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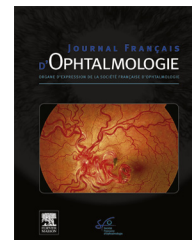


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ORIGINAL ARTICLE

# Impact of the first lockdown related to the COVID-19 pandemic on ophthalmic emergencies in a French University Hospital



*Impact du premier confinement lié à la pandémie de la COVID-19 sur les urgences ophtalmologiques à l'hôpital universitaire de Tours*

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Ophthalmic emergencies;  
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Lockdown

## Summary

**Introduction.** — At the beginning of the COVID-19 pandemic, the French government implemented its first national lockdown between March and May 2020 in order to limit the dissemination of the virus. This historic measure affected patients' daily lives and transportation, resulting in changes in the delivery of medical care, particularly emergency care. This study aimed to assess the impact of this restriction policy on the number and severity of ophthalmic emergencies seen in an ophthalmology emergency department.

**Methods.** — This retrospective study conducted at the regional university Hospital of Tours included all patients presenting to the ophthalmology emergency department over four periods: lockdown (03/16/2020 to 05/10/2020), post-lockdown (05/11/2020 to 06/12/2020) and the two corresponding periods in 2019. The following data were recorded: sex, age, time of visit, reason for visit, diagnosis, severity of emergency graded on the BaSe SCORe, time from first symptoms until visit, existence of a work-related injury, and referral source (ophthalmologist or other).

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**Results.** – A total of 1186 and 1905 patients were respectively included during the 2020 lockdown period and the corresponding period in 2019. The study populations for the 2019 and 2020 post-lockdown periods consisted of 1242 and 1086 patients respectively. During the lockdown, the number of consultations decreased significantly (–37.7%), affecting mild and severe emergencies similarly. During the post-lockdown period, the number of emergencies gradually increased but did not reach the level of the corresponding period in 2019 (–12.6%).

**Conclusion.** – The first French lockdown resulted in a significant decrease in ophthalmic emergency visits, similar for all levels of severity. All age groups were impacted similarly, without the expected exaggerated decrease for patients over 50 years of age, who are considered to be at greater risk for developing a severe form of COVID-19. The post-lockdown period showed a gradual increase in ophthalmic emergency visits, although these remained fewer than the previous year.

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## MOTS CLÉS

Urgences  
ophtalmologiques ;  
BaSe SCOrE ;  
Épidémiologie ;  
Pandémie ;  
COVID-19 ;  
Confinement

## Résumé

**Introduction.** – La pandémie liée au virus de la COVID-19 a nécessité la mise en place d'un confinement total en France entre mars et mai 2020 afin de limiter la propagation virale. Cette mesure historique a impacté le mode de vie et les déplacements des patients avec pour conséquence une modification de l'activité médicale et notamment celle des centres d'urgences. L'objectif de cette étude était d'évaluer l'impact du confinement sur le flux et la sévérité des urgences ophtalmologiques.

**Méthodes.** – Il s'agit d'une étude rétrospective au Centre Hospitalier Régional Universitaire de Tours portant sur tous les patients se présentant aux urgences ophtalmologiques sur quatre périodes: confinement (16/03/2020 au 10/05/2020), déconfinement (du 11/05/2020 au 12/06/2020) et les deux périodes correspondantes en 2019. Les données suivantes ont été recueillies: sexe, âge, heure de consultation, motif de consultation, diagnostic, sévérité de l'urgence gradée à partir du BaSe SCOrE, délai de consultation depuis les premiers symptômes, notion d'accident du travail, mode d'adressage du patient (par un ophtalmologiste ou autre).

**Résultats.** – Au total, 1186 et 1905 patients ont été respectivement inclus durant la période de confinement 2020 et celle correspondante en 2019. Les populations d'étude des périodes de déconfinement 2020 et 2019 contenaient respectivement 1086 et 1242 patients. Le confinement a été marqué par une baisse du nombre de consultations de 37,7%. Cette baisse d'activité a autant impacté les diagnostics bénins et sévères en proportion. Le nombre de consultations au déconfinement a progressivement augmenté sans atteindre le niveau de l'année précédente à la même période (–12,6%).

**Conclusions.** – Le confinement en 2020 a provoqué une baisse importante du nombre d'urgences ophtalmologiques, à parts égales pour tous les niveaux de sévérité. Toutes les classes d'âge ont été impactées sans qu'il y ait de réduction plus importante pour celle de plus de 50 ans, considérée comme plus à risque de forme grave de COVID-19. L'impact du confinement s'est fortement atténué au déconfinement malgré une baisse d'activité persistante de 12,6%.

