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MEETING ABSTRACTS

Clinical Audit in Retina 2016: Poster session

Park Plaza, Vauxhall Road, London

20th April 2016

Chairman: Adnan Tufail, Moorfields Eye Hospital, London, UK.

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P01

Real world outcomes with intravitreal ranibizumab in neovascular age related macular degeneration (nAMD) using a monitor-and-extend regimen in stable patients

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Pro re nata (PRN) dosing of ranibizumab with monthly monitoring achieves significant clinical benefits; however, this dosing regimen poses an intensive monitoring and injection burden. This study examined whether a monitor and extend (ME) regimen could enable individualised treatment, with the potential to increase the assessment interval in stable patients with neovascular age-related macular degeneration (nAMD).

Prospective electronic data from Sunderland Eye Infirmary, UK, were collected between January 2012 and December 2014 from 360 eyes of 332 nAMD patients. All patients received three monthly injections of ranibizumab followed by three monthly assessment visits. Injection-free patients during the assessment follow-up entered the ME group ($n=204$), whereas those who required treatment remained on monthly PRN treatment ($n=156$). In the ME group, monitoring was extended by 1 month if there were no signs of disease activity, measured by a best-corrected visual acuity (BCVA) loss >5 letters, new haemorrhage or recurrent fluid on optical coherence tomography.

Patient baseline characteristics, including age and lesion type, were well balanced. Mean (SD) baseline visual acuity (VA) and central retinal thickness (CRT) were slightly higher in the PRN group than the ME group (52.27 (11.58) *vs* 48.11 (16.25) letters and 427.31 (94.83) *vs* 372.99 (79.64) μm, respectively). In patients treated with the ME regimen, only 3.3% of eyes lost ≥ 15 letters, 12–14% of eyes gained ≥ 15 letters, with $>60\%$ of eyes having a higher VA at year 2 than at baseline. There were sustained improvements in VA and CRT in years 1 and 2 compared with baseline. Adverse events were identified in $<2\%$ of patients, with two cases of submacular haemorrhage and two cases of retinal pigment epithelial rip. There were no cases of intravitreal (IVT) endophthalmitis in this cohort.

In summary, an ME regimen achieved visual and anatomic improvements from baseline that were comparable to monthly PRN dosing with a reduced injection frequency. Adverse events were in line with published benchmark trials.

Disclosure: DV received consulting fees from Novartis, lecture fees from Bayer, and grant support from Audit Analysis Media Monitor; JS declared no competing interest; DS received consulting fees from Alimera, Novartis, Alcon, Bayer, Regeneron and grant support from Alcon; AK received lecture fees from Bayer and Allergan; MH received consulting fees from Bayer and Alimera, and lecture fees from Novartis, Alimera, and Bayer; TS received grant support from Alimera, Alcon, and Novartis; JS recieved reimbursement for travel, accomodations, and meeting fees from Novartis and Bayer.

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P02

Impact on clinic capacity of using aflibercept for neovascular age related macular degeneration (nAMD) in year 2 in Calderdale and Huddersfield NHS Foundation Trust

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With the introduction of anti-vascular endothelial growth factor (anti-VEGF) treatments for neovascular age-related macular degeneration (nAMD), outpatient service demand has significantly increased. The Royal College of Ophthalmology (UK) has published guidelines on streamlining services; however, very little published data are available on the impact on clinic capacity of adapting a ranibizumab 'treat and extend' protocol in year 2 by switching to aflibercept. On the basis of optical coherence tomography (OCT) outcomes in year 1, the proportion of aflibercept patients that would require review outside an 8 week interval in year 2 was predicted (Table 1).

A retrospective case note review of new patients started on aflibercept (group N; $n=44$), and those switched from ranibizumab to aflibercept (group S; $n=33$) was performed. The number of 'wet' OCT scans (not including baseline) from year 1 was compared between the two groups (Figure 1) and used to determine which patients could have an initial extended period in year 2 with a subsequent 5 weekly follow-up (Figure 2). The follow-up period was calculated for both groups and the number of predicted follow-up appointments in year 2 was calculated. This was compared to the number of appointments required in a patient group of the same size requiring 4–6 weekly follow-up with ranibizumab.

The predicted total number of appointments required in year 2 was calculated to be 924 ($n=77$) for ranibizumab and 775 ($n=77$) for aflibercept.

On the basis of data from year 1, the predicted impact of aflibercept on capacity is a reduction of 149 visits in year 2 in a population of 77 patients compared to the era when only ranibizumab was available. Furthermore, the predictive data suggest new patients started on aflibercept are more likely to benefit from extended follow-up in year 2 compared to those patients who were switched from ranibizumab.

