SWITCHES FROM RANIBIZUMAB TO AFLIBERCEPT FOR MACULAR OEDEMA SECONDARY TO RETINAL VEIN OCCLUSIONS

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INTRODUCTION

- Retinal vein occlusions (RVOs) are the **second most prevalent retinal vascular disease** after diabetic retinopathy, and macular oedema is the leading cause of vision loss.
- Anti-VEGF intravitreal injections and steroid implants are the recommended treatment.
- There are three antiVEGF agents licensed for RVOs: **ranibizumab** (Lucentis®, Ongavia®), **aflibercept** (Eylea®) and **faricimab** (Vabysmo®).
- Biosimilars of ranibizumab have been favoured by many commissioning bodies due to cost.
- There is published evidence showing that patients using **aflibercept or faricimab require fewer injections, compared to ranibizumab, to control their disease in wet Age-Related Macular Degeneration or Diabetic Macular Oedema.** Due to the posology used in RVOs the evidence supporting fewer injections with these drugs, is not as conclusive. However, the LEAVO trial showed that patients on aflibercept required 1.8 injections less compared to ranibizumab at 100 weeks of treatment.

The purpose of this study is to evaluate the effects of switching to aflibercept patients who were having treatment with ranibizumab for macular oedema secondary to RVOs.

METHODS

- Retrospective analysis of our population of patients treated for RVOs who were switched from ranibizumab to aflibercept. **Ranibizumab was started as first line treatment** in these patients and both ranibizumab and aflibercept were prescribed as per SmPC.
- There were two reasons for the switch of treatment:
  - **suboptimal response to ranibizumab** (defined as persistent activity on OCT despite monthly injections), or
  - **high injection burden** (controlled activity on ranibizumab, but requiring more frequent than 8-weekly injections).
- In each group, we documented visual acuity (VA) and central retinal thickness (CRT) at diagnosis, at the time of switching and at the last follow-up appointment, as well as the longest interval prescribed in a treat and extend approach, being dry on OCT. The presence of macular fluid at each time interval was also analysed.

RESULTS

- A total of **36 eyes of 36 patients** were included in this study.
- Characteristics of the study group in Figures 1 and 2.

Patients with suboptimal response to ranibizumab:

- N = 17
- **88.2% achieved resolution of macular oedema** when switched to aflibercept,
- Some patients achieved **up to 10 weeks** of intervals between injections without macular fluid (*see Figure 3*).
- Average gain of vision of 12.36 ETDRS letters and a reduction of CRT of 131.5 um (*see Figure 4*).
  - The **difference between the CRT at the time of switch and at the end of follow up was statistically significant** (p <0.001).

Patients with high injection burden while using ranibizumab:

- N = 19
- **78.9% achieved an interval extension** when switched to aflibercept maintaining VA and CRT stable.
  - The time being dry distribution before and after the switch can be seen in *Figure 5*.
- The **median interval between injections of ranibizumab before the switch was 4 weeks (4-8) and after the switch to aflibercept was 8 weeks** (5-13). This was also statistically significant (p <0.001) *(see Figure 6)*.

CONCLUSIONS

- **Patients with RVOs showing persistent macular oedema despite monthly ranibizumab injections, had an anatomical improvement when switched to aflibercept and most achieved resolution of oedema.**
- **The vast majority of patients switched from ranibizumab to aflibercept could have their interval between injections extended and therefore will require less injections per year to maintain their vision.**
- **The use of aflibercept for the treatment of RVOs can help reducing the capacity pressures that many retinal units are facing.**

Figure 1: Types of RVO in our population

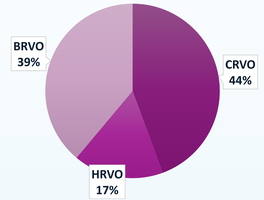


Figure 2: Reason for switching

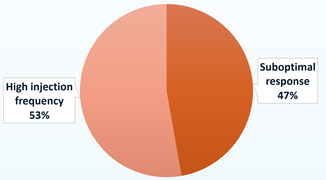


Figure 3: Analysis of macular fluid in patients with suboptimal response to ranibizumab after being switched to aflibercept

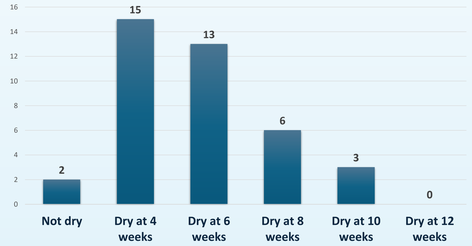


Figure 4: Difference in CRT in patients with suboptimal response to ranibizumab after being switched to aflibercept

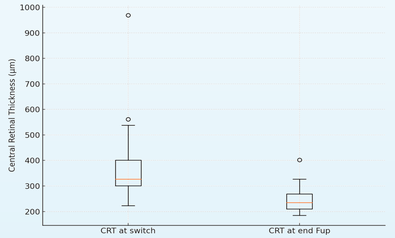


Figure 5: Number of patients with no macular fluid at different intervals in patients switched due to high injection burden

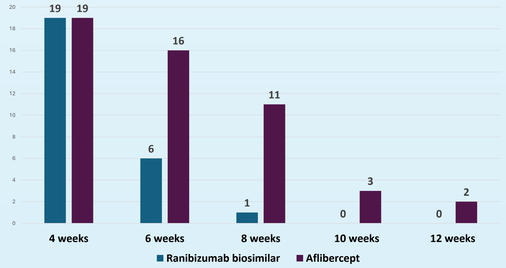


Figure 6: Difference in median time interval between injections in patients switched due to high injection burden

