

Changing patterns of posterior segment trauma during the COVID-19 pandemic: A regional analysis from the Bodhya Eye Consortium

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Purpose: To assess changes in the presentation patterns of posterior segment trauma during the COVID-19 pandemic from six tertiary eye care institutes of North and Central India. **Methods:** A multicenter, hospital-based, retrospective comparative analysis of patients presenting with posterior segment trauma was done during the COVID-19 (Group A) (March 25, 2020 - September 30, 2020) period and the pre-COVID-19 (Group B) (March 25, 2019 - September 30, 2019) period. **Results:** A total of 405 patients were diagnosed with posterior segment trauma (Group A: 206, Group B: 199). The time interval between onset of trauma and presentation was higher in Group A (16.59 ± 29.87 days) as compared to Group B (9.41 ± 19.19 days) ($P = 0.004$). A majority of patients in Group A had a history of prior consultation before presentation ($P = 0.049$). In Group A, 120 (58.2%) patients sustained ocular trauma at home as compared to 80 (40.2%) patients in Group B ($P < 0.0001$). Patients presenting with light perception were significantly more in Group A (43.7%) as compared to Group B (30.2%) ($P = 0.004$). In Group B, 37.6% patients had presenting visual acuity of counting finger or better as compared to 27.6% patients in Group A ($P = 0.07$). Patients in Group A had a significantly higher proportion of post-traumatic endophthalmitis with delayed presentation ($P = 0.011$) and retinal detachment ($P = 0.041$). Patients undergoing surgery for foreign-body removal were significantly fewer in Group A ($P = 0.05$). **Conclusion:** Although the number of patients presenting with posterior segment trauma was comparable in Groups A and B, a greater number of patients sustained home injuries during the COVID-19 pandemic. A majority of these patients had delayed presentation with poor presenting visual acuity and a higher tendency of retinal detachment.

Key words: Closed globe injury, COVID-19, ocular trauma, open globe injury, posterior segment trauma

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The COVID-19 pandemic is considered the most critical global health disaster of the century and the greatest challenge that mankind has faced since World War II.^[1-3] The highly contagious nature of the virus, the high morbidity and mortality rates associated with the disease, questionable efficacy of the available drugs and vaccines, and an overburdened health care system were compelling factors that forced many countries to enforce strict lockdowns. India was no different and there was an early nationwide lockdown implemented on March 25, 2020.^[4,5] During this lockdown, a majority of the Indian population remained within the confines of their homes. Even as work from home became the new norm for many professionals and employees, it was noticed that a significant number of ocular trauma patients from the adult and pediatric age groups presented to various tertiary eye care hospitals in different parts of India.^[6,7]

Ocular trauma is an important cause of ocular morbidity, especially among the working population.^[8-11] Of the known

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ocular injuries, those involving the posterior segment are relatively complex to handle due to concurrent retinal involvement. Such injuries have poor visual outcomes unless treated in a timely manner.^[6,12-16] In this study, we assessed changes in the patterns of posterior segment trauma and its possible causes by conducting a regional multicenter study following the national lockdown in 2020 due to the COVID-19 pandemic.

Methods

This multicenter, retrospective study was conducted at six tertiary eye care institutes in North and Central India. These six tertiary eye care institutes are a part of the Bodhya Eye Consortium (BEC). Four institutes involved in this study are located in an urban area, whereas two institutes are in a rural area. The purpose of the eye consortium is to allow the development of evidence-based and consensus-led protocols through consistent and robust big data from both urban and rural eye care institutes from Central and North India. The ethics committees of all the six participating institutes and the scientific committee of BEC (SCBEC/2021/JAN/09) approved the study, and it was conducted in full accord as per the tenets of the Declaration of Helsinki. Commonly agreed protocols for the collection of data were developed and a common proforma was used to collect data at each of the institutes. Name and medical registration number of patients were not used during data analysis to maintain anonymity.