Disclosure: RK received consulting fees from Alimera Sciences, lecture fees and grant support from Novartis. All other contributors (AI, KH, RB, YC, and ML) declared no competing interest.

[PO2] Table 1: Initial follow-up in year 2 with a subsequent 5 weekly follow-up was calculated using the following criteria

Total number of 'wet' OCTs in year 1	*5 or more*	*4*	*3*	*2*	*1–0*
First follow-up visit in year 2	4	5 (±1)	7 (±1)	9 (±1)	12 (±1)

Abbreviation: OCT, optical coherence tomography.

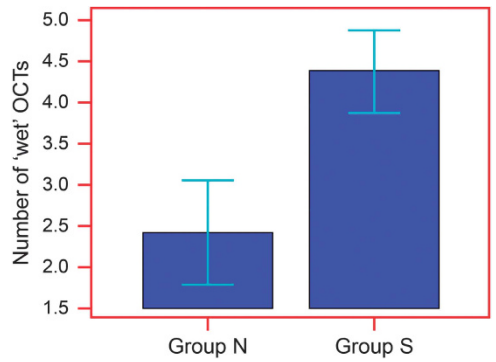

Figure 1 [PO2]: Comparing the mean number of 'wet' optical coherence tomography (OCT) between group N and group S ($P<0.0001$), including 95% confidence interval for the mean.

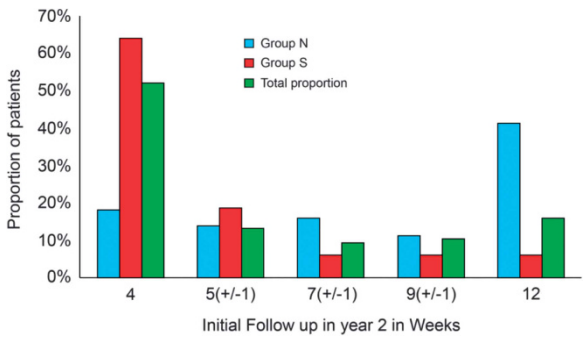

Figure 2 [PO2]: Comparing the predicted initial follow-up required in year 2 between the proportion of new aflibercept (group N) patients and those switched from ranibizumab (group S).

P03

Real world effectiveness of intravitreal injection of ranibizumab in patients with diabetic macular oedema

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Diabetic macular oedema (DMO) is the most common cause of visual loss due to diabetes mellitus. With growing evidence that anti-vascular endothelial growth factor (anti-VEGF) injection (with or without laser photocoagulation) provides better visual outcomes than focal and focal/grid photocoagulation, anti-VEGF agents are now considered the new gold standard of therapy. This audit aimed to assess from June 2013 till June 2015 the real-world effectiveness of intravitreal injection of ranibizumab in DMO patients in the Ashford and St Peter's Hospitals eye unit. Results were compared with the current standard of practice regimen based on the Diabetic Retinopathy Clinical Research Network (DRCRnet) study,[1] which utilises a loading phase of treatment followed by *pro re nata* injections.

Retrospective data (clinical notes and optical coherence tomography (OCT) data) were collected from all patients with DMO treated with intravitreal ranibizumab. Data were collected from 220 patients (256 eyes), age range 30–86 years (mean: 58 years), with an average duration of DMO of 8 months. The majority of patients had type II diabetes (95%), with an average duration of diabetes of 15 years. Diabetic retinopathy was mild, moderate to severe, or proliferative in 53.5, 44.5, and 1.9% of patients, respectively. A significant proportion of patients had received previous laser treatment (macular laser; 69% and PRP laser; 11.3%). Key outcomes are presented in Table 1.

Similar to other real-world audits, visual acuity (VA) gains in this audit were less than the DRCRnet/protocol I study, with an acceptable difference in gain of one letter. The proportion of patients gaining or losing more than 15 Early Treatment Diabetic Retinopathy Study (ETDRS) letters in VA was comparable to DRCRnet, whereas OCT results demonstrated a superior reduction in thickness of CSF, attributed to using different OCT machines. The number of injections during 1-year follow-up was fewer than the DRCRnet study, but the investigators were not following the same protocol. Follow-up periods were longer than DRCRnet and more than the recommended RCOphth Guidelines of 4 weeks, due to capacity issues.

Disclosure: MR received grant support from Alimera Sciences and lecture fees from Novartis; UMB declared no competing interest.

