Comparative Efficacy and Safety of Faricimab for the Treatment of Macular Edema Secondary to Retinal Vein Occlusion (RVO): A Systematic Literature Review and Network Meta-Analysis

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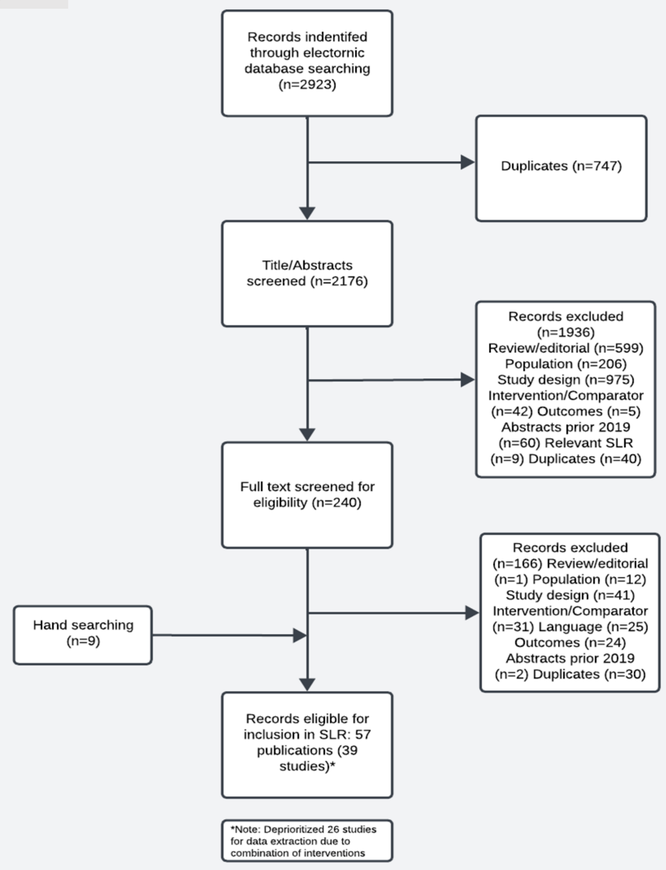
Introduction

- Faricimab is a bispecific antibody targeting Ang-2 and VEGF-A for the treatment of neovascular age-related macular degeneration, diabetic macular edema and macular edema secondary to retinal vein occlusion (RVO).
- The Phase III active BALATON and COMINO randomised controlled trials (RCT) investigated the efficacy and safety of faricimab for the treatment of RVO.
- The comparator-controlled loading phase of the trials (to week 24) demonstrated that every-4-week (Q4W) dosing of faricimab was well tolerated and produced comparable baseline best corrected visual acuity (BCVA) noninferior to aflibercept[1].
- This research aims to investigate non-inferior efficacy and safety of faricimab compared with other RVO anti-VEGF monotherapies.

