Early clinical experience with brolucizumab for NvAMD, using the Yorkshire Retina Society brolucizumab (YoBro) pathway.

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Background: Driven by the need for social distancing and reductions in service capacity secondary to the COVID19 pandemic, Yorkshire Retina Society developed a pathway to introduce brolucizumab as a treatment for neovascular AMD (NvAMD). Initially, treatment was offered only in the event of an inadequate response and/or a high treatment burden with aflibercept, using a treat and extend regimen. Here early clinical experience of the YoBro pathway is reported.

Methods: Real-world, retrospective data from 3 NHS Trusts were pooled to report the indication for the switch, safety and the impact on vision, disease activity and the maximum treatment interval. After the switch, visual acuity change was categorized as improved, stable (+/- 5 or fewer letters from baseline) or worse. Disease activity was assessed by the presence or absence of intra- and sub-retinal fluid on OCT imaging and/or new retinal haemorrhage.

Results: Starting in August 2020, brolucizumab was administered as second line therapy in one eye of 55 follow-up patients. Seventeen eyes had unstable visual acuity and persistent disease activity before the switch, 34 had stable acuity but persistent disease activity and 4 had stable acuity and inactive disease.

Table 1: Change in visual acuity and disease activity

Visual acuity	> 5 letter increase	+/- 5 letter change	> 5 letter decrease
	13 (28.9%)	32 (71.1%)	0
Disease activity	**Absent**	**Persistent but reduced**	**Unchanged or worse**
	16 (35.6%)	21 (46.7%)	8 (17.7%)

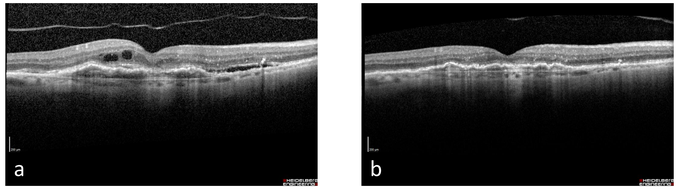


Figure 1: Structural OCT images from the right eye of a male aged 85 year after 27 prior aflibercept injections. Despite 5 weekly treatment, there is persistent disease activity (1a). After a single brolucizumab injection, activity reduced (1b) and visual acuity improved by 6 letters. The treatment interval could be extended to 6 weeks

Results (cont.): The mean age was 76 years (range 59-93) and 51% were male. Before the switch, the mean number of prior aflibercept injections was 20.3 (range 4-65) and the mean, maximum treatment interval was 4.4 weeks (range 4-10). Eyes have received between 1 and 7 injections of brolucizumab.

For the 45 eyes with follow-up after the first brolucizumab injection, changes in visual acuity and disease activity are shown in Table 1. After the switch, the maximum treatment interval could be extended by at least 1 week in 30 eyes (66.7%), with an average extension of 2.8 weeks (range 1-10). (**See figure 1)** No extension in the treatment interval was possible in 15 eyes (33.3%). To date, 150 injections of brolucizumab have been given and no cases of intra-ocular inflammation have been identified.

Conclusions: For the small proportion of NvAMD eyes with an inadequate response to aflibercept despite frequent treatment, brolucizumab is a safe, second line therapy that allows an extension of the maximum treatment interval for most eyes. Control of disease activity and improved visual acuity were observed in a smaller proportion of eyes. No cases of intra-ocular inflammation have been reported.

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