

Abstract

Viruses represent a major threat to human health and might be transmitted by direct and indirect contact. Reducing the viral load, either in the host or in the environment greatly reduces virus spreading. In this work we aimed to evaluate the virucidal activity of ozone against herpes virus of human (Herpes Simplex Virus 1 – HSV-1) and bovine (Bovine Herpes Virus 1 – BoHV-1) origin. The virucidal activity was measured by titrating aliquots of HSV-1 and BoHV-1 exposed for 1, 2, and 3 h to ozone generated by a domestic device. In addition, the possible cytotoxic effect of ozone to cultured MDBK cells was also assessed using the MTT method. MDBK cells exposed to ozone for 3 h and tested immediately after exposure, or after culturing for 24 h, had viability similar to non-exposed cells, indicating that ozone per se was not cytotoxic to the cells. Furthermore, a significant reduction in BoHV-1 (99.62%) and HSV-1 (90.0%) titer was observed after 3 h exposure to ozone. Our results indicate that ozone might be safely used to reduce environmental load of herpes virus.

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