

relationship between COVID-19 and episcleritis may include immuno-vascular factors and/or coagulation disorders (Klok et al. 2020).

Further studies on COVID-19 are needed, specifically in relationship with ocular tissues to facilitate a better understanding of its pathogenicity in the eyes.



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Managing ophthalmic practices in a referral emergency COVID-19 hospital in north-east Italy

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doi: 10.1111/aos.14488

Editor,

The novel coronavirus disease (COVID-19) is highly contagious in humans. It is mainly transmitted through direct or indirect contact with respiratory droplets produced by infected people, also with evidence of the virus in tears and ocular secretions (Lai et al. 2020). Different levels of COVID-19 activity were found in different countries, depending on the features of the virus and the public health response. The Italian COVID-19 spreading is one of the largest worldwide with related public severe health emergency (Armocida et al. 2020). To diminish the risk of contamination, some healthcare facilities, included our hospital, were assigned as referral regional care centre for COVID-19 patients.

Due to the effect of COVID-19 last weeks, we adopted a complete reorganization of our department to ensure continuous ophthalmic medical care. According to our recent experience, we share a series of measures to prevent the nosocomial transmission of the disease and to reduce the risk of contamination for patients, caregivers and administrative staff.

The accesses to the healthcare facility are reduced only to essential gateways with a separate checkpoint for the patients and the personnel. The admission of carers should be avoided, if possible. In waiting areas, a social distancing is guaranteed with at least 1.5 m apart from one another, properly wearing a surgical mask. The triaging system screens patients through temperature measurements, and a questionnaire about upper respiratory symptoms, fever, myalgia and anosmia, domicile or travelling in hot areas, and contact history with confirmed or suspected COVID-19 patients within the past 14 days. Patients who meet one of these criteria are addressed to a separate controlled circuit to test for COVID-19 positivity. If a patient under investigation needs a non-deferred ophthalmology examination, the visit is conducted in a dedicated room and, until further notice, the patient treated as a positive patient.

For outpatient care, a risk stratification process with a review of the patient's medical record is used to identify in which patient the visit cannot be delayed. All patients receive a screening by telephone with the same

questionnaire performed upon the arrival in the hospital. Patients with any positive findings are postponed. In this setting, patient education is crucial. In waiting areas, videos about personal hand hygiene, proper surgical mask-wearing and practising social distancing should be considered useful approaches. The visits were rearranged, tending to no waiting policy, and the seats were spaced at least 2 m. Adequate environmental ventilation and sanitation should not be overlooked. Washing or alcohol-rubbing the hands is an essential procedure also required after taking off gloves. Ophthalmologists are a high-risk category, and appropriate personal protective equipment is required (Romano et al. 2020). Protective shields were installed on the slit lamps to prevent droplets transmission. The micro-aerosol formation procedures should be avoided, including 'air-puff' tonometry (Wan et al. 2020). The intraocular pressure is measured using a disposable tonometer tip. Direct ophthalmoscope examination is avoided and replaced with fundus photography or slit light examination. Laser treatment is reserved for retinal tears, high-risk developing neovascular glaucoma or proliferative diabetic retinopathy. To avoid the threat of irreversible vision loss, intravitreal injections should be continued for scheduled patients.

As regards ophthalmic surgery, all elective procedures were deferred. In our practice, patients with an urgent surgical condition (such as retinal detachment, endophthalmitis, open globe trauma and sight-threatening uncontrolled ocular pressure) are first screened for COVID-19. For positive patients, a dedicated operating theatre with negative pressure laminar flow is provided.

In conclusion, the COVID-19 puts under severe stress the healthcare system in different countries. To limit the outbreak of the disease and to ensure the safety of the caregivers, appropriate countermeasures are mandatory. Specific specialty protocols might help to look after our patients more efficiently in the future.