Methods

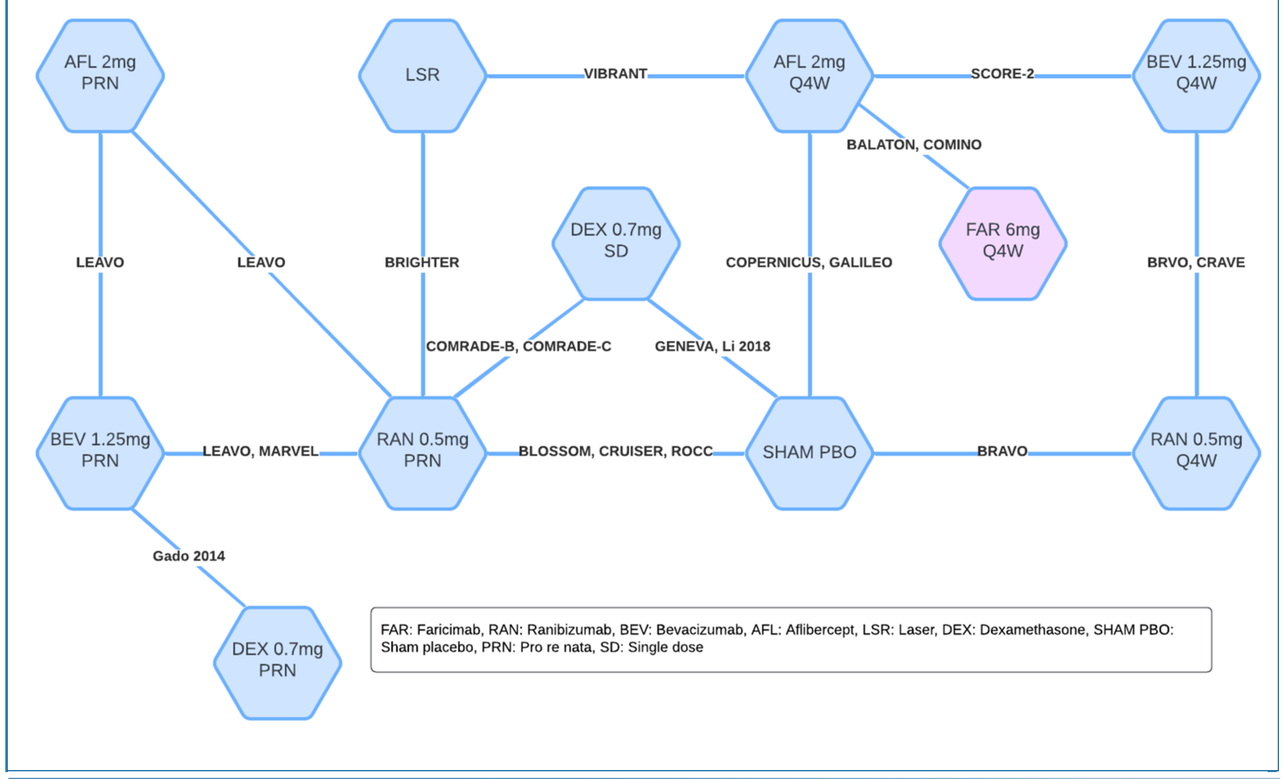
- A systematic Literature Review (SLR) was conducted (search date: Dec 2023) to identify RCTs with the following eligibility criteria; RVO indication, relevant anti-VEGF-A monotherapy/comparators, minimum follow-up >24 weeks, vision, anatomic and safety outcomes.
- 39 RCTs were subsequently identified.
- The PRISMA flow diagram in Figure 1 outlines the SLR steps taken.
- Following a feasibility assessment, 20 studies were deemed eligible for inclusion in the Network Meta-analysis (NMA).
- The NMA itself followed a Random Effects (RE) model as the principal analysis and focused on outcomes at week 24 including mean change from baseline in BCVA as well as the proportion of patients with ocular adverse events (OAE).
- Sensitivity analysis were carried out with fixed effects and RE with vague prior.
- Subgroup analyses was conducted in both the branched-RVO and central-RVO subpopulations.

