

Ocular manifestation of SARS CoV-2 infection-what family physician should know?

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Abstract

The clinical manifestations of coronavirus disease 2019 (COVID-19) are diverse. Initially, the clinical findings were more specific to the respiratory system. Over time, more atypical and uncommon findings were surfaced with the publication of case reports/case series and observational studies. Every system; and organ of the body may be affected by severe acute respiratory syndrome coronavirus (SARS CoV-2), the underlying pathogen of the current pandemic. The virus may affect the eye in solitary or in combination with other organs. Globally there are reports of cases and published studies with evidence of ocular involvement with the SARS CoV-2. The ocular manifestations range from simple dry eye to more severe pathology. Family physicians are the first in the line of contact with the patients at the community level, thus they should be vigilant enough to sort out cases of such atypical presentation and manage them with national and point-of-care protocols.

Keywords: Ocular manifestations, SARS CoV-2, COVID-19, Pandemic, Family physician

Introduction

In late December 2019, cases of a new disease emerge in Wuhan, China, latter termed by World Health Organization as coronavirus disease-19 (COVID-19). The underlying pathogen for the COVID-19 has detected a virus, known as severe acute respiratory coronavirus-2 (SARS CoV-2). The virus is highly contagious and spread to the world in a short period. The COVID-19 was declared a pandemic by WHO on March 11, 2020 [1]. SARS CoV-2 affects any system and organ of the body including the eyes. The ocular symptoms range from simple foreign body sensation to more severe manifestations like keratoconjunctivitis, posterior ischemic optic neuropathy, pseudomembrane and hemorrhage, and sub-epithelial infiltrate. The common manifestations include but are not limited to eye pain, redness, itching, dry eye, foreign body sensation, and tearing of the eye.

In a recent systemic review by Nasiri [2], the prevalence of ocular manifestations in SARS CoV-2 was 11.03% (95% confidence level), with a least one out of ten patients shows ocular manifestations. Among all, the common presenting symptom is conjunctivitis as 88.8%, with the rare conditions as posterior ischemic optic neuropathy as 1.1%. These ocular symptoms are more similar to symptoms of conjunctivitis of another viral origin that may be difficult to differentiate, more specifically in family practice where the family physicians encounter patients with conjunctivitis routinely. In the studies of Ulhaq, *et al.* [3] and Vabret, *et al.* [4] carried out on COVID-19 and other coronaviruses, the prevalence of ocular manifestations was 5.5% and 16.7%, respectively.

Few patients with ocular manifestations may show positive results SARS CoV-2 RNA (Ribonucleic Acid) from their conjunctival swabs. In the study of Zhou, *et al.* [5] the detection rate was 2.5% for conjunctival SARS CoV-2 compared to 70.2% for nasopharyngeal SARS CoV-2. Thus the physician should take all precautionary measures while examining a patient with conjunctivitis as the condition may be of SARS CoV-2 in origin.

In conclusion, the family physicians should know the ocular manifestations of SARS CoV-2 and be vigilant to do an in-depth evaluation of the patient and sort out cases of SARS CoV-2 infection that may present with ocular symptoms and to manage accordingly as per national and point-of-care protocols.

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