Real world efficiency and durability of Faricimab in suboptimal responder patients with neovascular age-related macular degeneration (nAMD)

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Faricimab is the first and only bi-specific molecule which targets anti-vascular endothelial growth factor (Anti-VEGF) and angiopoietin 2 (Ang-2). It gain approval by the Medicines and Health Products Regulatory Agency (MHRA) in May 2022. Our unit at the Bristol Eye Hospital started using it by October 2022.

AIM: To evaluate the efficacy and treatment interval extension of *Faricimab* in suboptimal responders with neovascular age-related macular degeneration (nAMD).

METHODS:

This is a single-centre retrospective study.

Inclusion criteria:

- Previously treated nAMD patients with persistent disease activity and/or requiring treatment in < 8 weeks.
- Patients who received at least 1 injection of *faricimab* during the initial 3-month period after introduction of *faricimab*.

Treatment plan:

1. 4-monthly loading dose and review at 8-weeks post-loading.
2. Treat and extend protocol where doses are reduced or extended by 2 weeks depending on disease activity.

At each visit *we* assess visual acuity and performed spectral-domain optical coherence tomography (SD-OCT) followed by *faricimab* injection. The following data was collected:

- Demographics, clinical information, adverse event information
- Best recorded visual acuity (BRVA)
- Intra-retinal fluid (IRF), subretinal fluid (SRF), central subfield thickness (CST)

ANOVA and chi-square testes were used to compare means and frequencies among groups, respectively. Data were entered into a STATA/MP v15.1 software package (StataCorp, USA) for statistical analysis and determination of statistical significance (P<0.05).

RESULTS:

255 eyes of 211 patients were examined. Mean age was 82 years and 57% were women. Prior to switching all of our patients were on *aflibercept*. Mean follow up period was 10.5 months (range 8-13.5), and average of injections was 9 (range 5-9).

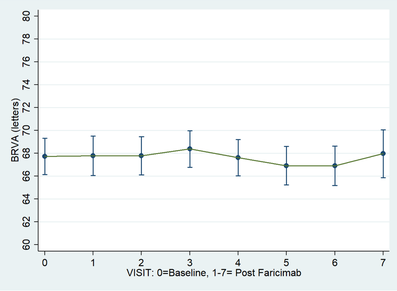


Figure 1: Best recorded visual acuity (BRVA) from baseline to last visit.

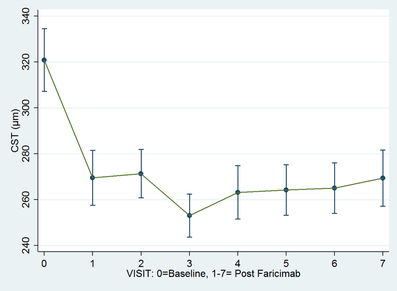


Figure 2: Central subfield thickness (CST) from baseline to last visit.

BRVA (Figure 1) was maintained throughout the follow-up at 68 letters (Figure 1). A maximum reduction in CST (Figure 2) was noted after 3rd loading dose at 253 um (± 4.8 um, P<0.0001).

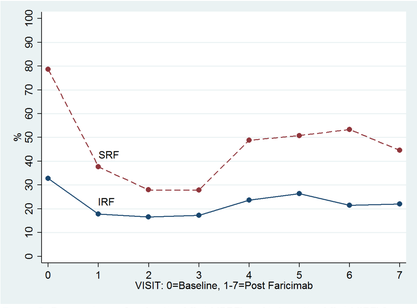


Figure 3: Comparison of subretinal fluid (SRF) and intraretinal fluid (IRF) from baseline to last visit.

SD-OCT revealed maximum reduction of IRF and SRF noted after 2 injections of *faricimab* where only 17% (P<0.0001) of patients had IRF and 28% had SRF (P<0.0001) (Figure 3).

At the last visit, CST is significantly reduced to 269.3 µm (P<0.0001), IRF decreased to 22% (P=0.012), and SRF 45% (P<0.0001) in comparison to baseline.

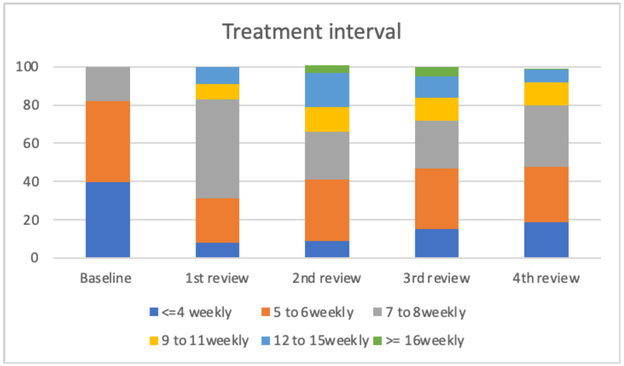


Figure 4: Comparison of treatment interval from baseline to end of the loading course.

On average patients were on 6-week treatment regimen before transitioning to *faricimab*. At the end of the loading course only 30% of the patients required injection every ≤ 6-weeks (P=0.000).

Out of the 2108 injections given, ocular adverse event was seen in 5 patients (2%): 2 anterior uveitis, 1 culture-negative-endophthalmitis, 1 retinal pigmented tear and 1 vertical diplopia.

CONCLUSION:

Our study shows that with *faricimab* in treatment-resistance patients maintain visual acuity, improve anatomical parameters and extension of treatment interval. The safety of *faricimab* is consistent with published data. We hope that our research will contribute to future capacity planning in the management of nAMD.