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## Abbreviations

AACG	Acute angle-closure glaucoma
ICH	Intracranial hypertension
MERS-CoV	Middle East respiratory syndrome–related coronavirus
NVG	Neovascular glaucoma
PVD	Posterior vitreous detachment
RUH	Regional University Hospital of Tours
SARS	Severe acute respiratory syndrome

SARS-coV-2	Severe acute respiratory syndrome coronavirus 2
TIA	Transient ischemic attack

## Introduction

The year 2020 was marked by a viral pandemic related to the SARS-CoV-2 virus (Severe Acute Respiratory Syndrome Coronavirus 2). This RNA virus belongs to the coronavirus family, which consists of two other viruses that have been

responsible for fatal epidemics since the beginning of the 21st century; namely SARS-CoV responsible for the SARS epidemic between 2002 and 2004 and the MERS-CoV which caused an epidemic essentially in the Middle East between 2012 and 2014. SARS-CoV-2 is responsible for the coronavirus disease-19 (COVID-19) which continues to affect the world's population today.

This virus was first identified at the end of 2019 in Wuhan [1], a metropolis of Hubei province in China, before rapidly spreading to the rest of the world. The exact origin of this virus remains debated, although it is assumed that the initial transmission to humans came from an animal host [1]. The clinical manifestations of SARS-CoV-2 are quite heterogeneous and of variable intensity (fever, cough, diarrhoea, headache, loss of taste or smell). Nevertheless, for some people it causes serious acute respiratory distress syndromes that can lead to death. The main modes of transmission of this highly contagious virus are direct contact (surface) and airborne (droplets). Due to the rapidity of this viral dissemination to all continents at the beginning of 2020 as well as the severity of the disease that it caused, the World Health Organization qualified the COVID-19 disease as a pandemic on March 11, 2020 [2]. At that time, there were 4.16 million cases and 285,000 deaths worldwide [3].

The rapid and significant increase in cases and hospitalizations related to COVID-19 in France prompted the government to declare a state of health emergency by imposing a strict national lockdown measure between March 17, 2020 and May 10, 2020 included (7 weeks). In France this historic decision was unprecedented. In the past, no war or epidemic had ever resulted in a full lockdown of the entire population. This measure forced the population to stay at home and restrict their movements. Only certain activities were authorized with a certificate supervision system: first necessity shopping, medical consultations, work (if teleworking from home was impossible), and outings near home (less than 1 km and for less than 1 hour) for individual sport training or to walk the dog. Failure to comply with the rules resulted in a fine. The primary aim of the lockdown was to limit human contact to attenuate the transmission of the virus in order to avoid the saturation of hospitalization services, especially those in intensive care which deal with severe cases.

The COVID-19 pandemic has also had consequences on the French healthcare system (e.g. a 30% reduction in myocardial infarctions in cardiovascular emergency centres [4]). In particular, ophthalmologic emergencies could have been impacted, as highlighted by a Spanish study which found a 65% drop-in activity [5].

The main objective of this study was to assess the evolution of patient flows in the ophthalmology emergency department at the Regional University Hospital (RUH) of Tours during the 2020 lockdown and post-lockdown periods compared to the reference periods in 2019. The secondary objective was to assess the impact of lockdown on the severity of ophthalmologic emergencies.

## Materials & methods

### Study design

We conducted a retrospective study at the regional university hospital of Tours. All patients presenting to the

ophthalmology emergency department over four periods were included: lockdown (from 03/16/2020 to 05/10/2020), post-lockdown (from 05/11/2020 to 06/14/2020) and the two corresponding periods in 2019 that is from 03/18/2019 to 05/12/2019 and from 05/13/2019 to 06/15/2019.

Exclusion criteria were as follows: errors in file creation (blank file, duplicate file), patients coming for a follow-up consultation recorded on the emergency list and incomplete files.

### Ethical statement

In accordance with French law on biomedical research, given the retrospective and non-interventional nature of our study conducted on anonymised data, written informed consent was not required. A declaration to the French National Commission for Information Technology and Civil Liberties was registered under the n°2021.032. This study complied with the Jardé law and the ethical principles set out in the Declaration of Helsinki.