All the participating institutes are tertiary eye referral centers in their respective regions and follow standard protocols of comprehensive eye check-up for all the patients. In three institutes where electronic medical records (EMR) were in place, the databases were searched using the diagnostic codes "open globe injury (OGI)" and "closed globe injury (CGI)." In the remaining three institutes, the departmental trauma registry was reviewed to identify trauma cases with posterior segment involvement. A common excel sheet was designed and agreed upon by all the participating institutes to ensure uniformity in data. The study included all consecutive patients diagnosed with either open globe injury (OGI) or closed globe injury (CGI) with concurrent involvement of the posterior segment. Patients presenting between March 25, 2020 and September 30, 2020 were categorized under COVID-19 period cases (Group A), whereas those presenting during the same period of the previous year (i.e., March 25, 2019 - September 30, 2019) were categorized under pre-COVID-19 cases (Group B). We excluded patients diagnosed with zone 1 injuries in the absence of posterior segment involvement and patients with inadequate documentation.

Data collection included details of the demographic profile such as age, gender, and area of presentation (rural/urban). It also included details of the trauma sustained such as the place of injury, object causing the injury, mechanism of injury, nature of the injury, the time interval between injury and presentation, prior consultation, clinical presentation, and treatment received. All the participating institutes followed the guidelines formulated by the expert committee of the All India Ophthalmological Society for managing patients during the COVID-19 pandemic.^[17] These included the use of personal protective equipment (PPE) for on-duty staff, reduction in workforce, entry-point screening for COVID-19 symptoms

and body temperature measurement, following adequate social distancing norms, and sanitization. The COVID-19 test was not uniformly performed in all the institutes. Depending upon the policy of the particular institute and availability of tests, four institutes performed rapid antigen test/real time-polymerase chain reaction test, while two institutes did not perform any COVID-19 test for patients undergoing emergency surgery. Ocular injuries were classified as per the Birmingham Eye Trauma Terminology System.^[18,19] Posterior segment injuries were defined as zone 3 injuries. Visual acuity at presentation was recorded using Snellen's visual acuity chart. An X-ray orbit was performed in all the patients with OGI. Ocular ultrasonography was performed in all the eyes with suspected retained intraocular foreign body (RIOFB) and eyes in which the posterior segment could not be visualized due to media haze. A computerized tomography (CT) scan was performed at the discretion of the treating ophthalmologist. Fundus fluorescein angiography (FFA) and optical coherence tomography (OCT) were performed at the discretion of the treating ophthalmologists.

Indications for surgeries included OGI, hyphema, cataract, lens subluxation/dislocation, IOL drop, vitreous hemorrhage, endophthalmitis, IOFB, retinal detachment, giant retinal tear, retinal dialysis, panophthalmitis, epiretinal membrane, and macular hole. Patients with suspected endophthalmitis either underwent pars plana vitrectomy (PPV) with intraocular antibiotics or intraocular antibiotics alone. The decision regarding vitrectomy was taken based on the feasibility of performing vitrectomy depending upon the corneal clarity. At presentation, all the patients with suspected endophthalmitis received intravitreal vancomycin and ceftazidime; subsequently, the antibiotics were modified as per the antibiotics sensitivity report.

Statistical analysis

Data were collected and stored in a spreadsheet using Microsoft Excel software. Data management and coding were done in Excel. Data were analyzed using SPSS version 16.0 (IBM Inc., Chicago, IL, USA). Descriptive analysis was primarily carried out, where categorical variables were presented in the form of frequencies and percentages and continuous variables in the form of mean \pm standard deviation. The Pearson's Chi-square test and two proportion Z-test were used to analyze the difference between the two groups. $P < 0.05$ was considered statistically significant.

Results

A total of 1357 patients presented with a history of ocular trauma in the COVID-19 period (Group A) out of which 206 (15.1%) patients had posterior segment involvement. In the pre-COVID-19 period (Group B), 1388 patients presented with ocular trauma out of which 199 (14.3%) patients had posterior segment involvement. Hence, a total of 405 patients (Group A: 206, Group B: 199) satisfied the inclusion criteria and were part of the study. The mean age of the study population was comparable in both groups [Table 1]. In Groups A and B, a majority of the patients with posterior segment trauma were male [Table 1]. There was no observable difference in patients presenting from the urban or rural areas between the two groups. The time interval between sustaining the injury and presentation to the respective institutes was