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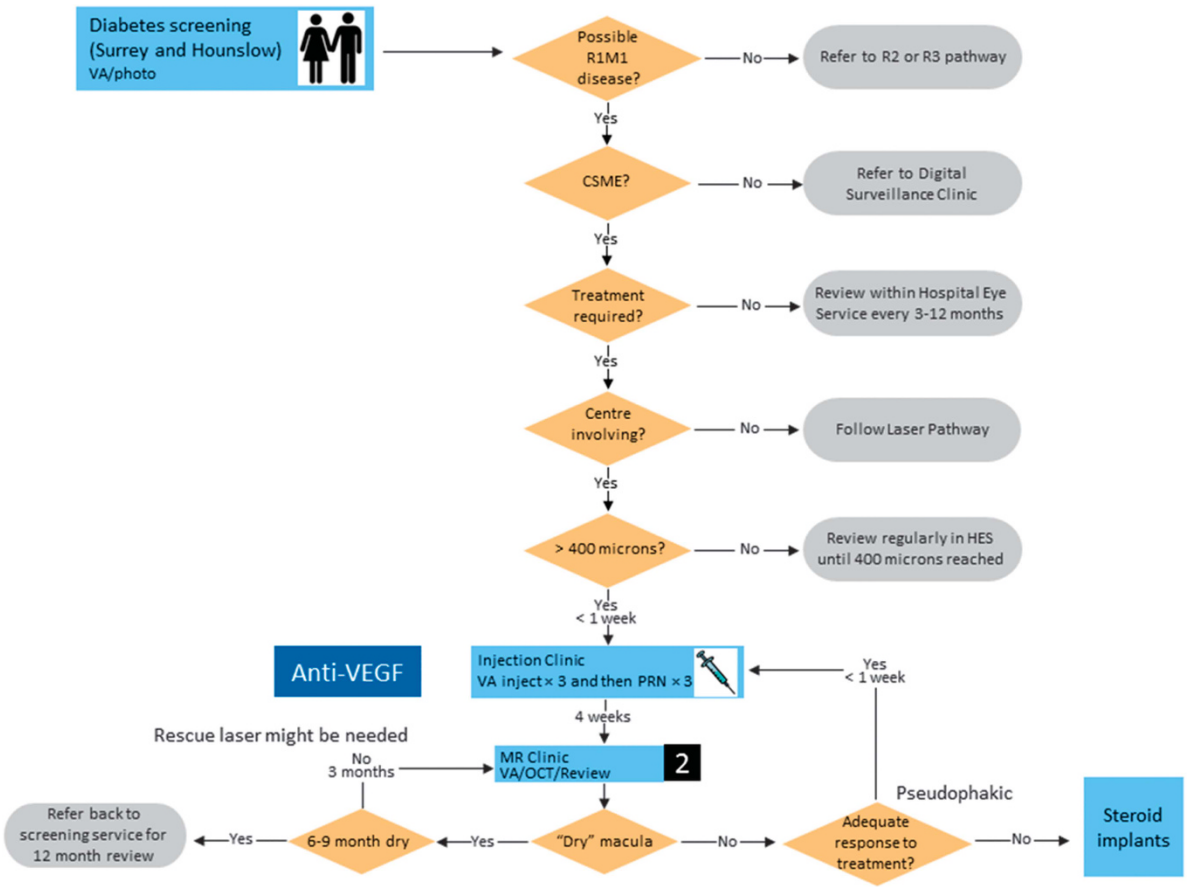

Figure 1 [PO3]: Current DMO treatment pathway.

[PO3] Table 1: Clinical audit of Ashford and St Peter's Hospitals

	Audit results	*DRCRnet/Protocol I*
ETDRS letters (mean)		
At baseline	55	
After injection course	63	
Mean letters gained	8	9
Proportion gaining >15 letters (%)	29.2	30
Proportion losing >15 letters (%)	1.9	2
Mean central subfield thickness (μm)		
At baseline	458	
After injection course	299	
Mean difference	159	137
Number of injections	7	9
Frequency of follow-up visits	6 weeks	4 weeks

Abbreviations: DRCRnet, Diabetic Retinopathy Clinical Research Network; ETDRS, Early Treatment Diabetic Retinopathy Study.

P04
Intravitreal (IVT) ranibizumab injections for diabetic macular oedema (DMO): real world results

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Following The National Institute for Health and Care Excellence (NICE) approval and recommendations for the treatment of diabetic macular oedema (DMO) with intravitreal (IVT) ranibizumab, a new treatment service began at the Queen Alexandra Hospital in November 2013. This audit aimed to evaluate the safety and efficacy of IVT ranibizumab in patients with DMO in the intervening 2 years of service and to extrapolate conclusions for future service development.

