

A case of conjunctivitis following mild illness COVID-19 infection

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Abstract

Background

Up to date, COVID-19 resulted in nearly 4 million deaths worldwide, making it the most serious global health disaster in hundred years [1]. Previously, there were multiple anecdotal and published reports of eye redness and irritation in COVID-19 patients, implicating conjunctivitis as an ocular presentation of the infection. COVID-19 has been linked to multiple ophthalmic illness, according to new research, but most of literature links the pandemic to Conjunctivitis as a common encounter escorting respiratory findings [2]. The authors here report a case of mild illness COVID-19 that developed conjunctivitis a week after being diagnosed with the illness.

Summary

In this case report, a 40 years male presented with mild symptoms of COVID-19 which proved to be positive. Six days later, he developed redness in his right eye, which was associated with mild pain and itching. The left eye acquired the same symptoms within 24 hours. Conservative management was given in the form of antihistamine eye drop which was prescribed two times daily. A diagnosis of COVID-19 associated conjunctivitis was issued, which is uncommon to be associated with mild COVID.

Key words: COVID-19, Conjunctivitis, mild illness

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Case presentation

A 40 years old male presented to the flu clinic in King Abdulaziz Medical city in Riyadh, Saudi Arabia with dry irritating cough, runny nose, and mild sore throat on 22 January 2022. He was using analgesics and antihistamine tabs for two days, afterwards the patient went to the COVID-19 screening clinic in 24 January. On the next day the results of COVID-19 PCR test (through oral and nasal swaps) was positive. Patient was advised to take home quarantine for 10 days, received oral steroid inhaler, Paracetamol tabs

1000mg B/D, antihistamine nasal drops, and vitamin C, and advised to be voluntarily on social isolation. Symptoms improved gradually within the next week, however on the sixth day, he developed redness in his right eye, which was associated with mild pain and itching, but there were no excessive lacrimation, intolerance to light (photophobia) or visual disturbances. On the next day the left eye was also affected; see figure 1. When seeing the GP, vitals were all normal. Eye examination revealed, by inspection: red congested sclera, no discharges or excessive

lacrimation. An antihistamine eye drop was prescribed two times daily. Within three days, symptoms on both eyes disappeared; see figure 2, and on day 12 of COVID-19 diagnosis, all the symptoms including the upper respiratory tract symptoms were recovered. He was diagnosed as a case of COVID-19 associated with viral conjunctivitis.

Investigations

Patient underwent COVID-19 PCR test via oral and nasal swaps. No general investigations were performed. No investigations were performed concerning the eyes, and no conjunctival swaps were to be taken.

Differential diagnosis

Given the patient's presentation and clinical probabilities, the most likely diagnosis was viral

conjunctivitis that has developed by some sort of contact with the nasal or oral secretions. Other differential diagnoses included other causes of viral conjunctivitis, bacterial conjunctivitis, allergic conjunctivitis, and chemical irritation.

Treatment

Patient received Paracetamol tabs 1000 mg B/D, steroid inhaler (Fluticasone 250µg + Salmeterol xinofoate 25µg), antihistamine nasal drops (Xylometazoline 0.1%), and vitamin C (Redoxon effervescent 100 mg OD). An antihistamine eye drop was prescribed for his eyes, and the patient did not use it.

Outcome and follow-up

Both the ocular and respiratory tract symptoms relieved in less than two weeks, and needed no further treatment. PCR test was not repeated.



Figure 1: Appearance of the patient's eye at presentation; 6 days after positive COVID 19 PCR.



Figure 2: Appearance of the patient's eyes one week after the previous photo.

Discussion

A mild illness COVID 19 is described as a disease with any of the following COVID-19 signs and symptoms: fever, cough, sore throat, malaise, headache, muscle pain, nausea, vomiting, diarrhea, loss of taste and smell, but no shortness of breath, dyspnea, or finding in the chest imaging [3]. Even in COVID-19 positive patients with lesser illness, moderate conjunctivitis appearing as conjunctival congestion is prevalent and one of the predominant ocular symptoms [4, 5].

The earliest reported cases of COVID-19 associated conjunctivitis were documented by Salducci and La Torre in a cruise's ship in May 2020 [6] followed by Navel, Chiambaretta, and Dutheil case report in September 2020 of an ICU-admitted patient [7].