Table 1: Demographic profile of the study population

Parameters	Group A COVID-19 (n=206)	Group B Pre-COVID-19 (n=199)	P
Mean Age (Years)	26.85±16.13	28.64±16.01	0.264
Age group (years)			
0-16	50 (24.3)	46 (23.1)	0.76
17-50	132 (64.1)	135 (67.8)	0.46
>50	24 (11.6)	18 (9.1)	0.37
Gender			
Male	172 (83.5)	159 (79.9)	0.29
Female	34 (16.5)	40 (20.1)	
Residence			
Urban	96 (46.6)	95 (47.7)	0.85
Rural	110 (53.4)	104 (52.3)	
Time interval between injury and presentation (days)	16.59±29.87	9.41±19.19	0.004
Prior to presentation			
Consultation taken	142 (68.9)	118 (59.3)	0.049
Medical Management	102 (49.8)	100 (50.3)	0.92
Surgical Management	35 (17.1)	24 (12.1)	0.15

(numbers in parenthesis indicates percentage)

significantly higher in Group A (16.59 ± 29.87 days) as compared to Group B (9.41 ± 19.19 days) ($P=0.004$). On further analysis in urban areas, the time interval between injury to presentation was 17.52 ± 33.90 days in Group A compared to 10.19 ± 15.57 days in Group B ($P = 0.057$) Similarly, in rural areas, the time interval between injury to presentation was 16.92 ± 27.23 days in Group A compared to 9.27 ± 22.85 days in Group B ($P = 0.033$) The proportion of patients obtaining a prior consultation was higher in Group A as compared to Group B ($P = 0.049$).

Patients did not present to the emergency departments of any of the institutes for an initial one week after the announcement of the lockdown [Fig. 1]. However, there was a gradual increase in the number of patients in the subsequent days in Group A (COVID-19 period). A total of 120 (58.2%) patients sustained ocular trauma at home in Group A as compared to 80 (40.2%) patients in Group B ($P < 0.0001$). On the contrary, in Group A, 62 (30.1%) patients suffered ocular trauma at the workplace as compared to 98 (49.2%) patients in Group B ($P < 0.0001$). Patients sustaining trauma during road traffic accidents were comparable in both groups. On subgroup analysis of the urban population, home injuries were more common in the COVID-19 period ($P = 0.016$) whereas work-related injuries were more common in the pre-COVID -19 period ($P=0.008$). Similarly, in the rural population, home injuries were more common in the COVID-19 period ($P=0.009$) whereas work-related injuries were more common in the pre-COVID-19 period ($P = 0.002$) [Table 2]. The most common injury inflicting agent in Group A was metallic FB in 54 (26.6%) eyes followed by wooden stick in 43 (20.8%) eyes, cow horn in 11 (5.3%) eyes, glass in 4 (1.9%) eyes, and plastic in 4 (1.9%) eyes. In Group B, it was observed that ocular trauma was caused by a metallic object in 67 (33.6%) eyes, wooden stick in 33 (16.5%) eyes, cow horn in 8 (4%) eyes, and glass in 2 (1%) eyes. The difference between the two groups was not statistically significant.

In Group A, 149 (72.3%) patients sustained open globe injuries while 55 (26.6%) sustained closed globe injuries.

However, in Group B, 132 (66.3%) patients had open globe injuries and 66 patients (33.1%) had closed globe injuries. Zone 1 injury was more common in Group A as compared to Group B ($P = 0.0009$), while zone 2 injury was more common in Group B as compared to Group A. A sealed corneal tear was present in 10 (4.9%) patients in Group A as compared to 2 (1%) patients in Group B ($P = 0.022$) [Supplementary File 1].

Among patients with OGI, traumatic endophthalmitis was diagnosed in 28 (18.7%) and 21 (15.9%) eyes in Groups A and Group B, respectively. In eyes with traumatic endophthalmitis, the time interval between injury and presentation was significantly higher in Group A (7.8 ± 11.8 days) as compared to Group B (7.2 ± 5.33 days) ($P=0.011$). There was no difference in the microbiological profile of patients presenting with endophthalmitis. The most common organism isolated was *Staphylococcus epidermidis* in both groups. Other factors, including area of presentation, injuries sustained at home, presence of IOFBs, and injuries with metallic objects, were comparable between both groups.

