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Bilateral Immune-Mediated Keratolysis After Immunization With SARS-CoV-2 Recombinant Viral Vector Vaccine

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Abstract

Purpose: The purpose of this study was to report an unusual case of bilateral immune-mediated corneal melting and necrosis after ChAdOx1 nCoV-19 (Covishield) vaccination.

Methods: This is a case report and literature review.

Results: A 48-year-old man presented to the ophthalmic emergency department with progressive bilateral corneal melting 5 weeks after receiving the first dose of ChAdOx1 nCoV-19 (Covishield) vaccine. Systemic complaints of fever, diarrhea, and vomiting were noted in the first 2 weeks, which subsided before the onset of ocular symptoms at day 21 of vaccine administration. The patient could only perceive light bilaterally and demonstrated features of bilateral keratolysis with choroidal detachment on ultrasonography. The microbiological scraping specimen did not reveal growth of any microorganism. Tectonic penetrating keratoplasty was performed, and the host corneal tissue was sent for histopathology, bacterial culture, fungal culture, polymerase chain reaction for herpes simplex virus, varicella zoster virus, cytomegalovirus, adenovirus, and SARS-CoV-2. Microbial culture was sterile, and viral polymerase chain reaction reports were negative. Histopathological examination revealed dense inflammatory cell infiltration. Detailed systemic workup revealed no underlying systemic or autoimmune pathology.

Conclusions: Immune-mediated keratolysis after ChAdOx1 nCoV-19 (Covishield) vaccination is a rare entity, and we believe that this is the first report of a temporal association between a serious ocular adverse event after a single dose of any SARS-CoV-19 vaccine. It may be included as a possible adverse event associated with this vaccine.

Conflict of interest statement

The authors have no funding or conflicts of interest to disclose.

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