

Implications of Covid-19 in ophthalmology

Implicações do Covid-19 na oftalmologia

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The Covid-19 Pandemic has brought several challenges to the health care systems throughout the planet, since it requires complex strategies and public policies of contention, diagnosis and treatment. Specifically, the high transmissibility of the virus is a critical point of the pandemic, which turns the medical teams highly vulnerable.⁽¹⁻³⁾

Initially, the transmission of the disease via the eye was ignored and ophthalmology was not considered a specialty under risk.^(4,5) The case of contamination of Dr Wang Guangfa, during the treatment of patients with Covid-19, however, altered the scenario, once the infection via eye was raised as a hypothesis, in light of the fact that the professional had worn PPEs, except glasses.⁽⁶⁾

Recently, this hypothesis has gained scientific support with basis in the publishing of *The Lancet*, which highlighted that the ocular surface may be a possible means of transmission. This fact can be explained by the contamination potential of the conjunctival epithelium through contact with infectious droplets and contaminated body fluids.⁽⁴⁾ Besides this, another investigation has suggested that the virus can disseminate after droplets contact from the conjunctiva to the respiratory tract through the nasolacrimal duct.⁽⁷⁾ Moreover, there are indications that the virus can be detected in the tear and in conjunctival secretions of patients diagnosed with Covid-19 and conjunctivitis. This is in alignment with previous studies that evaluate other kinds of coronavirus in humans and animals.^(8,9) However, the infection by this means has not been elucidated.^(6,9)

These findings signal two pertinent issues to ophthalmologists: 1) The relation between Covid-19 and the eye, (ways of contamination, clinical implications...) needs to be investigated more precisely, specially due to the potential development of diagnosis

mechanisms based on ocular secretions; 2) The urgency in the implementation of safety protocols in ophthalmology services.

Infection Control Measures described by the law and by employees may help the establishment of guidelines to reduce the risk of infection by Covid-19. Initially, the triage of patients must be established to identify patients with fever, respiratory symptoms (mainly dyspnea), cough and acute conjunctivitis. Furthermore, procedures that may generate micro aerosols must be avoided, as tonometries without contact and elective surgeries under general anesthesia. Protection shields must be installed on slit lamps and disinfection of the equipment and of the rooms must be done frequently. PPEs to protect the mouth, the nose (mask N-95) and the eyes (eye protection goggles or face shield mask) when seeing patients potentially infected. Lastly, the frequent hand sanitization and respiratory etiquette must be stimulated.⁽¹⁰⁾

It is highlighted that although symptomatic patients are twice more contagious, the asymptomatic are six times more frequent.⁽¹¹⁾ In this regard, the possibility of contact with contaminated patients may go unnoticed due to the absence of symptoms in ophthalmological appointments. Thus, it is vitally important that these protection measures be implemented not only in hospital level but also outpatient.

In Brazil, where the disease is in exponential expansion, there are not any publications in scientific journals regarding Covid-19 under the Ophthalmology standpoint. We hope that this paper serves as an alert to the need of protection and the use of PPEs during ophthalmological appointments, specially routine check-ups, as well as being starting point for new researches, since this matter's appropriation is of utter urgency and it is vital that there are more investigations carried out.

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