Adherence to The Royal College of Ophthalmologists COVID-19 AMD Injection Guidance using data for patients treated with Aflibercept

Authors: Chhabra, Romi (1); Gruszka-Goh, Marta H. (2); Eleftheriadis, Haralabos (3); Kashani, Shahram (4); McKibbin, Martin (5); Natha, Salim (6); Lotery, Andrew J. (7); Izadi, Shahrnaz (8); Bailey, Clare (9); Jones, Colin (10); McGimpsey, Stuart (11); Cynthia Santiago (12); Scanlon, Peter H. (2);

1. Manchester University NHS FT; 2. Gloucestershire Hospitals NHS FT; 3. King's College Hospital NHS FT; 4. East Sussex Hospitals NHS FT; 5. The Leeds Teaching Hospitals NHS Trust; 6. Wrightington, Wigan and Leigh NHS FT; 7. University Hospital Southampton NHS FT; 8. Epsom and St Helier University Hospitals NHS Trust; 9. University Hospitals Bristol and Weston NHS FT; 10. Norfolk and Norwich University Hospital NHS FT; 11. Belfast Health and Social Care Trust; 12. NHS Grampian

Purpose:

To understand centre adherence to the 2020 Royal College of Ophthalmologists' COVID-19 AMD injection guidance.

Methods:

Anonymised data from 18 centres for 4,700 patients (5,142 eyes) treated with Alfibercept, who had completed the loading phase by 01/04/2020 and had at least one injection within the analysed time period, were extracted from the Medisoft Electronic Patient Record. Adherence to the guidelines was defined as 8-weekly injections ±2 week and non-adherence as using a different schedule. In 6-month time periods, 5,142 eyes were reported in 'period 1' (01/04/20-30/09/20), 4,820 eyes in 'period 2' (01/10/20-31/03/21) and 4,287 eyes in 'period 3' (01/04/21-30/09/21), Table 1**.**

Results:

The percentages of eyes adhering to guidelines were 47.7%, 30.6% and 29.2% with the centre variation 11.8% to 81.3%, 20.0% to 49.6%, and 18.7% to 40.2% respectively for periods 1, 2 and 3, *Table 2 and Figure 1*. The median number of anti-VEGF injections was 3, 2, 2 respectively for periods 1, 2 and 3 and varied between the centres, *Table 2 and Figure 2*.

The percentages of eyes non-adhering to guidelines were 52.3.%, 69.4% and 70.8% with the centre variation 18.7% to 88.2%, 50.4% to 80.0%, and 59.8% to 81.3% for respectively for periods 1, 2 and 3, *Table 2 and Figure 1*. The median number of injections was 2 for each time period and varied between the centres, *Table 2 and Figure 3*.

For those adhering and non-adhering the mean number of ETDRS letters loss was 2.2 and 3.3 (for 1,474 and 1,249 eyes respectively) in period 1, 0.8 and 1.0 (for 934 and 2,201 eyes respectively) in period 2 and 1.2 and 1.4 (for 411 and 1,284 eyes respectively) in period 3, *Table 2*.

Table 1: *Demographics*

	Period 1 (01/04/2020 - 30/09/2020)	**Period 2** (01/10/2020 - 31/03/2021)	**Period 3** (01/04/2021 - 30/09/2021)
Number of patients	4,700	4,432	3,953
Female	2,955 (62.9%)	2,782 (62.8%)	2,492 (63.0%)
Male	1,745 (37.1%)	1,650 (37.2%)	1,461 (37.0%)
Number of eyes	5,142	4,820	4,287
Age per eye:			
Median (years)			
Female	81.4	81.3	80.9
Male	80.1	79.9	79.6
IQR range (years)			
Female	(75.6 - 86.1)	(75.4 - 86.0)	(75.1-85.7)
Male	(74.7 - 85.0)	(74.5 - 84.6)	(74.4-84.3)

Table 2 : *Summary Statistics*

	Period 1 (01/04/2020 - 30/09/2020)	**Period 2** (01/10/2020 - 31/03/2021)	**Period 3** (01/04/2021 - 30/09/2021)
Number of eyes	5,142	4,820	4,287
Adhering to the guidelines	2,455 (47.7%)	1,476 (30.6%)	1,250 (29.2%)
Non-adhering to the guidelines	2,687 (52.3%)	3,344 (69.4%)	3,037 (70.8%)
Number of injections (median)			
Eyes adhering to the guidelines	3	2	2
Eyes non-adhering to the guidelines	2	2	2
ETDRS letters loss (mean)			
Eyes adhering to the guidelines	-2.2	-0.8	-1.2
Eyes non-adhering to the guidelines	-3.3	-1.0	-1.4

Conclusion:

Overall adherence to the RCOphth COVID-19 guidelines for nAMD reduced over time and varied between centres during the COVID-19 period. Many patients were able to continue treatment. The visual acuity loss was smaller amongst the eyes that followed the RCOphth guidelines.

