Real world anatomical and visual outcomes of Faricimab in diabetic macular oedema and wet age-related macular degeneration: a cohort study

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Background

Faricimab is a recently approved bispecific anti vascular endothelial growth factor (VEGF) antibody against angiopoietin-2 and VEGF-A. Clinical trials on treatment naive patients suggest it may have a longer action compared to current treatments. There is limited real world outcome data and the best protocol for switch patients is uncertain.

Methods

A total number of 173 patients with 150 wet age-related macular degeneration (nAMD) (mean age: 81.373 ± 6.687, M/F:59/91) and 23 diabetic macular oedema (DMO) (mean age: 64.957 ± 11.316, M/F: 12/11) receiving intravitreal Faricimab were included in this study. Visual acuity prior to each injection and detailed treatment regimen for antiVEGF treatment are being collected. A subgroup of patients with routine Spectral domain optic coherence tomography (SD-OCT) test were included. Morphological changes before or after Faricimab treatment were evaluated via OCT images by an experienced ophthalmologist (KT) who is blinded to the visual acuity. Repeated ANOVA was employed to compare the visual outcome after the first two dose with the visual acuity prior to Faricimab treatment.

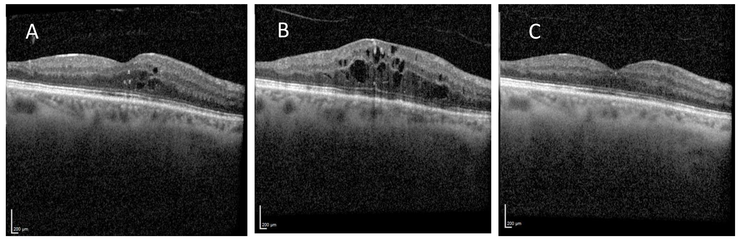


Figure 1 OCT image showing retinal changes after Faricimab treatment.
A. Before Faricimab treatment; B. 8 weeks post treatment; C. 16 weeks after treatment. Scale bar 200μm

Results

1. Demographic and clinical characteristics

A total number 174 patients (224 eyes) have received treatment with Faricimab.
Of 224 eyes, 153 eyes (122 patients) have previously receiving antiVEGF treatment prior to switched to Faricimab and 71 eyes (57 patients) started with Faricimab. 5 patients with one eye switched to Faricimab and one eye as newly started.
23 patients (35 eyes: new [8 eyes], switch [27 eyes]) were treated for DMO.
150 patients (187 eyes: new[63 eyes], switch[124 eyes]) were treated for AMD
One patients was recorded as: DMO for the left eye and AMD for the right eye. This patient has been excluded from statistics.

Table 1 Demographic and clinical characteristics

	DMO N = 23, 35 eyes	AMD N = 150, 187 eyes
Age(Mean ± SD)	64 ± 11	81 ± 6
Gender (M:F)	12:11	59:91
Switch (number of eyes)	27	124
New(number of eyes)	8	63
Previous treatment period (months)	30 [38][a]	35[38] [d]
Previous interval (weeks)	8[2][b]	8[2][e]
number of injection (Median[IQR])	21[17][b]	19[21][f]
Average VA prior to Vabysmo	70[14][c]	63[21.75][g]
Previous antiVEGF treatment		
Aflibercept	25 (89.29%)	115(89.76%)
Two or more antiVEGF	3 (10.71%)	13(10.23%)
Clinical indication for switch		
inadequate response	10 (45.45%)	24 (40.68%)
Worsening VA	8 (36.36%)	18 (30.51%)
Inability to extend beyond 8 weeks	4 (18.18%)	11 (18.64%)

a: 24 eyes; b :26 eyes; c: 32 eyes; d:n= 104 eyes; e: n = 120 eyes; f: n = 124 eyes; g: n = 139 eyes

2. Comparison on visual outcomes after first two doses

Repeated ANOVA adjusted for age, gender and diagnosis showed no difference on visual acuity after the first two doses (n = 72 eyes, p = 0.86).

Row	SumSq	DF	MeanSq	F	pValue
(Intercept):Time	7.97	2	3.99	0.15	0.86
Age:Time	9.11	2	4.56	0.17	0.84
Baseline_Indication:Time	6.74	2	3.37	0.13	0.88
Gender:Time	34.09	2	17.04	0.63	0.53
Error(Time)	3660.37	136	26.91	1.00	0.50

3. Changes of central macular thickness after Faricimab treatment

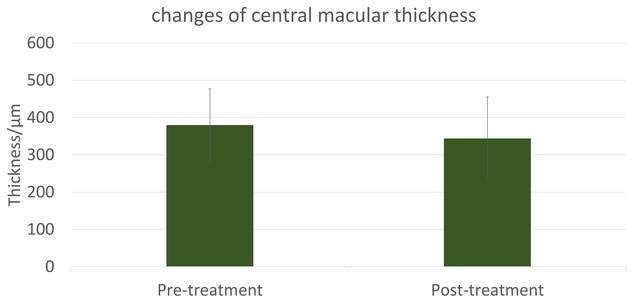


Figure 2 Comparison of central macular thickness before and after Faricimab treatment (n = 7)

Conclusion

Switching to Faricimab does not provide immediate effect in visual outcome. Further investigation on longitudinal data may have potential to monitor the treatment response, which ultimately provide new guidance for best protocol.