Authors think this is an uncommon case because, According to Loffredo et al (2020), the chances of having conjunctivitis with severe COVID-19 is four times the chance of having it with milder

illness [8]. Güemes-Villahoz et al 2020 report, however, found no significant relationship between the COVID-19 severity score and the presence of conjunctivitis [9]. Authors weighs on Loffredo results as it's an in-depth meta-analysis. While the kind participation of Güemes-Villahoz et al was a cross-sectional study. Furthermore, the eye symptoms manifested while the upper respiratory symptoms were fading. Several studies mentioned that conjunctivitis can even precede the respiratory symptoms of COVID-19 [3, 10-13], also some inferred: it could be the only symptom and/ or sign of the disease [14-16]. As in this current case, the symptoms of conjunctivitis were frequently reported to be bilateral, but some studies reported an involvement of only one eye [17, 18]. Authors think it is attributed to the transmission through hands or adjacent structures, such as clothes or bed sheets, to the other eye. The tears and eye discharges are known to be contaminated with COVID-19 virus [19, 20]; hence, a conjunctival

swap could be used for diagnosing of COVID-19. In this current case, a swap was not taken because the patient is already diagnosed and because this procedure is not routinely performed in Saudi Arabia.

This study have the disadvantages of lacking routine laboratory testing and the close follow-up of the patient, also a post recovery testing was not performed, nonetheless, due to the current pandemic circumstances, only patients with serious illness or concomitant chronic diseases are closely monitored.

Learning points

- COVID-19 associated conjunctivitis can accompany a mild illness.
- Attention should be paid to hand contact to the eyes in COVID-19 patients.
- Wearing gloved is preferable particularly at nighttime.
- When the patient coughs, sneeze, or clean his nose, vigorous hand washing is necessary.

References

1. Cascella M, Rajnik M, Aleem A, Dulebohn SC, Di Napoli R. Features, Evaluation, and Treatment of Coronavirus (COVID-19). 2022 Jan 5. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. [PMID: 32150360](#).
2. Hu K, Patel J, Swiston C, et al. Ophthalmic Manifestations of Coronavirus (COVID-19) [Updated 2022 Jan 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK556093/>
3. Clinical Spectrum of SARS-CoV-2 Infection. In: COVID-19 Treatment Guidelines Panel. Coronavirus Disease 2019 (COVID-19) Treatment Guidelines [Internet]. National Institutes of Health (Page 48). Available at: <https://www.covid19treatmentguidelines.nih.gov/>. Accessed [12 February 2022].
4. Sindhuja K, Lomi N, Asif MI, Tandon R. Clinical profile and prevalence of conjunctivitis in mild COVID-19 patients in a tertiary care COVID-19 hospital: A retrospective cross-sectional study. Indian J Ophthalmol. 2020 Aug; 68(8): 1546–1550. doi: 10.4103/ijo.IJO_1319_20
5. Al-Namaeh M. COVID-19 and conjunctivitis: a meta-analysis. Ther Adv Ophthalmol. 2021 Jan - Dec; 13: 25158414211003368. doi:10.1177/ 25158414211003368
6. Salducci M, La Torre G. COVID-19 emergency in the cruise's ship: a case report of conjunctivitis. Clin Ter. 2020 May-Jun; 171(3):e189-e191.doi:10.7417/CT.2020. 2212. [PMID: 32323704](#).
7. Navel V, Chiambaretta F, Dutheil F. Haemorrhagic conjunctivitis with pseudomembranous related to SARS-CoV-2. Am J Ophthalmol Case Rep. 2020 Sep; 19: 100735. doi: 10.1016/j.ajoc.2020.100735
8. Loffredo L, Pacella F, Pacella E, Tiscione G, Oliva A, Violi F. Conjunctivitis and COVID-