### Data collection

For each patient, the following data were extracted: gender, age, time of consultation, reason of consultation, diagnosis, severity of the emergency graded with the BaSe SCOrE (Basic Severity Score for Common Ocular Emergencies), time lapse from first symptoms to consultation, notion of a work accident, mode of referral of the patient (by an ophthalmologist or other). Working hours were defined as a consultation between 8am and 6pm on weekdays, excluding public holidays. In contrast, a consultation outside these time slots was categorised as non-working hours.

The variables were either binary responses (yes/no) or a list of predefined responses. The lists of reasons of consultation and diagnoses were predefined from similar studies published in the literature [6–8]. A maximum of 3 reasons and 2 diagnoses were attributable to one patient.

In order to assess the degree of emergency, the BaSe SCOrE tool was used. The BaSe SCOrE originates from a consensus of experts who assessed the severity of 86 of the most common ophthalmological conditions found in the emergency setting [6]. This score has been shown to be of use in the evaluation of the severity of ophthalmological emergencies in academic centres such as in the study conducted by Bourges et al. (Ophtalmopôle de Paris, Fondation ophtalmologique Adolphe De Rothschild and Centre National d'Ophtalmologie des Quinze-Vingts) [6] and in non-academic centres such as the study by Bigoteau et al. (Centre Hospitalier Jacques Coeur in Bourges) [9]. A severity score ranging from 0 (not severe at all) to 6 (maximum severity, untreatable) was assigned to each of these conditions. When more than one diagnosis was selected, only the one with the most severe score was used to establish the BaSe SCOrE. The diagnosis of chalazion was considered of grade 1 severity, even though it is not listed in the BaSe SCOrE.

### Statistical analyses

Descriptive statistics were used. Categorical variables were described by their number and percentage, while quantitative variables were described by their median or mean.

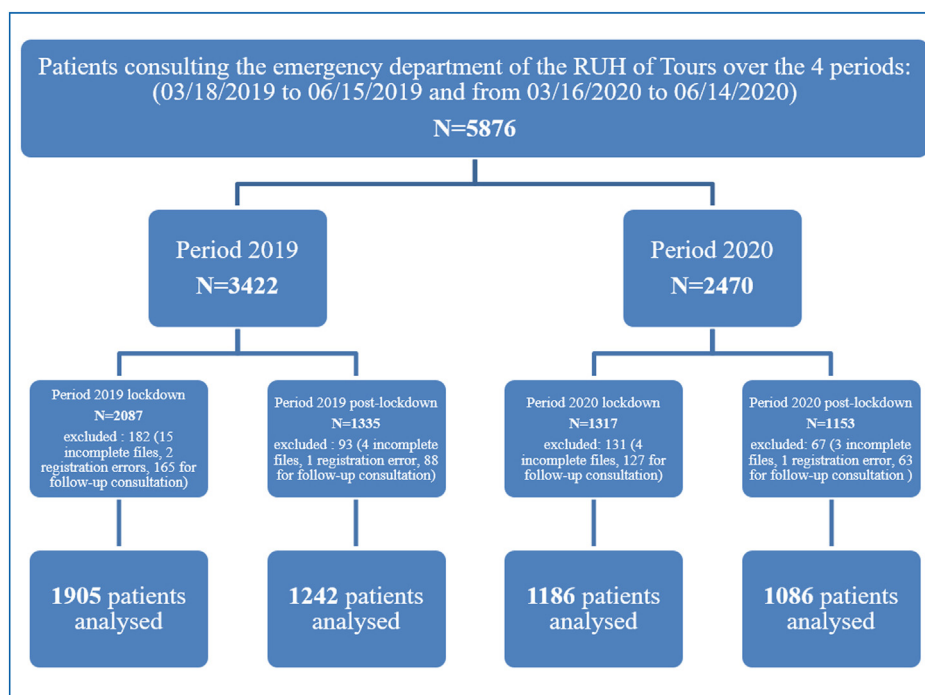


Figure 1. Flow chart.

## Results

The flow chart and patient characteristics are shown in Fig. 1 and Table 1 respectively. Reasons for consultation and diagnoses are described in Tables 2 and 3.

### Ophthalmic emergency flow

There was a decrease in activity of 62.8% during the first week of lockdown and 58% over the first 15 days of lockdown compared to the same periods in 2019 (Fig. 2). The decrease in activity over the entire lockdown period was 37.7% compared to the same period in 2019. During the post-lockdown month, there was a 12.6% decrease in activity compared to the same period in 2019.