Figure 1



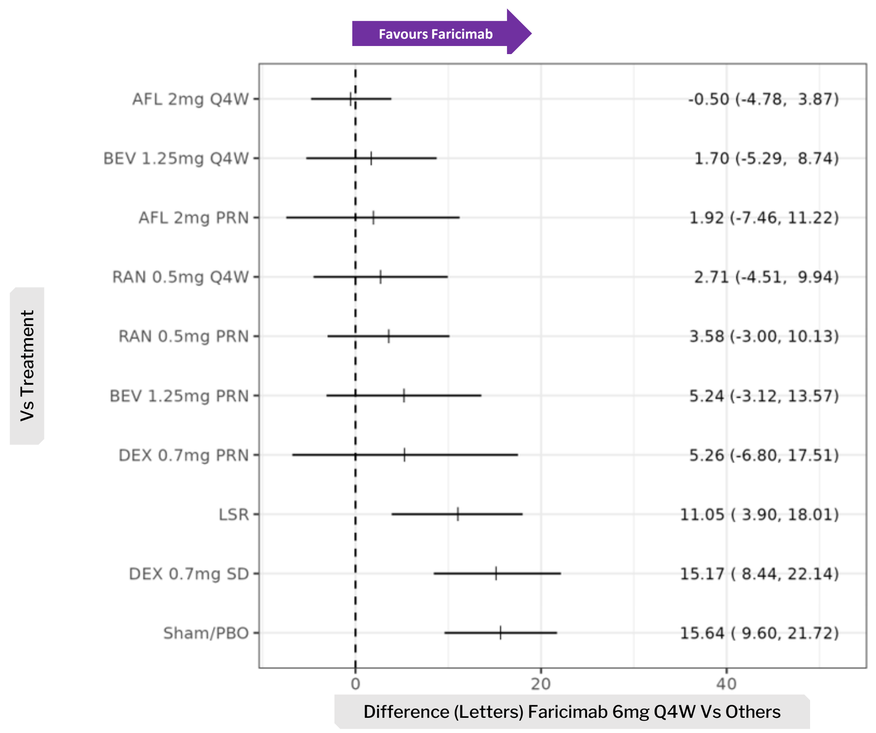
Results

Overall Network of Evidence



Results

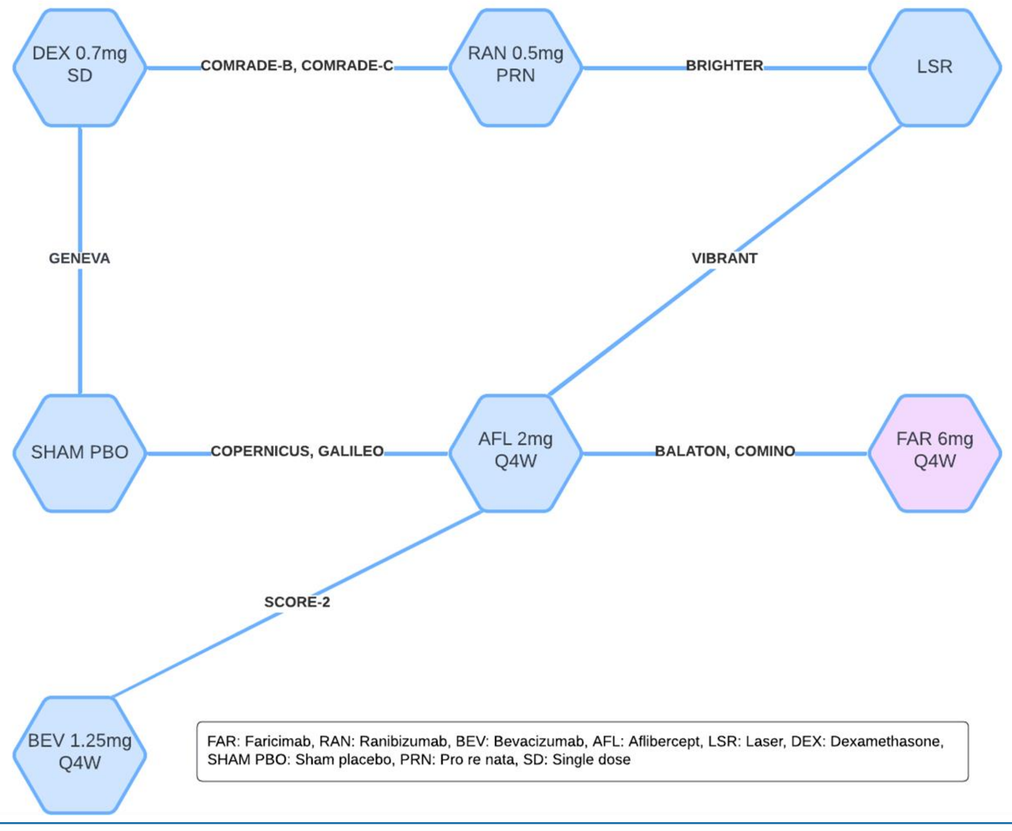
Mean Change from Baseline BCVA at 6 Months Faricimab 6mg Q4W Vs Other Treatments (Differences and 95% Credible Intervals), Base Case RE model



Summary: Point estimates for mean change from baseline in BCVA are larger for faricimab compared with all anti-VEGF treatments except aflibercept Q4W with credible intervals including zero.