Data were collected using an electronic medical record (EMR) system (Medisoft, Leeds, UK), vector (Diabeta 3, Health Information Systems (UK)) and patient notes. Central retinal thickness (CRT) and volumetric data were collected using Heidelberg software. Patients were allocated into four treatment groups: treatment naive, previous macular laser only, previous other intravitreal treatments (bevacizumab (off-licence use)) and both previous macular laser and other intravitreal treatments. The final status of each patient was recorded as receiving treatment (active), no treatment for at least 3 months (stable) or deceased. The number of patients who switched treatments was also documented. Quality measurements were assessed to record whether or not a patient received a loading dose as required by NICE. The results were summarised in the Table 1.

At the initial cohort of patients (November 2013), the proportion who had three monthly injections and a 4 week post injection follow-up was 33%. After substantive structural service improvement re-auditing the same parameter at the beginning of 2015 the percentage was 78%.

The number of eyes that received no further injections after the initial loading phase was 33/186. The number of eyes switched to alternative treatments was: naive, 12/92; previous laser, 7/66; other IVT, 1/13; previous laser and other IVT, 4/15. All groups demonstrated improvements in visual acuity, CRT and Vol. The number of eyes with three lines of improvement was: naive, 17/92; previous laser, 25/66; previous laser and IVT, 3/15; previous IVT 4/13. There were no records of endophthalmitis.

Despite there being a fundamental difference between research and real-world practice, the results are in line with previous studies. In our audit, the results from the last recorded visit are included. Therefore, in that visit some patients may be stable (optimal), whereas others in relapsing phase (suboptimal). However, the number of active *vs* stable and the number of stable eyes after initial loading provides helpful information for departmental planning and continuous quality auditing is necessary to improve services.

Disclosure: SM received lecture fees from Novartis and Allergan.

P05
Ranibizumab for diabetic macular oedema: twelve-month outcomes

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The efficacy and safety of vascular endothelial growth factor (VEGF) inhibitors in diabetic macular oedema (DMO) is well known from several clinical trials[1–7] but there are few 'real world' reports from the UK[8,9] following the release of the National Institute for Health and Care Excellence (NICE) guidance.[10] This study reports the outcomes of DMO patients treated with ranibizumab in Derby Teaching Hospitals.

Patients with DMO starting treatment with ranibizumab between September 2013 and 2014 were followed for 12 months and treated according to NICE TA 274. Ranibizumab 0.5 mg was injected intravitreally each month for 3 months and then only if

[PO4] Table 1: Results of the clinical audit in retina

	No of eyes	*F/U in months*	*No of injections*	*Initial VA*[a]	*Final VA*	*Initial CRT*	*Final CRT*	*Initial Vol*	*Final Vol*	*Active*	*Stable*	*Deceased*
Naive	92	19.5	6.5	0.46	0.36	457	353	10.4	9.3	51	37	4
Previous laser	66	22.5	6.5	0.56	0.36	483	336	10.9	9.15	24	40	2
Other IVT	13	24.5	7.5	0.5	0.37	477	291	10.8	8.6	6	5	2
Other IVT and laser	15	23	8	0.72	0.58	358	320	10.9	9	8	7	0
Total	186									89	89	8

Abbreviations: CRT, central retinal thickness; F/U, follow-up; IVT: intravitreal; VA, visual acuity; Vol, total volume.
[a]Visual acuities were converted from Snellen to logMAR.

[PO5] Table 1: Baseline patient characteristics

	Patients	*(%)*	*Eyes*	*Bilateral*	*(%)*	*Mean Age (years)*	*(Range)*	*Mean BCVA*	*SD*	*Mean CMT*	*SD*
All	153	100	217	64	41.8	66.0	23–96	52.6	17.6	503.0	109.4
Males	91	59.5	129	38	41.8	65.8	38–88	55.3	16.6	490.6	107.9
Females	62	40.5	88	26	41.9	66.4	23–96	48.7	18.4	521.1	117.8
≤35	24	15.7	32	8	33.3	60.6	23–84	21.1	3.3	596.9	47.2
36–55	65	42.5	77	12	18.5	67.7	39–96	46.5	4.3	528.3	62.9
56–73	49	32.0	93	44	89.8	66.7	40–88	64.6	6.2	461.3	102.2
>73	15	9.8	15	0	0	64.9	36–96	77.6	12.2	430.9	163.2

Abbreviations: BCVA, best-corrected visual acuity, letters; CMT, central macular thickness, μm; SD, standard deviation.

the vision was not 'stable' (±5 letters over three consecutive visits). Persistent macular oedema with stable vision was treated with modified macular grid laser, and fluocinolone acetonide 190 μg was given to poor responders. Patients were divided into baseline best-corrected visual acuity (BCVA) subgroups for comparison (All, ≤35, 36–55, 56–73, and >73 letters).