Funding:

The analysis in this audit was funded by Bayer, however the data collection and analysis was independent of Bayer.

Figure 1: *Adherence to the RCOphth Guidance in periods 1, 2 and 3*

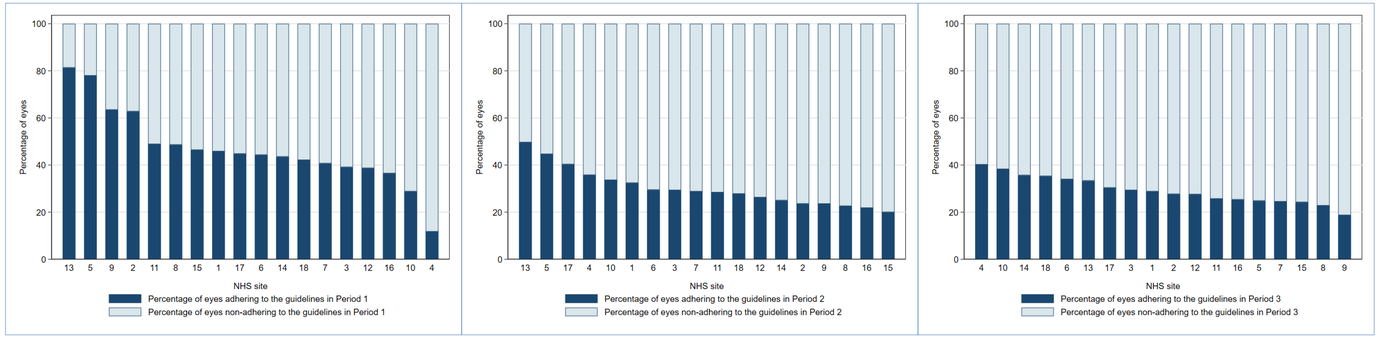


Figure 2. *Percentage of injections per eye for guidance adhering eyes in periods 1, 2 and 3*

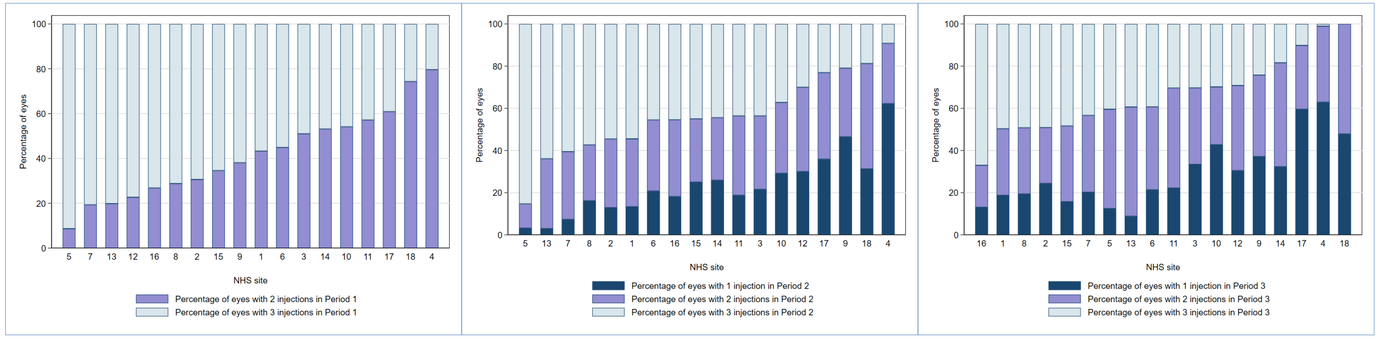


Figure 3. *Percentage of injections per eye for guidance non- adhering eyes in periods 1,2 and 3*