Most of the activity was concentrated during working hours ( $\approx 70\%$  of consultations) with no significant difference between the 4 periods (Supplemental material 1).

### Severity

It can be seen that the reduction in activity equally impacted all severity levels during lockdown and in the post-lockdown month compared to the control periods (Fig. 3).

### Patient referral

The vast majority of patients were self-referred. Over the first 15 days of the lockdown in 2020 (corresponding to the closure of private ophthalmology practices) 1.3% of patients were referred by an ophthalmologist, compared to 3.6% in 2019 (Supplemental material 2).

## Discussion

This is the first French study to evaluate the impact of the first COVID-19 lockdown on ophthalmological emergencies. The decrease in activity during lockdown was 37.7% compared to the same period in 2019, equally impacting all stages of severity.

### Impact on ophthalmic emergency activity

The decrease in activity in our centre represented 62.8% during the first 15 days of lockdown. These results are in agreement with studies carried out in Italy reporting a decrease in activity ranging from 54 to 73% (Franzolin et al.: 59% decrease in the first week of confinement in Verona [10]; Salvatà et al.: 54.1% decrease over the entire lockdown period in Udine and Porderone [11]; Pellegrini et al.: 73% decrease over the entire lockdown period in Bologna [12]). The Israeli study by Yehezkeili et al. in the Meir Eye Centre reported a 42.8% decrease in activity during lockdown [13].

This drop-in activity could be multifactorial. The fear of viral contamination either during transport or at the hospital may have caused some patients not to consult a doctor in context of the initial shortage of masks and hydroalcoholic solution. Barrier measures and school closures may have limited infectious diseases. The use of telemedicine may have made it possible to avoid certain consultations, although it is not very developed in ophthalmology. The decrease in work accidents ( $-61.3\%$  during lockdown in our study compared to the control period) also contributed to the decrease in trauma cases.

**Table 1** Population characteristics (IQ1 and IQ3: Interquartile range 1 and 3).

	Lockdown 2019	Lockdown 2020	Post-lockdown 2019	Post-lockdown 2020
Number of patients	1905	1186	1242	1086
Age (median, IQ1–IQ3)	48 (32–65)	50 (34–66)	49 (31–67)	49 (31–65)
Masculine gender (n, %)	1003 (52,7)	671 (56,6)	643 (51,8)	581 (53,5)
Consultation time (in hours; mean $\pm$ standard deviation)	14,1 ( $\pm$ 3,7)	13,8 ( $\pm$ 3,6)	14,3 ( $\pm$ 3,9)	14,1 ( $\pm$ 3,9)
Working hours (n, %)	1352 (71,0)	864 (72,8)	861 (69,3)	757 (69,7)
Delay between symptoms onset and consultation $\leq$ 48 h (n, %)	803 (50,4)	504 (52,7)	508 (47,9)	480 (52,1)
Severity according to BaSe SCORE (n, %)				
1	860 (45,1)	517 (43,6)	571 (46,0)	514 (47,3)
2	530 (27,8)	347 (29,3)	380 (30,6)	295 (27,2)
3	198 (10,4)	168 (14,2)	109 (8,8)	100 (9,2)
4	56 (2,9)	47 (4,0)	44 (3,5)	40 (3,7)
5	47 (2,5)	28 (2,4)	18 (1,4)	19 (1,7)
Off score	214 (11,2)	79 (6,7)	120 (9,7)	118 (10,9)
Workplace injuries (n, %)	80 (15,6)	31 (9,7)	35 (10,3)	55 (15,6)