A total of 153 patients (217 eyes, Table 1) were followed with an average mean interval between clinic visits of 30.5 days (range 21–62) and the mean number of injections at 12 months was 5.8. The mean baseline BCVA (SD) was 52.6 (±17.6) letters and at 12 months the mean improvement (SD) was +9.6 (±10.6) letters with the greatest gains in patients with the poorest baseline BCVA (Figure 1; ≤35 +17.1; 36–55 +11.1; 56–73 6.7; >73 2.8 letters,). The percentage of eyes gaining >10 and >15 letters was 46.7 and 28.6%, respectively, and the percentage losing >10 and >15 letters was 1.4 and 1.4%, respectively. The mean reduction (SD) in central macular thickness (CMT) was −161.8 μm (±162.8 μm) from a mean (SD) baseline CMT of 503.0 μm (±109.4 μm) and those with a lower baseline BCVA were associated with greater reductions in CMT (Figure 2). Baseline features associated with a better BCVA at 12 months included better baseline BCVA ($P=0.001$) and less severe baseline retinopathy ($P=0.0035$).

The audit found that, following NICE TA 274 guidance for DMO, timely treatment with ranibizumab intravitreal injections is safe and effective, with baseline BCVA determining final visual acuity. The results suggest that using standard BCVA subgroups could allow more direct comparisons between units.

Disclosure: PR received lecture fees from Nottingham and Derby Optical Society, and holds a patent (US6713253 B1): Detecting genetic predisposition to sight-threatening diabetic retinopathy. CA declared no competing interest.

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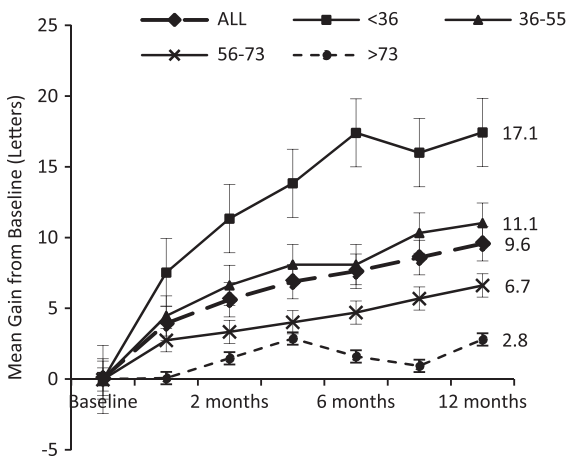

Figure 1 [PO5]: Best-corrected visual acuity (BCVA).

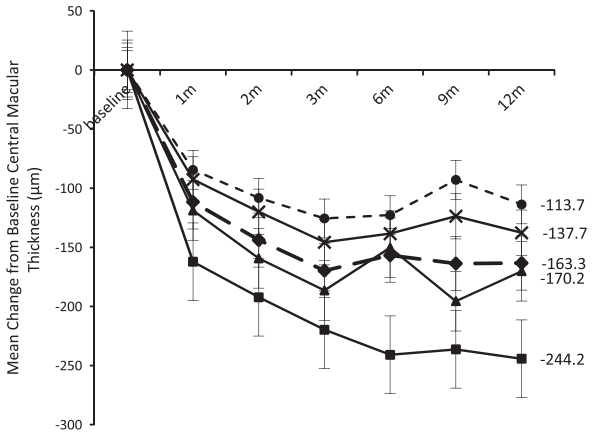

Figure 2 [PO5]: Central macular thickness (CMT).

P06

Audit on treatment of macular oedema in central retinal vein occlusion (CRVO) with anti-vascular endothelial growth factor (anti-VEGF) at The Western Eye Hospital

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Central retinal vein occlusion (CRVO) is a common retinal vascular disorder. Clinically, CRVO presents with variable visual loss; the fundus may show retinal haemorrhages, dilated tortuous retinal veins, cotton-wool spots, macular oedema, and optic disc swelling.

Macular oedema is one of the prominent treatable causes of decreased visual acuity in patients with CRVO.

