



Letter to editor

Viral Conjunctivitis: Ocular Vigilance in COVID-19

Conjuntivitis viral: vigilancia ocular en COVID-19

Marianne L. Shahsuvaryan

DOI

<https://doi.org/10.35434/rcmhnaaa.2023.162.1989>

Dear Editor:

conjunctivitis is among the most common anterior segment diseases worldwide⁽¹⁾, frequently seen by primary healthcare workers and ophthalmologists. No age group, gender and race are immune to it. Majority of cases are represented by viral conjunctivitis, manifesting by hyperemia, watery discharge and photophobia. The involvement is mild, unilateral or bilateral, with or without corneal involvement. Viral conjunctivitis is more frequent in adults.² Currently health professionals face a host of new challenges in the diagnosis and management of viral conjunctivitis. Irritated eyes represent one of the possible symptoms of SARS-CoV-2 (Severe acute respiratory syndrome coronavirus 2) infection⁽³⁾.

There is a growing body of evidence that SARS-CoV-2 affects anterior surface of the eye, commonly manifesting by viral conjunctivitis^(4,5) due to direct contact of virus with mucous membrane as a potential route for invasion - ab externo or due to bloodstream viral transmission - ab interno. Patients have been reporting redness in the eyes, itching, soreness, a burning sensation, watery eyes, and swollen lids. The incidence of conjunctivitis in patients positively tested for the COVID-19 is ranging between 0.8% and 31.6%.⁵ The meta-analysis conducted by Loffredo and colleagues⁽⁶⁾ showed 5.9% incidence of conjunctivitis, 4.1% in mild and 12.7% in severe illness cases respectively. In a systematic review and meta-analysis by Cao et al.⁽⁷⁾ the pooled prevalence rate of conjunctivitis/conjunctival congestion was 8%.

It is worthy to note the latest challenge caused by SARS-CoV-2 variant called Omicron (B.1.1.529), recognized and identified in Botswana and subsequently in South Africa in the early days of November 2021, but currently responsible for 98 percent of all global cases. A new sub-strain of Omicron officially called

FILIATION

1. Department of Ophthalmology, Yerevan State Medical University, Yerevan, Armenia.
a. MD, PhD, Dsc., Prof.

ORCID

Marianne L. Shahsuvaryan
[0000-0003-3627-4137](https://orcid.org/0000-0003-3627-4137)

CORRESPONDENCE

Marianne L. Shahsuvaryan
Email: mar_shah@hotmail.com

DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST

The author has any potential conflicts of interest to disclose.

FINANCIAL SUPPORT

None.

ACKNOWLEDGEMENT

None.

PROPRIETARY INTEREST

None.

PEER REVIEW

Received: 30/04/2023
Accepted: 20/08/2023
Published: 19/09/2023

HOW TO CITE

Shahsuvaryan ML. Viral Conjunctivitis: Ocular Vigilance in COVID-19. Rev. Cuerpo Med. HNAAA [Internet]. 19 de septiembre de 2023 [citado 19 de septiembre de 2023];16(2). doi: 10.35434/rcmhnaaa.2023.162.1989



Esta obra está bajo una Licencia Creative Commons Atribución 4.0 Internacional.

“BA.2” but nicknamed “stealth Omicron,” has emerged in the UK and is spreading fast. According to the UK Health Security Agency (UKHSA), the BA.2 Covid strain is thought to be an Omicron (BA.1) sub-strain, which has the potential to spread much faster than its predecessor. Recently it was claimed that conjunctivitis could be a symptom of the Omicron variant,⁽⁸⁾ which highlights an importance of addressing a diagnosis issue in this emerging disease. Based on findings of currently presented cases it will be concluded that conjunctivitis has shown different types of manifestation in COVID-19: initially without any sign of viral infection, with its subsequent development^(9,10) or simultaneous presentation with any degree of disease severity^(5,11).