**Table 2** Reasons for consultation.

Reasons (n, %)	Lockdown 2019	Lockdown 2020	Post-lockdown 2019	Post-lockdown 2020
Trauma	512 (27)	319 (27)	339 (27)	344 (32)
Swelling, redness (eyelids, tear duct, orbit, conjunctivitis)	321 (17)	131 (11)	229 (18)	166 (15)
Surface discomfort/tearing	272 (14)	216 (18)	177 (14)	138 (13)
Pain	265 (14)	175 (15)	160 (13)	150 (14)
Permanent loss of visual acuity	217 (11)	138 (12)	135 (11)	117 (11)
Myodesopsia/photopsia	149 (8)	124 (1)	91 (7)	99 (9)
Headache	35 (2)	6 (1)	13 (1)	11 (1)
Ocular secretions	30 (2)	2 (<1)	24 (2)	3 (<1)
Abnormal eye movements	22 (1)	15 (1)	12 (1)	17 (2)
Veil/scotoma	18 (1)	12 (1)	15 (1)	3 (<1)
Assessment during systemic pathology check-up	13 (1)	6 (1)	6 (<1)	6 (1)
Transient visual impairment	12 (1)	16 (1)	8 (1)	16 (1)
Missing data	9 (<1)	1 (<1)	1 (<1)	2 (<1)
other	9 (<1)	4 (<1)	10 (1)	5 (<1)
Photophobia	8 (<1)	8 (1)	7 (1)	5 (<1)
Metamorphopsia	6 (<1)	6 (1)	5 (<1)	1 (<1)
Impaired visual field	5 (<1)	6 (1)	9 (1)	3 (<1)
Pupillary abnormality	1 (<1)	1 (<1)	1 (<1)	0 (<1)
Visual hallucinations	1 (<1)	0 (<1)	0 (<1)	0 (<1)

## Impact on the severity of diagnoses

Our study found an equivalent decrease in all diagnoses regardless of their level of severity. As a reminder, the BaSe SCORE (a score ranging from 1-less severe diagnosis to 5-severe diagnosis) was used in this study to classify diagnoses according to their severity.

The previously mentioned studies show different results. First of all, the Italian study by Pellegrini et al. reports a decrease in mild diagnoses and an increase in severe diagnoses [12]. The study by Franzolin et al. found an increase in the proportion of consultations of intermediate and high

severity and a decrease in consultations of low and medium severity [10]. However, it is worth noting that they used a BaSe SCORE that differs from ours ranging from 0 to 5 (0-slightly severe diagnoses, 1,2-moderately severe diagnoses, 3-intermediate diagnoses, 4,5-severe diagnoses) making the comparison with our study difficult.

## Characteristics of the study population

The median age of patients was similar in all groups of our study (50 years of age in the lockdown period versus 48 years in the 2019 control period). These findings do not support the hypothesis that patients over 50 years of age (who are

**Table 3** Distribution of diagnoses by specialities.

Subspecialties	Diagnostics	Lockdown 2019	Lockdown 2020	Post-lockdown 2019	Post-lockdown 2020	
Anterior segment	Conjunctivitis/ subconjunctival haemorrhage (%)	350 (18)	151 (13)	222 (18)	156 (14)	
	Infectious, abscessed, immune-allergic, inflammatory keratitis (%)	193 (10)	126 (11)	146 (12)	138 (13)	
	Conjunctival lesions (%)	25 (1)	10 (1)	18 (1)	13 (1)	
	Corneal dystro- phy/degeneration (%)	5 (<1)	4 (<1)	8 (1)	5 (<1)	
	Trauma					
	Trauma with extra ocular foreign body (%)	257 (13)	212 (18)	169 (14)	177 (16)	
	Trauma without foreign body (%)	246 (13)	190 (16)	176 (14)	158 (15)	
	Eyelid wound/tear duct wound/foreign body in the eyelid (%)	7 (<1)	1 (<1)	2 (<1)	4 (<1)	
	Orbital fracture (%)	5 (<1)	0 (<1)	1 (<1)	2 (<1)	
	Intraocular foreign body (%)	3 (<1)	0 (<1)	0 (<1)	2 (<1)	
Posterior segment	Ocular globe wound (%)	1 (<1)	3 (<1)	3 (<1)	2 (<1)	
	Floating bodies/PVD (%)	112 (6)	91 (8)	75 (6)	76 (7)	
	Vascular or neovascular retinopathy group (%)	53 (3)	34 (3)	21 (2)	25 (2)	
	Retinal detachment/vitreo- macular traction/macular hole (%)	42 (2)	18 (2)	20 (2)	15 (1)	
	Intravitreal haemorrhage (%)	16 (1)	16 (1)	16 (1)	10 (1)	
	Retinal tear (%)	15 (1)	14 (1)	8 (1)	9 (1)	
	Rupture in Bruch membrane in high myopia (%)	3 (<1)	1 (<1)	1 (<1)	0 (<1)	
	Posterior segment tumour (%)	1 (<1)	0 (<1)	2 (<1)	0 (<1)	
	Eyelid and orbital disorders	Dermohypoderma of the face/dacryoadenitis (%)	17 (1)	14 (1)	10 (1)	6 (1)
		Various orbitopathies (%)	5 (<1)	2 (<1)	2 (<1)	1 (<1)
Eyelid tumour or malposition (%)		5 (<1)	11 (1)	4 (<1)	4 (<1)	
Dacryocoele/tear duct stenosis/tear perforation (%)		2 (<1)	2 (<1)	3 (<1)	1 (<1)	
Eye inflammation						
	Uveitis/scleritis/ episcleritis (%)	76 (4)	56 (5)	52 (4)	49 (5)	
Neuro- ophthalmology	Migraine (%)	26 (1)	20 (2)	23 (2)	10 (1)	
	Diplopia, oculomotor paralysis and supra-nuclear damage (%)	19 (1)	15 (1)	8 (1)	13 (1)	