Various treatment modalities have been used to counter different components of macular oedema pathogenesis, with significant progress in stabilizing or improving visual acuity.

Intravitreal anti-vascular endothelial growth factor (anti-VEGF) therapy is safe and effective for macular oedema and delayed treatment is associated with worse visual outcomes.

Anatomic and visual acuity responses after three monthly intravitreal injections (IVI) and 12 months of treatment with aflibercept or ranibizumab are reported in patients with macular oedema (MO) in CRVO.

The authors conducted a retrospective study of 20 patients with macular oedema due to CRVO, 10 of them were treated with three monthly intravitreal injections of aflibercept 2 mg/0.05 ml and 10 patients with ranibizumab. Patients underwent LogMar visual acuity testing, optical coherence tomography (OCT) imaging, and ophthalmoscopic examination at baseline and follow-up visits each month.

Data collected on age, gender, laterality, ethnicity, best-corrected visual acuity (BCVA), and OCT changes over the 12 months. $P<0.05$ was considered as significant.

There were 20 eyes of 20 patients with a mean age of 68 years. Aflibercept had been previously administrated to 10 patients, ranibizumab was given to the remainder 10.

Seven of the 20 patients were females (35%) and 13 (65%) of them were males. Regarding their ethnic groups: 40% were British, 10% Asian, 5% Caribbean, and 45% of them came from other ethnic groups. The mean macular thickness at baseline in patients treated with aflibercept was 452 µm, decreased to a mean of 300 µm at month 3 ($P<0.03$) and to 284 µm ($P<0.01$) at month 12. As for ranibizumab, the baseline macular thickness was 681 µm, reduced to 413 µm ($P<0.007$) after 3 months and to 347 µm ($P<0.01$) at 12 months (Table 1; Figure 1).

The mean baseline acuity was 1.15 LogMar in patients treated with aflibercept, corrected to 0.9 ($P<0.2$) and to 0.77 LogMar ($P<0.27$) after 3 and 12 months, respectively.

In the ranibizumab treated group, the mean baseline visual acuity was 0.8 LogMar and the mean acuity at month 3 was 0.5 LogMar, a difference that was highly significant ($P<0.005$). At last follow-up, 12 months after the first injection, the mean visual acuity was 0.6 LogMar, which was better than baseline ($P<0.2$) (Table 2; Figure 2).

The authors concluded that intravitreal ranibizumab and aflibercept resulted in a significant improvement in the BCVA and a decrease in the macular oedema after 3 monthly IVI, and after 12 months.

Both molecules shown to be equally effective and safe in the treatment of CRVO. Therefore, we recommend for the treatment of macular oedema secondary to CRVO, to continue with monthly injection of anti-VEGF until the stabilisation of the condition.

Disclosure: SY received lecture fees from Novartis and grant support from Bayer. The other contributors (CQ and OT) declared no competing interest.

[PO6] Table 1: Optical coherence tomography (OCT) changes after 3 intravitreal (IVT) and 12 months of anti-vascular endothelial growth factor (anti-VEGF)

Anti-VEGF	*Baseline (µm)*	*3 months (µm)*	*12 months (µm)*
Aflibercept	452	300 ($P<0.03$)	284 ($P<0.01$)
Ranibizumab	681	413 ($P<0.007$)	347 ($P<0.01$)

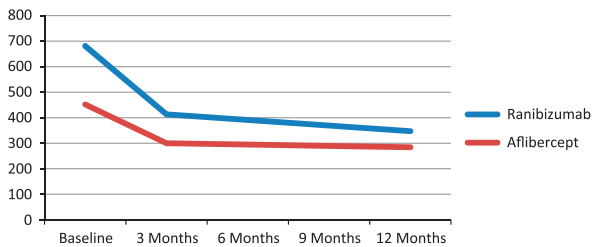

Figure 1 [PO6]: OCT change in central retinal vein occlusion (CRVO) with anti-vascular endothelial growth factor (anti-VEGF) treatment.

[PO6] Table 2: Best-corrected visual acuity (BCVA) changes (in LogMar) after 3 IVT and 12 months of anti-VEGF

Anti-VEGF	*Baseline*	*3 months*	*12 months*
Aflibercept	1.15	0.9 ($P<0.2$)	0.77 ($P<0.27$)
Ranibizumab	0.8	0.5 ($P<0.005$)	0.6 ($P<0.22$)

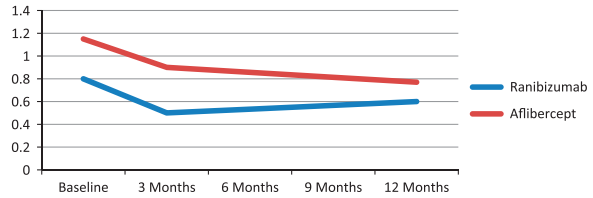

Figure 2 [PO6]. BCVA Change in CRVO anti-VEGF Treatment.

