



# The impact of COVID-19 on traumatic eye emergencies needing surgery

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## To the Editor:

We read with interest the recently published paper on the changing trends of ocular trauma during COVID-19 by Pellegrini et al. [1]. Although the burden of COVID-19 on health systems has increased, many have reported a trend in decreasing attendance to the emergency department; a 57% decrease across the United Kingdom [2, 3]. This was reflected by Pellegrini et al. [1] reporting a 68.4% reduction in the number of eye injuries.

In our retrospective, continuous comparative analysis of all trauma patients who presented to Birmingham and Midland Eye Centre, UK, a tertiary eye emergency department, we focus further on the major injuries that necessitated emergency surgical intervention. These injuries included eyelid lacerations, corneal and globe perforations, and retained intraocular foreign bodies (IOFB). Our study covers a similar time period, however, applies to the UK lockdown period from the 16th of March till the 30th of June 2020 when measures were starting to be relaxed. They were compared with patients during the same time period in the previous year, 2019. All data were extracted from electronic patient records (Medisoft Ophthalmology, Medisoft Limited, Leeds, UK) and analyses were performed using SPSS Statistics for V.25.0 (IBM Corp., Armonk NY).

During this time period, we report 13 surgical trauma cases out of 13,134 attendances in 2019 compared to 14 out of 6254 attendances in 2020. This represents a 52.4% reduction in patients attending the emergency department and a relative increase in surgical trauma cases by 2.3 times ( $p = 0.048$ ). Table 1 shows the demographics and clinical characteristics of both groups. There was no significant difference in the visual outcomes achieved post-surgery. Pre COVID-19, significantly more of these injuries were being sustained during a fall (0.038), whilst during COVID there were significantly more injuries being sustained at home ( $p = 0.013$ ), which is reflected by Pellegrini et al. It was however worrying that there was an increase in assault-related injuries, particularly those sustained at home. Several papers have reported an increase in domestic abuse during the lockdown, due to social isolation, external economic pressures and less support available, which may explain the changes noted in our study [4]. Although our study concurs with Pellegrini et al with regards to an overall reduction in attendance with more injuries being sustained at home, we found that those sustaining major injuries were still seeking medical attention. It is therefore reassuring that in the UK, the stay-at-home advice was not discouraging those with eye trauma necessitating surgical intervention to present to the eye department.

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**Table 1** Demographics and clinical characteristics of cases Pre and Post COVID-19 era.

	Total	Pre COVID-19 (March 16–June 30, 2019)	During COVID-19 (March 16–June 2020)	<i>p</i> Value
Total emergency attendance	19,388	13,134	6254	–
Total surgical trauma (%)	27 (0.14%)	13 (0.10%)	14 (0.22%)	<b>*0.048</b>
<i>Injury type</i>				
Globe perforation	13 (48%)	4 (31%)	9 (64%)	0.128
Sclero-corneal laceration	6 (22%)	4 (31%)	2 (14%)	0.385
Lid laceration	5 (19%)	3 (23%)	2 (14%)	0.648
IOFB	3 (11%)	2 (15%)	1 (7%)	0.596
<i>Place of injury</i>				
Occupational	2 (7%)	2 (15%)	0 (0%)	0.222
Residential	19 (70%)	6 (46%)	13 (93%)	<b>*0.013</b>
Not specified	6 (22%)	5 (38%)	1 (7%)	–
<i>Activity type</i>				
Home activity (DIY/ gardening, etc.)	14 (42%)	5 (39%)	9 (64%)	0.257
Assault	7 (26%)	2 (15%)	5 (36%)	0.385
Fall	4 (15%)	4 (31%)	0 (0%)	<b>*0.041</b>
Occupational	2 (7%)	2 (15%)	0 (0%)	0.222
<i>Grade of surgeon</i>				
Speciality trainee 3–7	14 (52%)	10 (77%)	4 (29%)	<b>*0.021</b>
Fellow	7 (26%)	1 (8%)	6 (43%)	0.077
Consultant	6 (22%)	2 (15%)	4 (29%)	0.648
Laterality (% Right)	12 (44%)	6 (46%)	6 (43%)	1.000
Gender (% Male)	19 (70%)	8 (62%)	11 (79%)	0.420
<i>Ethnicity</i>				
White	13 (48%)	8 (62%)	5 (36%)	0.257
South Asian	2 (7%)	0 (0%)	2 (14%)	0.481
Black	3 (11%)	2 (15%)	1 (7%)	0.596
Mixed	2 (7%)	2 (15%)	0 (0%)	0.222
Other	7 (26%)	1 (8%)	6 (43%)	0.077
Age	39 (28–57)	32 (15–51)	45 (35–57)	0.220
PreOp VA (LogMAR)	1.00 (0.18–2.70)	0.40 (0.18–1.00)	2.40 (1.00–2.70)	0.091
PostOpVA (LogMAR)	0.78 (0.18–2.70)	0.30 (0.18–1.78)	2.55 (0.24–2.85)	0.235
LogMAR Gain (LogMAR)	0.00 (0.00–0.30)	0.22 (–0.12–0.40)	0.00 (0.00–0.00)	0.797

Age and LogMAR are reported as median (interquartile range), with *p* values from Mann–Whitney *U* tests, or as *N* (%), with *p* values from Fisher's exact tests for two groups or chi-squared test for >2 groups.

\**p* Values significant at *p* < 0.05.

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## Compliance with ethical standards

**Conflict of interest** The authors declare no competing interests.

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