9. 19: A meta-analysis. *J Med Virol.* 2020 May 22;10.1002/jmv.25938.doi:10.1002/jmv.25938 [Epub ahead of print]. Güemes-Villahoz N, Burgos-Blasco B, García-Feijoó J, Sáenz-Francés F, Arriola-Villalobos P, Martínez-de-la-Casa JM, Benítez-Del-Castillo JM, Herrera de la Muela M. Conjunctivitis in COVID-19 patients: frequency and clinical presentation. *Graefes Arch Clin Exp Ophthalmol.* 2020 Nov;258(11):2501-2507 doi:10.1007/s00417-020-04916-0. Epub 2020 Aug 29. [PMID: 32860573](#); [PMCID: PMC7455778](#).
10. Xuejie L, Ming W, Jing D, Wenjun W, Yanning Y, Wei J. Novel coronavirus disease with conjunctivitis and conjunctivitis as first symptom: Two cases report. *Chinese J Exp Opth.* 2020; 38(4): 318-321. DOI: 10.3760/cma.j.cn115989-20200303-00133
11. Daruich A, Martin D, Bremond-Gignac D. Unilateral conjunctivitis as first presentation of Coronavirus Disease 2019 (COVID-19): A telemedicine diagnosis. *J Fr Ophtalmol.* 2020 May;43(5):e167–e168.doi:10.1016/j.jfo.2020.04.001
12. Marquezan MC, Marquezam JP, Nascimento H, Chalita MR, de Freitas D, Belfort R Jr. Conjunctivitis Related to not Severe COVID-19: A Case Report. *Ocul Immunol Inflamm.* 2021 May 19; 29(4):631-633. doi: 10.1080/09273948.2020.1837186. Epub 2020 Nov 20. [PMID: 33215962](#).
13. Scalinci SZ, Battagliola ET. Conjunctivitis can be the only presenting sign and symptom of COVID-19. *ID Cases.* 2020; 20: e00774. <https://doi.org/10.1016/j.idcr.2020.e00774>
14. Alrawashdeh HM, Al Zubi K, Abdulmannan DM, Al-Hababbeh O, Abu-Ismaïl L. Conjunctivitis can be the only sign and symptom of COVID-19 in some patients. *Qatar Med J.* 2021; 2021(2): 31. doi: 10.5339/qmj.2021.31
15. Mocanu V, Bhagwani D, Sharma A, Borza C, Rosca CI, Stelian M, Bhagwani S, Marusiuc Haidar L, Kshtriya L, Kundnani NR, Horhat FR, Horhat R. COVID-19 AND THE human eye - conjunctivitis a lone covid-19 finding - A case-control study. *Med Princ Pract.* 2022 Jan 5. doi: 10.1159/000521808. Epub ahead of print. [PMID: 34986482](#).
16. Ozturker ZK. Conjunctivitis as sole symptom of COVID-19: A case report and review of literature. *Eur J Ophthalmol.* 2020 Jul 24: 1120672120946287.doi:10.1177/1120672120946287
17. Wu P, Liang L, Chen CB, Nie SQ. A child confirmed COVID-19 with only symptoms of conjunctivitis and eyelid dermatitis. *Graefes Arch Clin Exp Ophthalmol.* 2020 Apr 24: 1–2. doi: 10.1007/s00417-020-04708-6
18. Nayak B, Poddar C, Panigrahi MK, Tripathy S, Mishra B. Late manifestation of follicular conjunctivitis in ventilated patient following COVID-19 positive severe pneumonia. *Indian J Ophthalmol.* 2020 Aug; 68(8): 1675–1677. doi: 10.4103/ijo.IJO_1682_20
19. Xia J, Tong J, Liu M, Shen Y, Guo D. Evaluation of coronavirus in tears and

conjunctival secretions of patients with SARS-CoV-2 infection. J Med Virol. 2020 Jun;92(6):589-594. doi: 10.1002/jmv.25725. Epub 2020 Mar 12. PMID: 32100876; PMCID: PMC7228294.

20. Kumar K, Prakash AA, Gangasagara SB, Rathod SBL, Ravi K, Rangaiah A, Shankar SM, Basawarajappa SG, Bhushan S, Neeraja TG, Khandenahalli S, Swetha M, Gupta P, Sampritha UC, Prasad GNS, Jayanthi CR. Presence of viral RNA of SARS-CoV-2 in conjunctival swab specimens of COVID-19 patients. Indian J Ophthalmol. 2020 Jun; 68 (6):1015-1017.doi:10.4103/ijo.IJO_1287_20. PMID:32461418;PMCID:PMC7508154.