RIOFBs were present in 31 (20.8%) and 27 (20.4%) eyes in Groups A and Group B, respectively. Details of the clinical characteristics of patients are listed in Table 3 and Supplementary File 1. In Group A, 90 (43.7%) patients presented with a vision of perception of light as compared to 60 (30.2%) patients in group B ($P = 0.004$). In Group B, 37.6% patients had presenting visual acuity of counting finger or better as compared to 27.6% patients in Group A ($P = 0.07$). Retinal detachment (RD) was observed in 64 (31.1%) and 42 (21.3%) eyes in Groups A and B, respectively ($P=0.041$). Other posterior segment manifestations, such as vitreous hemorrhage, retinal tear, subretinal bleed, macular hole, Berlin's edema, choroidal rupture, and choroidal detachment, were comparable between the two groups [Table 3 and Fig. 2].

A total of 75 (36.6%) patients in Group A and 58 (29.1%) patients in Group B were treated conservatively with medications [Table 4]. In Group A, surgical intervention was

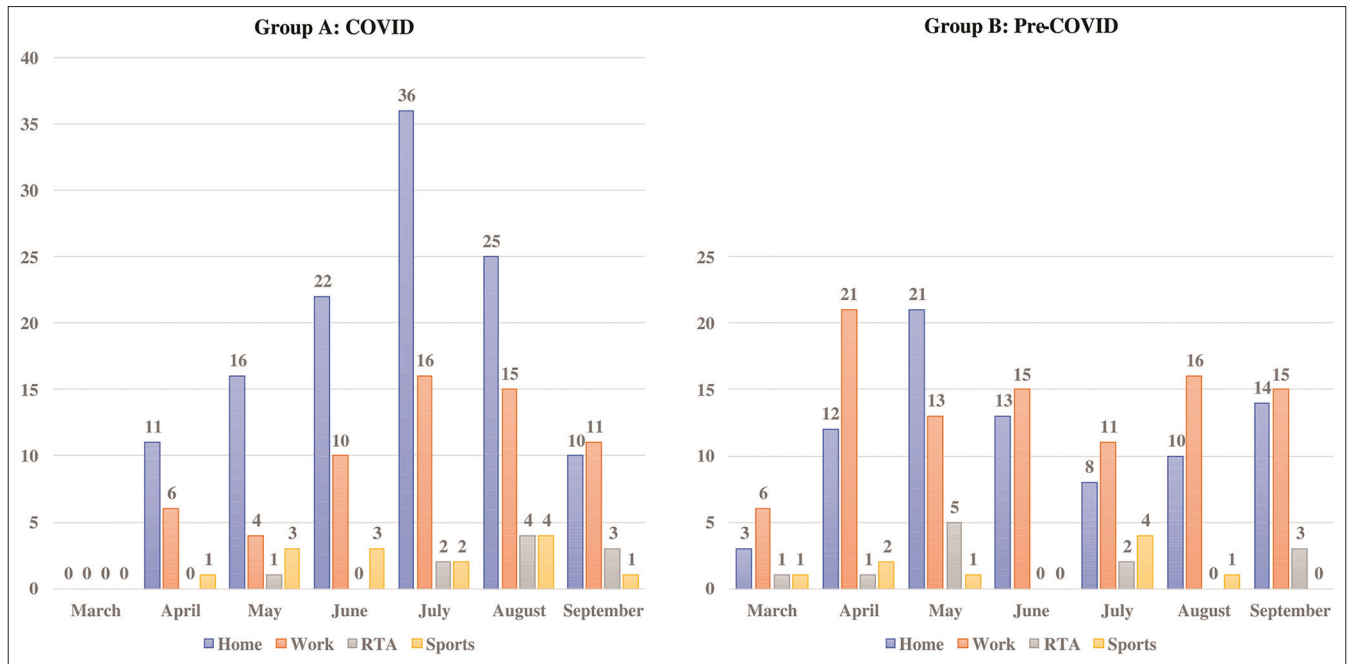


Figure 1: Monthly variation in patient presentation in both COVID-19 and Pre-COVID-19 era (RTA: Road Traffic Accident)