P07

Two-year outcomes of intravitreal (IVT) ranibizumab for macular oedema secondary to branch retinal vein occlusion (BRVO) and central retinal vein occlusion (CRVO)

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Retinal vein occlusion is the second most common retinal vascular disease, and can result in visual impairment through the development of macular oedema. The Scottish Medicines Consortium approved ranibizumab in 2011 and 2013 for macular oedema due to central retinal vein occlusion (CRVO) and branch retinal vein occlusion (BRVO), respectively. This retrospective study audited 2-year outcomes data of intravitreal injections (IVT) of ranibizumab for macular oedema following BRVO and CRVO.

Medisoft (Medisoft, Leeds, UK) data from a single center from May 2013 to June 2014 of ranibizumab-naive, BRVO or CRVO patients, with fovea-involving macular oedema and reduced vision and a minimum of 1 year of follow-up, were retrospectively evaluated (Table 1).

The audit demonstrated that with regular follow-up and flexibility in managing patients with macular oedema secondary to RVO, sustained gains in best-corrected visual acuity can be achieved in a real-world setting. Patients were switched to adjunctive treatments due to insufficient response (fovea not dry), the need for frequent injections, and patient preference. In the CRVO group, the inclusion of ischaemic CRVOs and non-responders (3 and 2 patients, respectively), for which treatment was stopped 6 months before the final study visit, might have skewed the 2 year central retinal thickness results.

Disclosure: ZJ received lecture fees from Novartis and travel grants from Novartis, Bayer, and Thea; CS received lecture fees and travel grants from Bayer; AI received travel grants for meetings from Bayer, Novartis, and Allergan.

[PO7] Table 1: Summary of audit results from Aberdeen Royal Infirmary[a]

	BRVO	*CRVO*
Mean BVCA (EDTRS letters)		
Baseline	52.3	39.2
1 year	64.7	50.6
2 years	63.8	49.3
Mean central retinal thickness (μm)		
Baseline	586.4	610.6
1 year	386.7	435.2
2 years	219.0	453.6
Mean injections		
1 year	5.2	6.2
2 years	8.4	11.5
% with dry macula		
1 year	33%	35%
2 years	37%	24%
Other treatment (2 years)		
Aflibercept	21%	22%
Dexamethasone implant	15%	18%
Laser	11% (grid)	12.5% (PRP)

[a]Of $n=125$ patients with RVO initially randomised, $n=97$ patients were included in the final analysis ($n=48$ branch retinal vein occlusion (BRVO) and $n=49$ central retinal vein occlusion (CRVO) patients at 12 months and $n=20$ BRVO and $n=24$ CRVO patients at 24 months).

P08

Ranibizumab in diabetic macular oedema: A Lanarkshire experience

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NHS Lanarkshire serves a population of over 652 000 with a 2.5% prevalence of diabetes mellitus (DM). There has been a steady 5% yearly increase since 2009, partly as a result of an active screening programme. Within the diabetic population, prevalence of diabetic macular oedema (DMO) resulting in visual impairment is 2%, with an annual incidence of 0.25%. In December 2012, ranibizumab for use in DMO was accepted by the Scottish Medicines Consortium. This study examined ranibizumab treatment of DMO in a real-world setting in NHS Lanarkshire.

Patients with type 1or 2 diabetes, clinically significant macular oedema, and a BVCA ≤ 75 Early Treatment Diabetic Retinopathy Study (ETDRS) letters were included in this retrospective study. Patients were required to have their first injection between 2012 and 2014 and were assessed for changes in best-corrected visual acuity (BCVA) and central retinal thickness (CRT, μm). Patients were also assessed for adverse events, follow-up status, number of injections and visits to the clinic.

Patient mean age was 63 years $\pm$ 14 years and the majority had type-2 diabetes (81%). A small percentage of patients had been previously treated with bevacizumab (5%), which is unlicensed for ophthalmic use in the UK, and 34% had a previous cataract operation. Concurrent laser therapy was administered in 83% of patients.

At the end of the study, 69% of patients were receiving ongoing therapy, 12% had switched to aflibercept, and 5% had switched to Ozurdex, 7% were deceased, 2% had their care

transferred, and 5% were lost to follow-up. No significant adverse events were identified during the study period.