Table 3 (Continued)

Subspecialties	Diagnostics	Lockdown 2019	Lockdown 2020	Post-lockdown 2019	Post-lockdown 2020
	Transient monocular blind-ness/stroke/TIA/focal neurological injury (%)	10 (1)	9 (1)	6 (<1)	6 (1)
	Optic neuropathy (%)	9 (<1)	8 (1)	4 (<1)	5 (<1)
	Pupil pathology (%)	4 (<1)	0 (<1)	2 (<1)	0 (<1)
	Idiopathic/secondary ICH (%)	2 (<1)	2 (<1)	0 (<1)	1 (<1)
	Retrochiasmatic visual pathway damage (%)	2 (<1)	0 (<1)	1 (<1)	0 (<1)
Post-operative complications	Post-operative complication (%)	66 (3)	39 (3)	50 (4)	19 (2)
Intraocular hypertension	NVG, AACG and acute ocular hypertension excluding AACG and NVG (%)	10 (1)	8 (1)	6 (<1)	8 (1)
Iatrogenic event	Drug-related iatrogeny (%)	9 (<1)	2 (<1)	4 (<1)	1 (<1)
Normal examination	Normal examination (%)	98 (5)	29 (2)	50 (4)	64 (6)
Other	-	64 (3)	40 (3)	36 (3)	40 (4)
Missing data	Missing data (%)	0 (<1)	2 (<1)	0 (<1)	1 (<1)

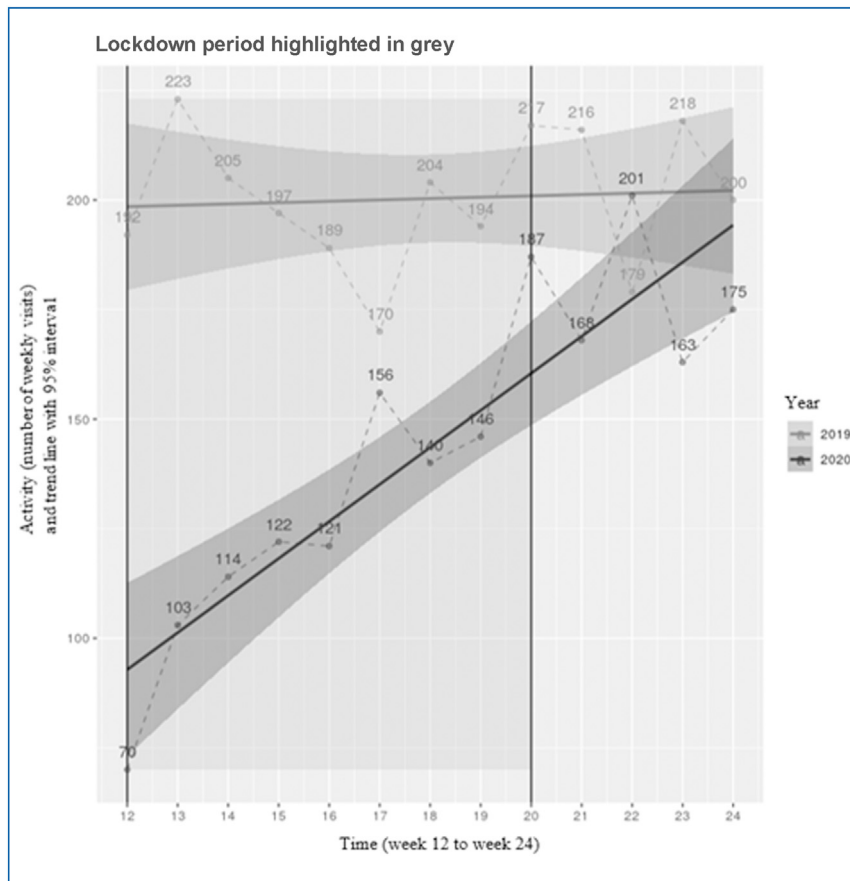


Figure 2. Number of weekly ophthalmic emergencies in 2019 and 2020.