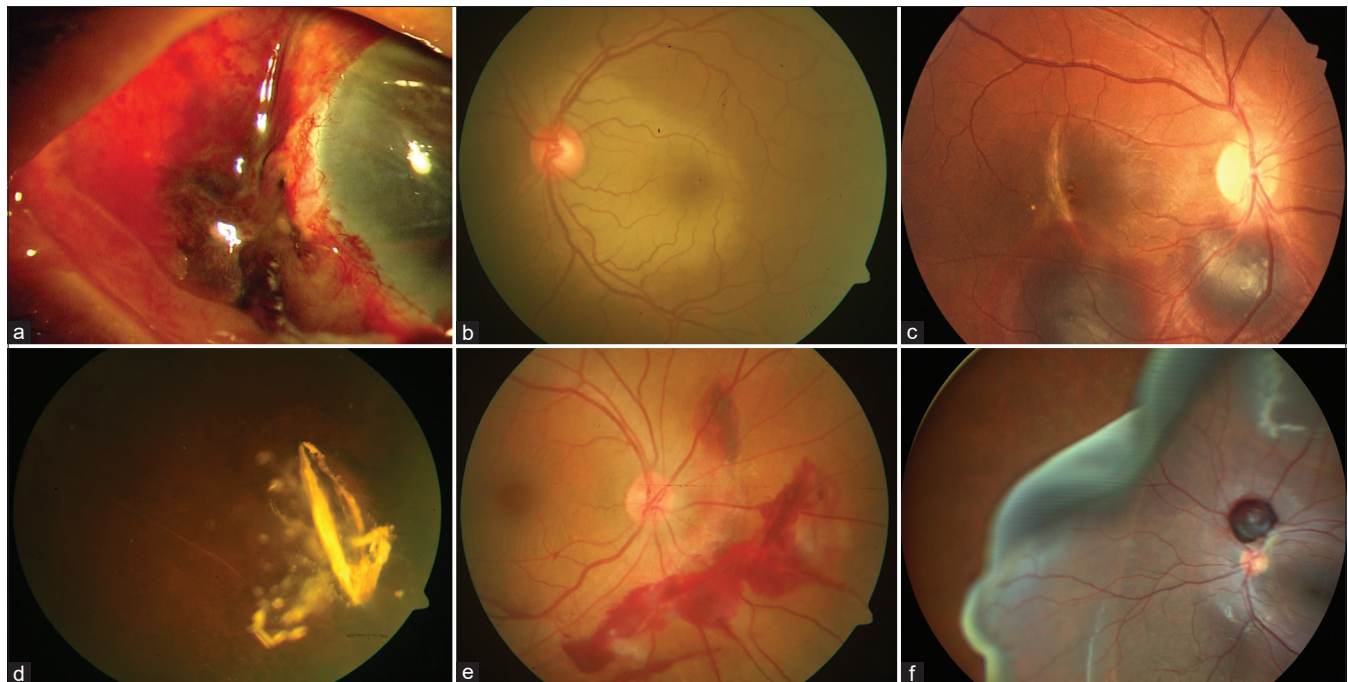


Figure 2: (a) Slit-lamp image showing scleral tear, uveal tissue prolapse, subconjunctival hemorrhage, and corneal folds. (b) Fundus images showing commotio retinae. (c) Choroidal rupture passing through the center of the fovea and subretinal hemorrhage inferiorly. (d) Metallic foreign body impacted in the retina. (e) Preretinal bleed in the nasal and inferonasal quadrant. (f) Giant retinal tear with redundant retinal flap and adjoining retinal detachment in the nasal quadrant and preretinal bleed superior to the optic disc

carried out on 130 (63.4%) patients, whereas in Group B, 140 (70.4%) patients underwent surgical intervention for the management of ocular trauma ($P = 0.12$). In both groups, primary wound repair was the most common type of surgical intervention carried out in 65 (31.6%) and 78 (43.1%) patients, respectively. Lens extraction was performed in 21 (10.19%) patients in Group A and 26 (13.06%) patients in Group B. Pars plana vitrectomy was carried out in 89 (43.2%) patients in