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The impact of COVID-19 pandemic on ophthalmological emergency department visits

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doi: 10.1111/aos.14489

Editor,

The novel coronavirus (2019-nCoV) appeared in the Chinese city of Wuhan and precipitously extended across the globe. On the evening of 9 March 2020, the Italian Government ordered a national lockdown to limit social interactions and contain the spread of the infection. As evident in other epidemics, peoples’

fear of infection may affect their utilization patterns of health services and reduce the access to health care (Chang et al. 2004). We have previously noted a significant change in the trends of eye injuries since the beginning of the lockdown (Pellegrini et al. 2020). Herein, we aimed to assess the influence of COVID-19 on ophthalmological emergency department visits.

We reviewed the charts of all patients presenting to the ophthalmological emergency department of the S.Orsola-Malpighi University Hospital (Bologna, Italy) during 6 weeks of national lockdown (from March 10 to 20 April 2020), and compared them with those of the same period of the previous year. Retrieved data included patients’ demographics, diagnosis and need for hospital admission. Diagnoses were categorized as unlikely to be emergent, likely to be emergent, and not determined, as previously described (Channa et al. 2016).

The total number of ophthalmological emergency department visits during the 2019 study period was 2902 and decreased to 776 in the 2020 study

period. Mean age of patients increased from 50.6 ± 22.6 to 53.2 ± 20.5 years (p = 0.003, Student’s *t*-test), and the proportion of children and adolescents decreased (from 10% to 5.3%). The percentage of males increased from 50.9% to 55.7% (p = 0.017, chi-squared test). The conditions diagnosed in the two study periods are reported in Table 1. In the 2020 study period, the percentage of possibly emergent diagnoses increased (from 30.7% to 38.1%), while unlikely to be emergent diagnoses decreased (from 65.9% to 57.3%; p < 0.001, chi-squared test). Patients requiring hospital admission were 27 in the 2019 study period (the indication was retinal detachment in 22 cases, open globe injury in two, corneal ulcer in one, angle closure glaucoma in one, and anterior migration of intravitreal dexamethasone implant in one) and nine in the 2020 study period (retinal detachment in eight cases and open globe injury in one).

During 6 weeks of national lockdown for COVID-19, there was a 73% decrease in the number of

Table 1. Ophthalmological emergency department diagnoses in the 2019 study period (from March 10 to 20 April 2019) and 2020 study period (from March 10 to 20 April 2020).

Diagnosis	2019 period	2020 period
Unlikely to be emergent, No. (%)		
Conjunctivitis	812 (28.0)	148 (19.1)
Hordeolum, chalazion, dermatitis	313 (10.8)	65 (8.4)
Subconjunctival haemorrhage	204 (7.0)	28 (3.6)
Dry eye disease	177 (6.1)	49 (6.3)
Posterior vitreous detachment	170 (5.9)	70 (9.0)
Other visual disturbances	91 (3.1)	36 (4.6)
Retinopathy	66 (2.3)	28 (3.6)
Entropion, ectropion, trichiasis	38 (1.3)	11 (1.4)
Cataract	21 (0.7)	5 (0.6)
Epiphora	19 (0.7)	5 (0.6)
Possibly emergent, No. (%)		
Foreign body on external eye	229 (7.9)	79 (10.2)
Corneal abrasion	217 (7.5)	76 (9.8)
Keratitis	115 (4.0)	32 (4.1)
Contusion of eyeball	99 (3.4)	23 (3.0)
Ocular hypertension	46 (1.6)	19 (2.4)
Uveitis	31 (1.1)	12 (1.5)
Corneal ulcer	27 (0.9)	6 (0.8)
Retinal detachment	22 (0.8)	8 (1.0)
Retinal break	22 (0.8)	8 (1.0)
Cranial nerve palsy	21 (0.7)	12 (1.5)
Retinal vascular occlusion	17 (0.6)	5 (0.6)
Vitreous haemorrhage	15 (0.5)	4 (0.5)
Eyelid laceration	15 (0.5)	3 (0.4)
Optic neuropathy	14 (0.5)	8 (1.0)
Open globe injury	2 (0.1)	1 (0.1)
Not determined, No. (%)		
Surgery-related problems	22 (0.8)	11 (1.4)
Other	77 (2.7)	24 (3.1)
Total	2902	776