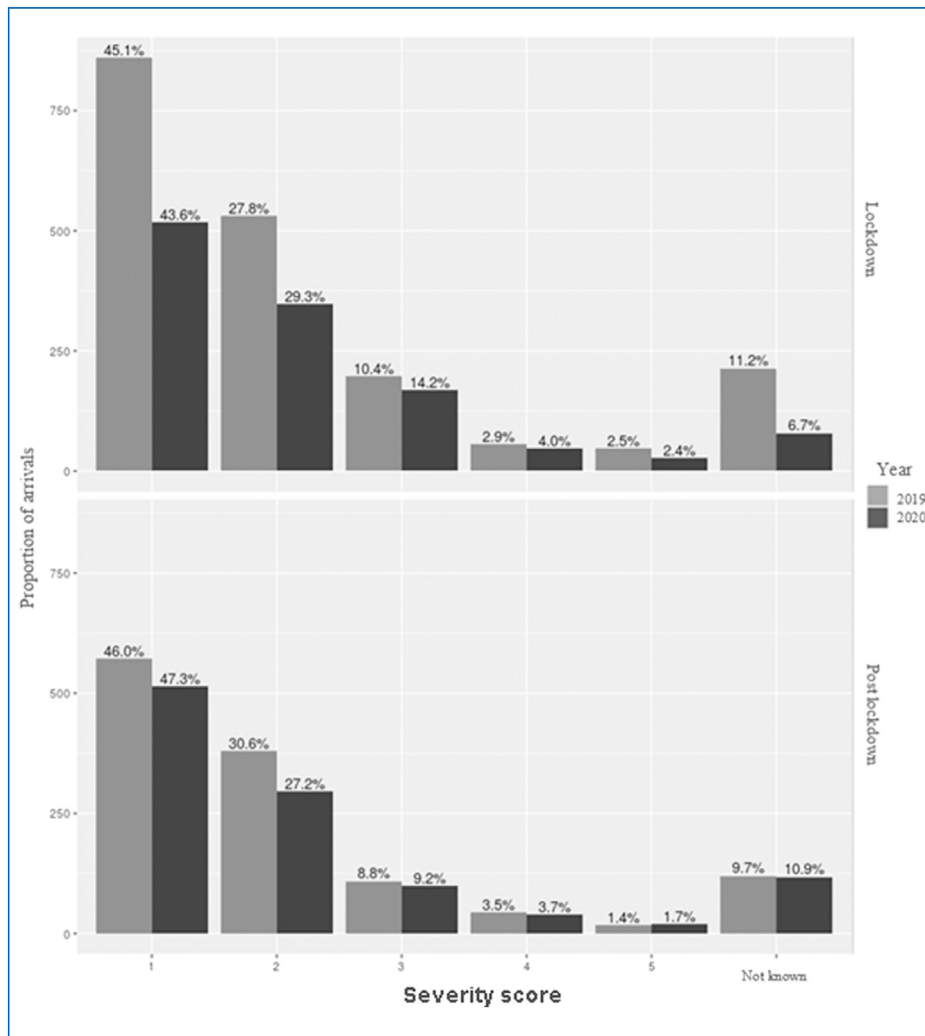


Figure 3. Histogram of the distribution of severity scores by time period.

at greater risk of developing a severe form of COVID-19) were afraid to consult at the medical emergency department. These results are consistent with the Israeli study by Yehezkeili et al. which found a similar average age of 48 years between the lockdown period and the same period in 2019 [13]. The Italian studies also report a stability or even a slight increase in the mean age (Franzolin et al.: increase in mean age from 48 to 52.3 years during lockdown compared to the control period in Verona [10]; Salvetat et al.: stability of the mean age of 52.8 years during lockdown and 53.3 for the control period in Udine and Porderone [11]; Pellegrini et al.: increase of the mean age from 50.6 to 53.2 years over the whole lockdown period compared to the control period in Bologna [12]).