Group A and 82 (41.2%) patients in Group B. Out of the 28 eyes with traumatic endophthalmitis in Group A, 24 eyes underwent PPV with intraocular antibiotics while 4 eyes received only intraocular antibiotics; whereas in Group B, out of 21 eyes with traumatic endophthalmitis, 15 eyes underwent PPV with intraocular antibiotics while 6 eyes received only intraocular antibiotics. Out of the 31 patients with RIOFB, only 11 (38.7%) patients underwent surgery for FB removal in Group A, whereas

out of 27 patients, 21 (77.7%) patients underwent surgery for FB removal in Group B ($P = 0.05$). Twelve patients did not consent for IOFB removal surgery in group A. In Group A, 7 eyes had iron FBs, 2 had wooden, and 2 had glass FBs. In Group B, 13 eyes had iron FB, 4 eyes had glass, and 3 eyes had wooden FBs. In Group A, 2 eyes underwent evisceration. Both eyes had no light perception vision with OGI zone 3 injury and RD at presentation. In Group B, six eyes underwent evisceration. All had no light perception vision at presentation. Five eyes had OGI zone 3 injury and 1 eye had painful blind eye following CGI. One eye with OGI had a large intraocular FB.

Discussion

In our multicenter study, we aimed to analyze if the COVID-19 pandemic and resultant lockdown were responsible for any alteration in demographics, clinical characteristics, and management patterns relating to ocular trauma of the posterior segment. The COVID-19 pandemic and its associated lockdown were responsible for altered lifestyles and limited access to medical/healthcare facilities. The lockdown period was associated with more people being confined to their homes and a subsequent reduction in travel-based and outdoor activities.

In our study, the mean age at presentation and gender distribution were similar between the two groups. With more people staying at home, cases of domestic violence were expected to rise. However, the gender distribution was

the same as the previous year. In both groups, the urban and rural populations showed similar patterns of presentation. There was a significant increase in the time to presentation during the COVID-19 period (16.59 days) as compared to the year before (9.41 days). This could be attributed to the lack of available transport during the lockdown, fear of visiting hospitals, and lack of access to the required medical care with trained posterior segment surgeons.^[16] Interestingly, there were a higher number of patients who had taken a prior consultation before presenting to a tertiary eye care hospital in Group A as compared to Group B. This could be attributed to a significant increase in teleophthalmology and local consultations during the COVID-19 period with greater difficulty in accessing a tertiary eye care facility.^[20] During the lockdown period, patients naturally avoided traveling to distant centers and opted for the closest, accessible centers. There could have been more people who could not visit the

Table 2: Subgroup analysis of the place of injury

Place Of Injury	Subgroup 1	Subgroup 2	P
I	Urban COVID-19 (n=96)	Rural COVID-19 (n=110)	
Home	57	63	0.75
Work	25	37	0.23
RTA	5	5	0.82
Sports	9	5	0.17
II	Urban Pre-COVID-19 (n=95)	Rural Pre-COVID-19 (n=104)	
Home	40	41	0.70
Work	42	56	0.17
RTA	7	4	0.27
Sports	6	3	0.24
III	Urban COVID-19 (n=96)	Urban Pre-COVID-19 (n=95)	
Home	57	40	0.016
Work	25	42	0.008
RTA	5	7	0.53
Sports	9	6	0.42
IV	Rural COVID-19 (n=110)	Rural Pre-COVID-19 (n=104)	
Home	63	41	0.009
Work	37	56	0.002
RTA	5	4	0.80
Sports	5	3	0.52

