a control group in patients undergoing anti-VEGF injections. The primary outcome was reduction of immediate and long-term elevations of IOP. Secondary outcomes were changes in the RNFL thickness, visual acuity, and visual field outcomes. Results were reported as a weighted mean difference (WMD) for continuous outcomes.

Results:
Overall, 21 articles consisting of 2,473 patients were included. IOP-lowering medications administered prior to IVI significantly reduced IOP in the short-term[PA1] . ACP was found to significantly reduce IOP at 2 minutes (-27.98 mmHg, 95% CI: [-29.69, -26.27], $P < 0.001$), and to be associated with significantly increased RNFL thickness relative to control in eyes of patients undergoing IVI at median follow-up of 16.5 months (2.07 μm, 95% CI: [1.32, 2.82], $P < 0.00001$) at 3 to 30 months' follow-up. IOP-lowering medication administration on day of injection significantly lowered IOP at all time points between 1 minute (-5.57mmHg, 95% CI [-7.85, -3.30], $P < 0.00001$) and 30 minutes post-injection (-3.31mmHg, 95% CI [-5.51, -1.10], $P = 0.003$). RNFL thickness and visual fields were not reported for IOP-lowering medications.

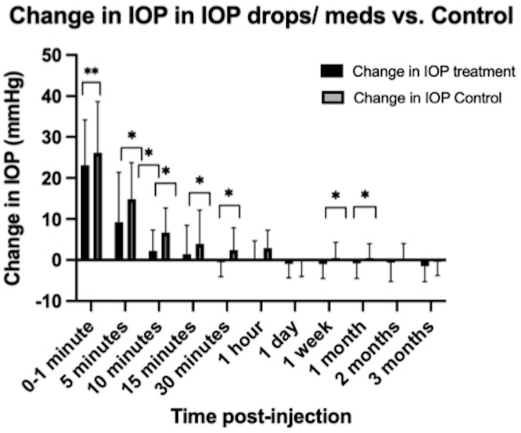
Conclusion:
Overall, the results suggest that ACP at time of IVI reduces the immediate IOP spike and may help to preserve RNFL thickness in the short- and long-term. Similar to ACP, topical ocular hypotensive medication or acetazolamide administration was associated with a significantly lower IOP up to 30 minutes post-injection.

IRB APPROVAL Yes

A.



B.



A. Change in intraocular pressure (IOP) at different timepoints following

7/15/2022 08:57 am

Wet AMD 2 Symposium

12-Month Results of EYP-1901 Vorolanib in a Bioerodible Durasert® Insert for nAMD: The DAVIO Trial

- Rishi Singh, MD
- Mark Barakat, MD
- Vrinda Hershberger, MD, PhD
- David Lally, MD
- William Bridges, MD
- David Eichenbaum, MD, FASRS
- Sunil Patel, MD, PhD
- Monica Roy, OD, MPH
- Jay Duker, MD
- Dario Paggiarino, MD

Objective:
To determine the safety of ascending doses of EYP-1901 for the maintenance treatment of neovascular age-related macular degeneration (nAMD)

Purpose:
To evaluate the safety of EYP-1901 for maintenance treatment in patients with previously treated nAMD

Methods:
DAVIO is a Phase 1, multicenter, open-label, dose-escalation trial of a sustained delivery insert containing Vorolanib, a tyrosine kinase inhibitor (TKI), in patients== with previously treated nAMD. The primary endpoint is the rate of ocular and systemic adverse events (AEs). Secondary endpoints include best-corrected visual== acuity (BCVA) and optical coherence tomography (OCT) measurements.

Results:
12-month results will be disclosed during the presentation.

Conclusion:
12-month conclusions will be disclosed during the presentation.

IRB APPROVAL