

Ocular problem in Ebola virus infection A short review



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Abstract

In 2014, the outbreak of Ebola virus infection occurred in Africa and became the global concern. The infection is an acute febrile illness and the patient can have several clinical manifestations including the hemorrhage. The ocular manifestation of Ebola infection is interesting. In this brief review, the authors summarize on the ocular manifestation in Ebola virus infection.

Keywords: Ebola, Eye, Problem

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Introduction

In 2014, the outbreak of Ebola virus infection occurred in Africa and became the global concern. The infection is an acute febrile illness and the patient can have several clinical manifestations including the hemorrhage.¹ The ocular manifestation of Ebola infection is interesting. However, the ocular problem is usually forgotten. In the recent preliminary report on the present 2014 African outbreak, the information on ocular manifestation is not mentioned.² In this brief review, the authors summarize on the ocular manifestation in Ebola virus infection.

Early ocular manifestation

The Ebola virus infection usually presents as an acute illness. The patient can have fever and hemorrhagic episode. Focusing on the ocular manifestations, some reports mention for the problem of conjunctiva. The injected conjunctiva can be the primary clinical feature of Ebola virus infection.³ Also, in the hospitalized case, an important hemorrhagic problem is the conjunctival hemorrhage.⁴

Late ocular manifestation

Ebola virus can cause systemic infection. In the animal model study, it was approved that viral could infect ocular tissue and the observation of virus in eye was reported.⁵ It is no doubt that there can be late ocular manifestation of Ebola infection. The post infection ocular problem can be seen. Kibadi et al. reported an important finding on ocular manifestations of the patients after being asymptomatic that ocular pain, photophobia, hyperlacrimation, and loss of visual acuity were common. Also, uveitis could be detected.⁶

Conclusion

The problem of ocular manifestation in Ebola virus infection can be seen. However, it is usually not mentioned. The general practitioner should aware that the ocular problem can be seen in the patients with Ebola virus infection and the ocular presentation can also be the first clinical manifestation.

References

1. Ansari AA. *Clinical features and pathobiology of Ebolavirus infection*. J Autoimmun 2014; September 23. pii: S0896-8411(14)00130-9.

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2. Baize S, Pannetier D, Oestereich L, Rieger T, Koivogui L, Magassouba N, et al. Emergence of Zaire Ebola virus disease in Guinea. *N Engl J Med* 2014;**371**(15):1418–25.
3. Bwaka MA, Bonnet MJ, Calain P, Colebunders R, De Roo A, Guimard Y, et al. Ebola hemorrhagic fever in Kikwit, Democratic Republic of the Congo: clinical observations in 103 patients. *J Infect Dis* 1999;**179**(Suppl. 1):S1–7.
4. Sureau PH. Firsthand clinical observations of hemorrhagic manifestations in Ebola hemorrhagic fever in Zaire. *Rev Infect Dis* 1989;**11**(Suppl. 4):S790–3.
5. Larsen T, Stevens EL, Davis KJ, Geisbert JB, Daddario-DiCaprio KM, Jahrling PB, et al. Pathologic findings associated with delayed death in nonhuman primates experimentally infected with ZaireEbola virus. *J Infect Dis* 2007;**196**(Suppl. 2):S323–8.
6. Kibadi K, Mupapa K, Kuvula K, Massamba M, Ndaberey D, Muyembe-Tamfum JJ, et al. Late ophthalmologic manifestations in survivors of the 1995 Ebola virus epidemic in Kikwit, Democratic Republic of the Congo. *J Infect Dis* 1999;**179**(Suppl. 1):S13–4.