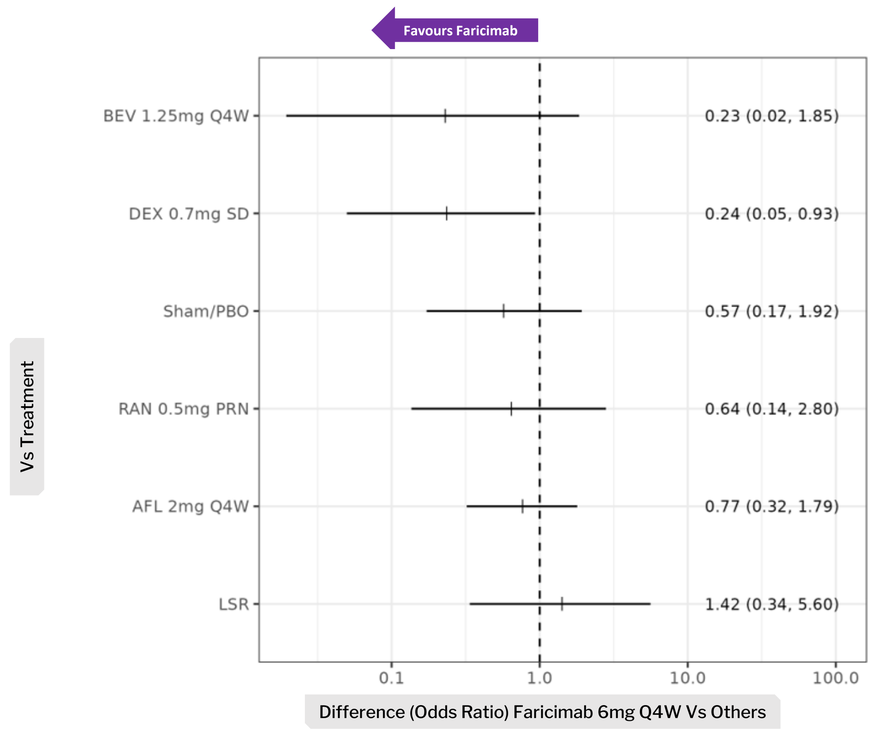
Results

Ocular Adverse Events Network of Evidence



Results

Ocular Adverse Events Odds Ratios Faricimab 6mg Q4W Vs Other Treatments at 6 Months (Differences and 95% Credible Intervals), Base Case RE model



Summary: Point estimates for OAE odds ratios are <1 for faricimab compared with all anti-VEGF treatments with credible intervals including zero.

Sensitivity Analysis

Summary: Sensitivity and subgroup analyses suggests consistency with the base case and the probability of faricimab being non-inferior to flexible IVT monotherapies of 89-92% in branched-RVO and 88-97% in central-RVO subpopulations.

Conclusions

- The NMA indicates that faricimab is non-inferior vs all comparators across key efficacy and safety endpoints.
- Point estimates for mean change from baseline in BCVA are larger for faricimab compared with all anti-VEGF treatments except aflibercept Q4W with credible intervals including zero.
- Point estimates for odds ratios of ocular adverse events are <1 for faricimab indicating a lower probability for events compared with all anti-VEGF monotherapies with credible intervals including zero.
- The NMA indicates that the safety profile for faricimab is comparable to aflibercept and ranibizumab, which have well-established safety profiles.

References

1. Tadayoni R et al., Efficacy and Safety of Faricimab for Macular Edema due to Retinal Vein Occlusion: 24-Week Results from the BALATON and COMINO Trials. Ophthalmology. 2024 Aug;131(8):950-960. doi: 10.1016/j.ophtha.2024.01.029. Epub 2024 Jan 26. PMID: 38280653.

Financial Disclosures

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