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Comparing outcomes of faricimab and aflibercept therapy in treatment-naïve patients with diabetic macular oedema at the Oxford Eye Hospital

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Introduction

Faricimab (Vabysmo®) and aflibercept (Eylea®) are approved therapies for diabetic macular oedema (DMO) and inhibit VEGF-A; faricimab additionally targets angiopoietin-2, while aflibercept inhibits VEGF-B and placental growth factor[1-3]. We compared their real-world outcomes in treatment-naïve DMO patients.

Methods

Retrospective study at Oxford Eye Hospital of treatment-naïve DMO patients initiating faricimab or aflibercept (November 2022-March 2024). Included patients had ≥12 months follow-up. Visual acuity (VA), central subfield thickness (CST), and treatment interval were evaluated at baseline, 6 months (±8 weeks), 12 months (±8 weeks), and 18 months (±12 weeks). Linear mixed-effects modelling with subject as random intercept accounted for non-independent, longitudinal data. Missing data was handled through the linear mixed-effects model.

Results

99 eyes received faricimab and 78 aflibercept; baseline characteristics were comparable. VA remained stable in both groups with no significant between-group differences. Both agents reduced CST from baseline to six months, sustained thereafter, but faricimab achieved significantly greater CST reduction at 12 (p=0.02) and 18 months (p<0.01), a 2.75-week longer mean treatment interval at 12 months (p<0.01), and fewer injections across 18 months (p=0.04).

Discussion

Both agents stabilised VA and reduced CST in treatment-naïve DMO. Faricimab was associated with greater CST reduction and fewer injections over 18 months.

References:
1. Shirley, M. Faricimab: First Approval. Drugs 82, 825–830 (2022). https://doi.org/10.1007/s40265-022-01713-3
2. Khan, M., Aziz, A. A., Shafi, N. A., Abbas, T. & Khanani, A. M. Targeting Angiopoietin in Retinal Vascular Diseases: A Literature Review and Summary of Clinical Trials Involving Faricimab. Cells 9 (2020). https://doi.org/10.3390/cells9081869
3. Lazzara, F. et al. Aflibercept regulates retinal inflammation elicited by high glucose via the PlGF/ERK pathway. Biochem Pharmacol 168, 341–351 (2019). https://doi.org/10.1016/j.bcp.2019.07.021

	Faricimab	Aflibercept	p-value
Number of patients	82	68	
Number of eyes	99	78	
Mean age at baseline ± SD	62.4 ± 9.0	62.6 ± 12.7	0.92
Females (n, %)	43 (43%)	26 (33%)	0.21
Males (n, %)	56 (57%)	52 (67%)	0.21
Mean baseline visual acuity ± SD (ETDRS letters)	68.0 ± 14.3	69.7 ± 12.1	0.38
Mean central subfield thickness ± SD (microns)	406.3 ± 94.0	395.6 ± 91.4	0.45
Subretinal fluid at baseline (n, %)	27 (27%)	18 (23%)	0.60
Intraretinal fluid at baseline (n, %)	99 (100%)	78 (100%)	> 0.99
Mean baseline HbA1c ± SD (%)	8.6 ± 1.7	8.3 ± 1.7	0.32
Mean baseline systolic blood pressure ± SD (mmHg)	143.5 ± 21.0	142.6 ± 19.0	0.75
Mean baseline diastolic blood pressure ± SD (mmHg)	79.3 ± 10.8	77.0 ± 10.7	0.16
Mean number of loading injections ± SD	3.8 ± 0.6	3.9 ± 1.0	0.35

Table 1. Baseline characteristics of treatment-naïve patients with DMO at Oxford Eye Hospital treated with faricimab or aflibercept. Continuous variables: mean ± SD (Welch's unpaired t-test); categorical variables: n (%) (Fisher's exact test). No significant between-group differences at baseline. Early Treatment Diabetic Retinopathy Study (ETDRS), HbA1c (glycated haemoglobin).

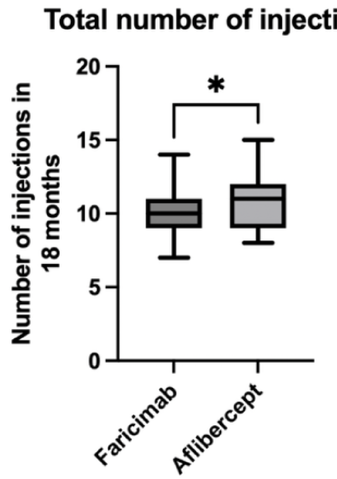

Figure 2. Total intravitreal injections over 18 months in eyes with complete follow-up. Box plots show median, interquartile range, and range. Faricimab-treated eyes received significantly fewer injections (mean 10.1±1.9) than aflibercept-treated eyes (mean 11.0±1.8; p=0.04, Welch's t-test). *p<0.05.

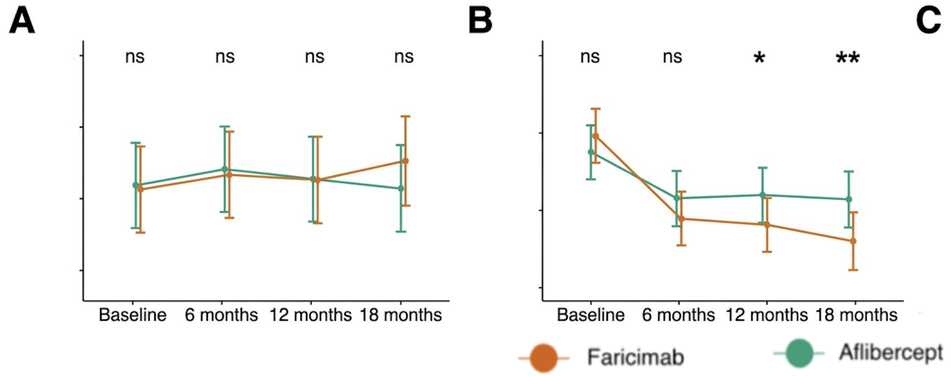

Figure 1. Outcomes from linear mixed-effects modelling for faricimab (orange) and aflibercept (green), adjusted for baseline covariates. Error bars represent SEM. Between-group comparisons shown above each time point: ns = not significant (p≥0.05), *p<0.05, **p<0.01.

(A)Visual acuity: No significant between-group differences at any timepoint. VA remained stable in both groups.

(B)CST: Both drugs significantly reduced CST from baseline to 6 months. Faricimab achieved greater CST reduction at 12 and 18 months.

(C)Treatment interval: Faricimab-treated eyes had a significantly longer mean treatment interval at 12 months.