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There may be virus in conjunctival secretion of patients with COVID-19

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The COVID-19 is a public health emergency. The COVID-19 patient is the main source of infection, and asymptomatic infective patient can also be a source of infection (Bhadelia [2020](#)). The main route of transmission is through respiratory droplets and contact (Burki [2020](#)).

It is not clear whether the 2019-nCoV is transmitted through the mucous membrane of the eye. S-protein of SARS-like coronavirus can interact with human ACE2 protein and infect human respiratory epithelial cells (Ge et al. [2013](#)). The human cornea and conjunctiva express ACE2 receptor, which can theoretically bind to the 2019-nCoV and cause infection. Our hospital is from the epidemic area. In our hospital, 37 patients of 2019-nCoV infection pneumonia were detected the nucleic acid in the conjunctival sac by real-time RT-PCR. According the Chinese COVID-19 diagnosis and treatment (V) (Huang et al. [2020](#)), 12 cases were severe patients, and the others were mild patients. Three cases had conjunctival congestion and other inflammatory appearance. One case of severe patients, which conjunctival sac secretion nucleic acid test was positive by real-time RT-PCR, but this severe patient had no conjunctivitis. The other 36 patients were negative in nucleic acid test of conjunctival secretion.

Therefore, we must pay attention to the possibility of virus in conjunctival sac secretion of COVID-19 patients and need to further detect the virus in conjunctival sac secretion as evidence. The viral load of conjunctival sac secretion of COVID-19 patients is relatively low, and we estimate the viral load is directly proportional to the severity of the disease. Whether the 2019-nCoV can be transmitted through conjunctiva is further studied.

References



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