Ranibizumab appears effective in a real world, district general hospital setting in Lanarkshire, Scotland. The initial improvement in visual acuity and reduction in CRT was maintained through years 2 and 3; however, the effect was quantitatively lower than in published studies. This may be due to NHS Lanarkshire having separate injection and clinic locations, high demand resulting in suboptimal spacing between visits, and cancelled or not attended appointments. Outcomes may also have been affected due to logistical challenges requiring the use of a 'monitor and extend' protocol in year 2, where there is a delay between clinic visit and injection.

Disclosure: MV received consulting fees from Bayer, Alimera, Allergan; KW received consulting fees from Allergan; SH received consulting fees from Novartis. The other contributors (JL, VL, VC, and SN) declared no competing interest.

[PO8] Table 1: Changes in best-corrected visual acuity (BCVA) and central retinal thickness (CRT)

Months	*BCVA*		*CRT*	
	Change in BCVA (ETDRS letters, mean ± SD)	*Number of patients*	*Change in CRT (μm, mean ± SD)*	*Number of patients*
6	4.1 ± 9.3	110	− 157 ± 175	110
12	3.4 ± 11.6	110	− 174 ± 170	110
18	3.3 ± 11.2	103	− 165 ± 158	102
24	2.5 ± 12.3	90	− 184 ± 155	84
30	4.8 ± 9.8	46	− 200 ± 183	39
36	4.0 ± 7.4	13	− 141 ± 132	9
Baseline	58 ± 13	110	473 ± 155	110

Abbreviations: CRT, central retinal thickness; ETDRS, Early Treatment Diabetic Retinopathy study; VA, visual acuity.

[PO8] Table 2: Number of injections/visits

	Injections (median)	*Total visits (median)*
Year 1	6	9
Year 2	4	5
Year 3	3	4

P09
Ranibizumab in diabetic macular oedema (DMO)—Two-year audit data

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The increasing demands of the ophthalmology clinic require frequent evaluations and analysis of the current services. Princess Alexandra Hospital (PAH) eye clinic has experienced an increased number of diabetic macular oedema (DMO) patients who require frequent intravitreal (IVT) injections and follow-up visits. The current regimen used at PAH is the treat and extend (T&E), which was implemented in 2014 following the update to the ranibizumab licence.

The purpose of this study was to determine the visual acuity outcomes and injection frequency of ranibizumab in patients with DMO treated at the PAH eye clinic. To evaluate the current treatment approach of T&E, a retrospective systematic review and data analysis was collected from Electronic Patient Record system (Medisoft) to provide valuable information for the clinical commissioning group. Overall, 193 patients and 267 eyes were injected with ranibizumab as per NICE guidelines in the Eye Clinic at PAH Harlow from January 2014 to February 2016. Outcomes presented include first eye only, treated with ranibizumab monotherapy on T&E regimen.

There was a mean visual acuity gain of 7 letters at the end of 24 months with 14 visits and 9 injections (Table 2). This is compared against RETAIN study which showed a mean visual acuity gain of 6.5 letters with 12.5 visits and 12 injections over 24 months.

The median number of visits were 5 in the first 6 months and then 3 between 6 and 12 months, 4 between 12 and 18 months, and only 2 between 18 and 24 months (Table 1).

The switch to current T&E regimen has offered reduction in number of visits when compared to monthly PRN previously used as evidenced by two visits between months 18 and 24. In addition, patients gained and maintained their VA irrespective of baseline VA group highlighting efficacy of current regimen at 24 months.

Disclosure: The contributors (PD, NC, AB, AG, RSC, and PP) declared no competing interest.

Reference

1. Prünte C, Fajnkuchen F, Mahmood S, Ricci F, Hatz K, Studnička, J, Bezlyak V, Parikh S, Stubbings WJ, Wenzel A, Figueira J, RETAIN Study Group Ranibizumab 0.5 mg treat-and-extend regimen for diabetic macular oedema: the RETAIN study. *Br J Ophthalmol* 2016; 100(6): 787–795.

[PO9] Table 1: Median number of visits over 24 months

Time (months)	*Number of visits*
0–6	5
7–12	3
13–18	4
19–24	2

[PO9] Table 2: Comparison of results from RETAIN[1] and Princess Alexandra Hospital (PAH) studies.

	RETAIN[1]	*PAH*
VA gains at 24 months	6.5	7
No of visits at 24 month	12.5	14
No of injections at 24 months	12	9

Abbreviation: VA, visual acuity.