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Being a Cornea Specialist in Coronavirus Pandemic

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Abstract

Since March 11, there is a coronavirus pandemic. The disease has been named as Coronavirus Disease 2019 (COVID-19). Pandemic affected most heavily healthcare workers, especially physicians. Ophthalmologists have taken some tasks such as cancelling non-essential outpatient visits and elective surgeries. Proper personal protective equipment use is extremely important in ophthalmologic examinations as these examinations necessitate close touch with the patient. Coronavirus can spread via conjunctiva. Discontinuation of contact lens use may be helpful in this period. Patients using contact lenses should carefully obey hygiene rules.

Letter to the Editor

Novel coronavirus disease has been firstly reported among patients in China since December 2019 and quickly started to spread worldwide. This novel coronavirus is an enveloped RNA virus with a single chain and positive polarity. (1) The virus has been named SARS-CoV-2 and the disease has been named Coronavirus Disease 2019 (COVID-19). World Health Organization (WHO) declared the outbreak a Public Health Emergency of International Concern on January 30. On March 11, WHO Director General characterized COVID-19 as a pandemic. Coronavirus outbreak situation on April 27 was reported as 2.883.603 confirmed cases, 198.842 confirmed deaths, and 213 countries in WHO's web site. (2) In Turkey, first COVID-19 case was reported on March 10. Last update at April 27 was reported as 112.261 cases and 2.900 deaths by Turkish Ministry of Health. (3)

In the battle against coronavirus, all physicians have taken some tasks. As ophthalmologists we have cancelled non-essential outpatient visits. I used to see 60 to 100 patients in a cornea unit day (one day a week) where I see 6 to 10 patients now. Some patients do not know that we are still here, some patients prefer to stay at home during this uncertain time, and some patients (under 20 and older than 65 years old) can not go out due to restrictions. In hospital, there are screening questions for all patients and also we are measuring body temperature at the door. For a safe examination, we have emergently implanted breath protecting shields to all biomicroscopes, and we have begun to wear personal protective equipment (PPE) like masks, safety goggles, face shields. Turkish Ministry of Health's guideline for healthcare workers reports that ophthalmologic examinations include close contact with patient similar to intubation and cardiopulmonary resuscitation, so proper PPE including N95 respirator is essential in ophthalmologic examinations. Examining the patients with PPE is mandatory but there are some difficulties. Face shield use in slit-lamp biomicroscopy is troublesome, overlap of face shield and breath protecting shield affects the visu-

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al acuity and may force the examiner to take off face shield. Safety goggles use may also be difficult as it may start fogging up with N95 respirators. Some ways to keep goggles from fogging up may be taping the top of the respirator to nose and wearing a surgical mask over a N95 respirator. (4)

Personal protective equipments have been a large issue during this pandemic worldwide because the world was not ready for such a huge pandemic. In a survey of ophthalmology practitioners in three Eye Hospitals in A&E, perception of COVID-19 exposure risk, understanding and confidence in guidelines, and knowledge of PPE recommendations and training in its usage when managing such cases were questioned. (5) The survey demonstrated a lack of confidence in and understanding of COVID-19 guidance, with the lack of PPE knowledge (what type of mask, what type of coat, etc.) for ophthalmology practitioners who work too close to patients (smaller than 1 meters, approximately 20-30 cm). Standalone eye hospitals have started to introduce their own protective equipments such as acetate slit lamp screens and FFP3 respirators for all clinical staff. This lack of coordination amongst units increased the confusion for staff and patients. (5)

I have called all my patients to whom I had performed keratoplasty during the last six months. We have checked eye complaints, if any, and the dose of topical drops on the phone. At this time, I have realized the need for telemedicine along with the need for taking proper eye photos. This pandemic may give way to developments in telemedicine which means the exchange of medical information from one location to another using electronic communication. But it is rather difficult in ophthalmology practice because our examinations depend on technology much more than other departments; slit-lamp biomicroscopy, tonometry, topography, anterior and posterior segment tomography, angiography, etc. Anterior segment imaging would be also helpful in this period as we can see the anterior segment from a camera without close contact and slit lamiomicroscopy would be kept for essential cases. However, in our hospital, like most hospitals, there is one anterior segment imaging system in the inpatient department and there is none in outpatient clinics.

We have cancelled all elective surgical procedures. Turkish Ophthalmology Society has reported three emergent surgical cases for cornea and external diseases subspecialty. (6) They are spontaneous or traumatic corneal perforation repair (tissue glue, suturation, tectonic keratoplasty); invasive procedures during the management of keratitis and chemical injuries(amniotic membrane transplantation, crosslinking, intrastromal injection, tectonic keratoplasty); and anterior chamber washout in traumatic hyphema management.

An important aspect of cornea practice is that we can not perform keratoplasty. Our keratoplasty list of patients with low vision is pending. Some patients have total blindness in one eye and have a corneal disease in the fellow eye, so waiting in a dark world is not so easy for them. Also as an eye bank coordinator, I must say that we were forbidden to take donor cornea since the pandemic has been declared. In a possible emergency situation, there are two eye banks in our country for cornea delivery that are remained clean (without COVID-19). It is great because it would be much more difficult for a cornea specialist to lose an eye due to a corneal defect.

Another aspect of cornea and external diseases practice is contact lens management. Contact lens wearers touch their eyes more frequent than non-wearers and an important part of users do not respect adequately to rules. Depending on these information and also the knowledge that virus can spread via conjunctiva either by touch or by droplets, discontinuation of contact lens wear and wearing glasses may be advantageous. However, currently there is no evidence to say that contact lens wearers are more at risk for acquiring COVID-19 than glasses wearers. The Contact Lens Institute shared a new guidance last week by the U.S. Centers for Disease Control and Prevention (CDC) and supported continued contact lens wear for people who are healthy and practice safe hygiene habits. (7) My opinion is patients wearing rigid gas permeable contact lenses who can not obtain adequate visual quality with glasses, may continue wearing their contact lenses. However, for patients with relatively low myopia and hypermetropia who can see equally with contact lenses or glasses, there is no need to take the risk of conjunctival contamination. Some suggestions for contact lens users are always washing hands with soap and water before and after handling lenses, preventing lens-water touch by only handling lenses with clean contact lens solutions and dry-clean hands.

Acute viral conjunctivitis in COVID-19 patients has been an issue for ophthalmologists especially for cornea specialists. We wondered if conjunctivitis would be an early finding for COVID-19. However, a recent study has refreshed our knowledge about the relationship between conjunctivitis and COVID-19. (8) In that study, the clinical features of acute conjunctivitis occurring 13 days after onset in a patient with SARS-CoV-2 infection were reported. They concluded that SARS-CoV-2 led to ocular complications, but not in the early stage of infection. Conjunctiva might represent a source of spread as conjunctival specimens include SARS-CoV-2 particularly with higher viral loads at the acute stage of ocular complica-

tions. On the other hand, virus has disappeared more quickly in conjunctiva specimens than in nasopharyngeal specimens, so conjunctiva is not an ideal site for sampling.

In conclusion, SARS-CoV-2 pandemic affected all world including our country. We must do all we can until life and our practice turn to normal.

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