Table 3: Posterior segment manifestations in both the groups

Parameters	Group A COVID-19 (n=206)	Group B Pre-COVID-19 (n=199)	P
Vitreous			
Haemorrhage	102 (49.5)	105 (52.8)	0.51
Exudates	23 (11.2)	20 (10.1)	0.71
Retina			
Retinal tear	7 (3.4)	9 (4.6)	0.56
Retinal dialysis	3 (1.5)	5 (2.5)	0.44
Giant retinal tear	0	2 (1.0)	0.14
Retinal detachment	64 (31.1)	42 (21.3)	0.041
Extramacular subretinal bleed	6 (3)	11 (5.6)	0.19
Retinal haemorrhage	6 (2.9)	9 (4.4)	0.38
Macula			
Macular hole	6 (2.9)	4 (2)	0.16
Epiretinal membrane	3 (1.5)	1 (0.5)	0.33
Subfoveal haemorrhage	24 (11.6)	19 (9.5)	0.49
Commotio retinae	11 (5.3)	13 (6.5)	0.61
Foveal atrophy	2 (1.0)	4 (2)	0.38
Hypotonic maculopathy	1 (0.5)	0	0.32
Choroid			
Choroidal rupture	8 (3.9)	16 (8)	0.076
Choroidal detachment	16 (7.8)	27 (13.6)	0.058
Intraocular foreign body (IOAB)			
Corneal	1 (3.2)	1 (3.7)	0.98
Anterior chamber	0	1 (3.7)	0.3
Iris	0	1 (3.7)	0.3
Lens	1 (3.2)	2 (7.4)	0.54
Pars plana	0	1 (3.7)	0.3
Vitreous	16 (51.6)	10 (37)	0.25
Retina/Choroid	13 (41.9)	11 (40.7)	0.74

(numbers in parenthesis indicates percentage)

Table 4: Management details in both the groups

Management	Group A COVID-19 (n=206)	Group B Pre-COVID-19 (n=199)	P
A) Conservative (Medical)	75 (36.6)	58 (29.1)	0.11
B) Surgical	130 (63.4)	140 (70.4)	0.12
1) Primary Wound Repair	65 (31.6)	78 (43.1)	0.021
2) Scleral Buckle	1 (0.5)	7 (3.5)	0.034
3) Lens related			
Cataract Extraction	6 (3)	11 (5.5)	0.19
Pars Plana Lensectomy	9 (4.5)	13 (6.5)	0.33
Phacofragmentation	6 (3)	2 (1)	0.16
Intraocular Lens Explantation	0	1 (0.5)	0.3
4) Pars plana vitrectomy			
Pars Plana Vitrectomy + Silicone Oil	40 (20.1)	28 (14.1)	0.183
Pars Plana Vitrectomy + Gas Tamponade	25 (12.5)	39 (19.6)	0.041
Pars Plana Vitrectomy + Intraocular antibiotics	24 (12)	15 (7.5)	0.18
5) Intraocular antibiotics	12 (6)	10 (5)	0.828
6) Intraocular foreign body removal	11 (5.3)	21 (10.5)	0.065
7) Evisceration	2 (1)	6 (3)	0.169
8) Anterior chamber wash	5 (2.4)	0	0.061

(numbers in parenthesis indicates percentage)

hospital due to limitations faced due to COVID-19-related lockdown.

The imposition of the lockdown led to the general population being confined to their homes. Due to this, the number of injuries inflicted at home was significantly higher during the COVID-19 period. Similar reports were also observed in other studies [Table 5]. The higher number of patients sustaining trauma at home during the COVID-19 period could be attributed to lack of domestic help forcing people to perform household repairs and maintenance on their own without using any protective gear, sports-related injuries, and domestic violence.^[13,21] The lockdown also had an adverse impact on the economy prompting multiple sectors to resort to the concept of “work from home.” As a result, during the subsequent months, work from home became a common norm in many fields. This, in turn, is reflected in our observation that the injuries sustained at home increased after the lockdown and were higher than those sustained at work. Similar observations were noticed in other studies from India, the United States, and the United Kingdom.^[13,22,23] With the easing of travel restrictions during the later months and reopening of workplaces, we observed an increase in incidents of workplace trauma. The observed increase in the incidents of workplace trauma during the unlock period could be due to the backlog or work pressure created due to the lockdown.

We observed a higher number of patients presenting with light perception vision during the COVID-19 period. The delay in presentation due to lack of available transport along with fewer functioning hospitals could have led to worsening of the initial trauma resulting in poor visual acuity at presentation.^[16] In our study, we observed that post-traumatic retinal detachments were significantly higher in the COVID-19 period. This can be attributed to a delay in performing the primary wound repair, untreated posterior segment trauma leading to persistent vitreous traction, and lack of access to vitreoretinal specialists to detect and provide timely treatment

of post-traumatic retinal tears, thereby leading to a higher incidence of retinal detachments. The proportion of patients developing post-traumatic vitreous hemorrhage, retinal tear, macular hole, Berlin’s edema, and choroidal rupture were comparable between the two groups.

