EFFECT OF TREATMENT DELAY ON THE OUTCOMES OF PATIENTS RECEIVING ANTI VEGF THERAPY DURING THE FIRST LOCKDOWN OF COVID-19 PANDEMIC

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Background

The UK went into a national lockdown on March 23, 2020, to reduce the spread of COVID-19 pandemic. In order to maintain social distancing and prevent disease spread in healthcare settings, many routine visits and elective procedures were cancelled or postponed protecting asymptomatic patients and healthcare workers.[1] To prevent loss of vision, macular services at Sunderland Eye Infirmary advised all patients receiving intravitreal injections (IVI) to continue treatment during the lockdown. Nonetheless, many patients chose not to attend their routine appointments which resulted in delay in intravitreal injections.

Aim

To study the effect of forced extension of treatment interval on the outcomes of patients with macular diseases that were being managed with IVIs of anti-vascular endothelial growth factor (anti-VEGF) medications. Diseases included were neovascular age-related macular degeneration (nAMD), central retinal vein occlusion with macular oedema (CRVO), branch retinal vein occlusion with macular oedema (BRVO) and diabetic macular oedema (DMO).

Methods

Our audit included cases from intravitreal services in Sunderland Eye infirmary, United Kingdom who were being treated with IVI prior to lockdown in March 2020 for above mentioned conditions, who didn't receive IVI due to patients' failure to attend during lockdown. Routinely, all cases were being managed in the department using treat and extend regime where extension or reduction of treatment interval was done based on disease activity and according to the RCOphth guidance for management of medical retina diseases during Covid-19 pandemic.[2] All cases were reviewed by a consultant in clinic after the lockdown to decide upon the treatment interval.

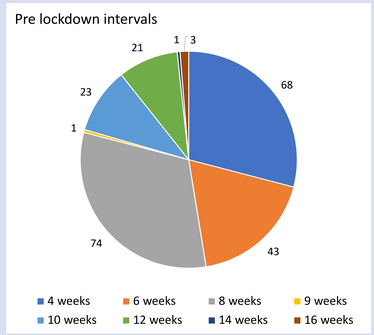
Data collected included patient demographics including age and sex, condition, total number of IVI, date of last IVI prior to lockdown, type of IVI, best corrected visual acuity (BCVA), central macular thickness, optical coherence tomography (OCT) features, treatment interval, and delay in IVI. The retreatment interval was recorded in weeks. Moderate loss of vision was defined as any loss of VA ≥ 15 letters and severe loss of vision as loss of VA ≥ 30 letters.[3]

Results

- Baseline parameters are given in table 1.
- Mean number of injections prior to lockdown was 14
- Mean VA loss was 5 letters
- A spontaneous improvement in VA was noted in 28.6% cases. Stable VA was noted in 6.4% cases overall, where DMO group showed relatively higher percentage of cases (12.8%) maintain stable VA. Amongst cases showing loss of VA, AMD showed maximum cases with loss of vision (67.8%), while RVO group showed maximum cases with severe loss of VA (7.3%).

Parameter	Total	AMD	DMO	RVO
Number of eyes	234	143	47	41
Age(mean)	78 (23-98)	82 (44-98)	65 (23-88)	78 (56-95)
BCVA (letters)	65	64	71	60
Mean number of injections	14	16	12	10
Type of injections (n) bevacizumab aflibercept ranibizumab	 2 190 42	 2 123 18	 0 33 14	 0 31 10
Central macular thickness (microns)	334	311	387	342
Mean Delay in treatment (days)	102 (15-224)	100 (15-224)	107	99

Table 1. Baseline parameters in all disease conditions



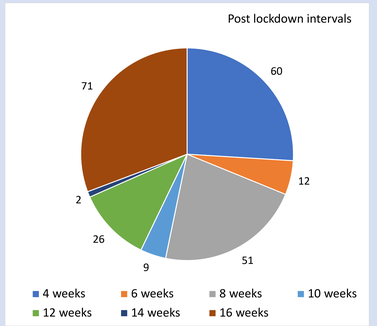


Figure 1. Retreatment intervals pre and post lockdown

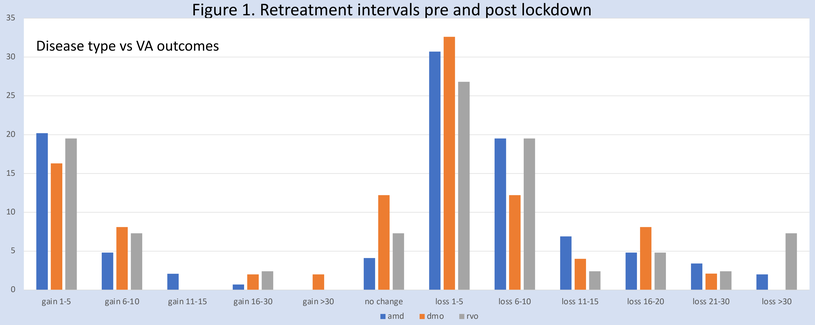


Figure 2. Change in visual acuity in AMD, DMO, RVO groups

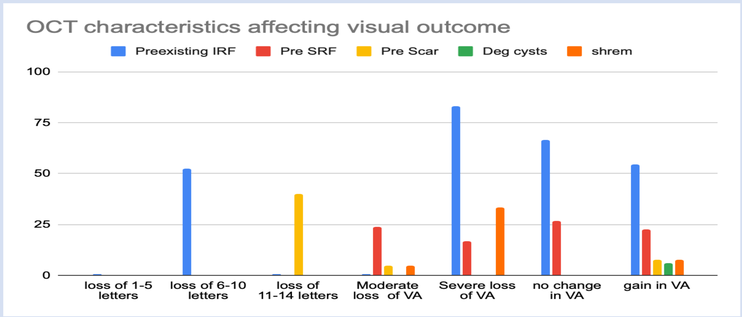


Figure 3. OCT features at baseline affecting visual outcomes

- The mean retreatment interval increased from 7 weeks pre-lockdown to 10 weeks post- lockdown. While most cases were being treated at 4-8 weeks at baseline, after lockdown, maximum eyes were being treated at 16 weeks.
- Cases with moderate and severe loss of vision had a greater number of cases with gain in central macular thickness more than 50 microns.
- None of the OCT characteristics were a predictor for loss of visual acuity.
- Linear regression analysis with VA change as the independent variable rejected ALL variables except post lockdown CMT as predictive of visual outcome

Conclusions:

Despite delay in treatment, visual acuity remained good in most cases and only three cases (RVO group) showed a severe loss of vision in which treatment has been reinstated. A reaudit is warranted to establish the effect of reinstating treatment in such eyes. Increase in treatment interval was noted post lockdown. This was due to treatment decision being taken by a consultant and can be used as an indictor for disease stability despite forced extension. Our audit confirms RCOphth guidance in management of medical retina diseases.

References

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