At present ophthalmologists and health care workers should be aware of such evidenced ocular comorbidity in COVID-19 illness, as a conjunctivitis. Likelihood of this relationship should be borne in mind. Taken into account that conjunctiva serves as an entrance gate, since conjunctival epithelium containing angiotensin-converting enzyme 2 (ACE2) represent a target for SARS-CoV-2 virus, 12,13 medical professionals should remain vigilant in all conjunctivitis cases, especially with asymptomatic patients and a rapid antigen test for COVID-19 will be done. Early identification and prompt management of patients with conjunctivitis from one hand can lessen COVID-19 disease severity and help achieve earlier resolution in patients, and, from other hand prevent spread of infection in medical and general communities.

REFERENCES

1. Azari AA, Arabi A. Conjunctivitis: A Systematic Review. *J Ophthalmic Vis Res.* 2020; 15(3):372-395. doi: 10.18502/jovr.v15i3.7456.
2. Johnson D, Liu D, Simel D. Does This Patient With Acute Infectious Conjunctivitis Have a Bacterial Infection? The Rational Clinical Examination Systematic Review. *JAMA.* 2022 ;327(22):2231-2237. doi: 10.1001/jama.2022.7687.
3. Hu K, Patel J, Swiston C, Patel BC. Ophthalmic Manifestations of Coronavirus (COVID-19). In: *StatPearls [Internet].* Treasure Island (FL): StatPearls Publishing; 2023 [Cited 2023 Mar 12]. Available from: <https://n9.cl/59wi7>
4. Leung EH, Fan J, Flynn HW Jr, Albin TA. Ocular and Systemic Complications of COVID-19: Impact on Patients and Healthcare. *Clin Ophthalmol.* 2022; 16:1-13. doi:10.2147/OPHTH.S336963.
5. Binotti W, Hamrah P. COVID-19-related Conjunctivitis Review: Clinical Features and Management. *Ocul Immunol Inflamm.* 2023;31(4):778-784. doi: 10.1080/09273948.2022.2054432.
6. Loffredo L, Fallarino A, Paraninfi A, Pacella F, Pacella E, Oliva A, et al. Different rates of conjunctivitis in COVID-19 eastern and western hospitalized patients: a meta-analysis. *Intern Emerg Med.* 2022;17(3):925-928. doi: 10.1007/s11739-021-02880-z.
7. Cao K, Kline B, Han Y, Ying GS, Wang NL. Current evidence of 2019 novel coronavirus disease (COVID-19) ocular transmission: a systematic review and meta-analysis. *BioMed Research International.* 2020;2020:7605453. doi: 10.1155/2020/7605453.
8. Parise R, Ramesh S, Ren J, Govindarajulu MY, Nadar RM, Pathak S, et al. A scientific perspective of how and why Omicron is less severe than SARS-CoV-2. *Emergency and Critical Care Medicine.* 2023;3(3):10-97. DOI: 10.1097/EC9.0000000000000092.
9. Eid MM, Al Khalaf BN. Reprint of: Conjunctivitis as initial presenting symptom in a COVID-19 patient. *Dis Mon.* 2022;68(9):101372. doi: 10.1016/j.disamonth.2022.101372.
10. Behera HS, Ghana M, Parida P, Sahu SK, Das S, Priyadarshini SR, et al. Assessment of SARS-CoV-2 virus in the tear secretion of conjunctivitis patients during COVID-19 pandemic. *Indian J Ophthalmol.* 2023;71(1):70-74. doi: 10.4103/ijo.IJO_1214_22.
11. Jaiswal RK, Jhunjhunwala A. Clinical course, diagnosis, and management of bilateral COVID-19 associated conjunctivitis: A case study. *Indian J Ophthalmol.* 2022;70(5):1815-1816. doi: 10.4103/ijo.IJO_3030_21.
12. Ma D, Chen CB, Jhanji V, Xu C, Xiang-Ling Y, Jia-Jia L, et al. Expression of SARS-CoV-2 receptor ACE2 and TMPRSS2 in human primary conjunctival and pterygium cell lines and in mouse cornea. *Eye (Lond).* 2020;34(7):1212-1219. doi: 10.1038/s41433-020-0939-4.
13. Ozturk M, Kumova D, Alacam S, Erdogan H, Onder F. Detection of coronavirus in tear samples of hospitalized patients with COVID-19. *Int Ophthalmol.* 2023;43(2):451-462. doi: 10.1007/s10792-022-02442-y.