Ocular trauma complicated by endophthalmitis has poor visual and anatomical outcomes. If repair of primary open globe injuries is delayed by more than 24 hours, RIOFBs, soil contaminated injuries, organic matter, ruptured lens capsules, large wound size, and vitreous prolapse through the open globe wounds are the risk factors for traumatic endophthalmitis.^[24] The incidence of post-traumatic endophthalmitis was comparable in both groups, and the most common cause was OGI with a metallic object. However, due to a delay in presentation to a tertiary eye care hospital offering vitreoretinal services, a lesser number of eyes could undergo surgical intervention, and the majority were managed conservatively.

Various studies report the posterior segment as the most common site of RIOFB.^[24-26] In our series, we found that 86.2% of RIOFB were located in the vitreous or retina/choroid. In the COVID-19 period, only 38.7% of patients underwent surgery for RIOFB removal, whereas 77.7% of patients underwent surgery in the pre-COVID-19 period. In some of these eyes, surgery was not possible due to late presentation, while a few patients did not consent for IOFB removal possibly due to financial constraints or because of the expected uncertain functional outcomes attributed to the late presentation.

The limitations of our study are its retrospective design and its associated biases. Moreover, although excel sheets were used for all data entries, the documentation and management protocols could have varied in the different tertiary institutes. We did not assess the socioeconomic status of the patients and this could have bearing on the treatment part. Lastly, the anatomical and visual outcomes were not assessed and compared between the two groups due to inadequate follow-up

Table 5: Comparison between the current study and previously published studies

Parameters	Current study	Agrawal <i>et al.</i> ^[13]	Stedman <i>et al.</i> ^[6]	Wu <i>et al.</i> ^[22]
Country	India	India	United Kingdom	United States
Study period	25 March 2020–30 September 2020	25 March 2020–31 July 2020	23 March 2020–4 July 2020	23 March 2020–20 April 2020
Inclusion criteria	Ocular trauma with posterior segment involvement	All ocular trauma	Serious ocular trauma	Severe ocular trauma
Number of patients	206	71	10	62
Mean age (years)	26.8	26.7	-	41.1
Residence				
Rural	110 (53.4)	50 (70.5)	-	-
Urban	96 (46.6)	21 (29.5)	-	-
Time interval Between injury and presentation (days)	16.59	10.2	1.1	3
Prior consultation	142 (68.9)	48 (67.6)	-	-
Place of Injury				
Home Injury	120 (58.2)	56 (78.8)	7 (70)	52 (84)
Work place injury	62 (30)	12 (16.9)	1 (10)	4 (7)
Road Traffic accident	10 (4.8)	3 (4.2)	-	6 (10)
Clinical features				
Hyphaema	67 (32.5)	-	-	26 (35)
Vitreous haemorrhage	102 (49.5)	-	-	2 (3)
Comotio retinae	11 (5.3)	-	-	7 (9)
Retinal detachment	64 (31.1)	-	-	0
Intraocular foreign body	31 (15.4)	1 (1.4)	2 (20)	-

(numbers in parenthesis indicates percentage)

data during the COVID-19 era. Our study is the first to observe changes in the patterns of posterior segment trauma manifestations during the COVID-19 period by comparing it with the pre-COVID-19 period. The study is strengthened by the large sample size and the multicentric nature of the study, which gives a broader perspective of the entire population.

Conclusion

To conclude, although the number of patients presenting with posterior segment trauma was comparable between the COVID-19 and pre-COVID-19 periods, a larger number of patients reported home injuries during the COVID-19 pandemic. A majority of these patients had delayed presentation with poor presenting visual acuity and a high tendency of retinal detachment. Awareness needs to be created about the protective measures to be undertaken so as to avoid eye injuries during these testing times and thereby prevent ocular morbidity.

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Conflicts of interest

There are no conflicts of interest.

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