The introduction of teleworking and partial unemployment did not change the proportion of patients consulting during working hours. The proportion of patients consulting during these hours (i.e. 8am–6pm) is around 70% for all periods. The study by Franzolin et al. (in Italy) found similar results (78% of patients consulting on weekdays during the lockdown and during the control period [10]). There was no increase in time lapse before consulting in our study despite the health situation, although one in two patients consulted

after 48 hours, regardless of the period studied. This result is particularly interesting since the visual and vital prognosis of certain pathologies is correlated to the precocity of the management, in particular neuro-ophthalmological and vitreo-retinal emergencies. A fortiori, the post-lockdown period was not marked by a recrudescence of severe diagnoses linked to patients who had not consulted during lockdown. However, these results differ from the study by Franzolin et al. which found an increase in the delay of consultation during lockdown, with 55.6% of patients consulting within 48 hours during lockdown compared to 66.2% during the control period [10].

While looking in more detail at the diagnoses, the example of retinal detachment is relevant since it is a vitreo-retinal emergency for which visual recovery is correlated with the precocity of surgical management. In our study, there was a 55.3% reduction in retinal detachments during lockdown, whereas this reduction was only 17.7% over the post lockdown period compared to the same periods in 2019. Similar results have been found in the literature with regard to the period of lockdown: –64.2% by Dell’omo et al. (study of 6 centres in Italy)[14], –65.7% by Poyser et al. (Leicester, England)[15], –26.3% by Patel et al.

(Philadelphia, USA) [16]. The unexpected decrease in the incidence of retinal detachment could be explained by several factors: a decrease in the number of *Nd:YAG laser* posterior capsulotomy, fewer flights and travels at high altitude, modifications in daily life and physical activities [18]. The decrease in the number of cataract surgeries could have been an influencing factor although the delay between cancellations of planned surgeries and our study period was short. It has been reported that the peak incidence of retinal detachment following cataract surgery varies between 6 and 24 postoperative months [17].

Surprisingly, consultations for myodesopsia and photopsia, which can be symptoms suggestive of retinal detachment, only decreased by 16.8% during lockdown compared to the same period in 2019 and were similar for the month after lockdown compared to the same period in 2019. The number of retinal tears was comparable over the 4 periods. In addition, the diagnosis of floating bodies and posterior vitreous detachment only decreased by 18.8% during lockdown compared to the same period in 2019 and was the same during post-lockdown compared to the same period in 2019. These elements show that the decrease in consultations could only explain a 20% decrease in retinal detachments. The study by Poyser et al. found a 60% decrease in retinal tears and 64.9% decrease in posterior vitreous detachments during lockdown [15]. The study by Creuzot-Garcher et al. (performed using the French medico-administrative database on all surgical acts for retinal detachment in France) reported a decrease of 45.5% of retinal detachment surgeries in April 2020 compared with April 2019 [19]. The same study also reported an overall decrease of 41.6% during the 8 weeks of lockdown in 2020. Interestingly, no increase in the surgical activity for retinal detachments was reported upon the 2 months following lockdown, which is consistent with our current findings.

If we refer to other diagnoses, we could presume that the barrier measures may have had an impact by reducing certain diagnoses such as conjunctivitis (–56.9% during lockdown compared to the same period in 2019 and –29.7% post lockdown compared to the same period in 2019).

Our study reports a 41% decrease in post-operative complications during lockdown compared to the same period in 2019. This result is explained by the decrease in the so-called “scheduled” surgical activity (e.g. cataract), which was reduced to only urgent surgeries in order to transfer staff and equipment to intensive care units.

The main limitation of this study is that it is a single-centre study and cannot be generalised to the whole country. However, this limitation can be counterbalanced by the fact that health measures were identical across the country. It would be interesting to compare these results with those of other university centres. In addition, it might have been relevant to study the pre-lockdown period and to extend the periods of comparison to additional previous years, although it is well known that there is an annual increase in the number of ophthalmological emergencies (2015: 10,836, 2016: 11,937, 2017: 12,338, 2018: 12,225, 2019: 12,293).

## Conclusions

The 2020 lockdown led to a significant decrease in the number of ophthalmological emergencies, equally impacting all levels of severity. All age groups were concerned with no greater reduction in patients over 50 years, considered to be at greater risk of severe COVID-19. The impact of lockdown was strongly attenuated upon deconfinement with a persistent 12.6% decrease in activity.

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## Disclosure of interest

The authors declare that they have no competing interest.

## Online Supplement. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.jfo.2022.02.006>.

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