Ebola study in macaques provides timeframes for post-mortem viral stability

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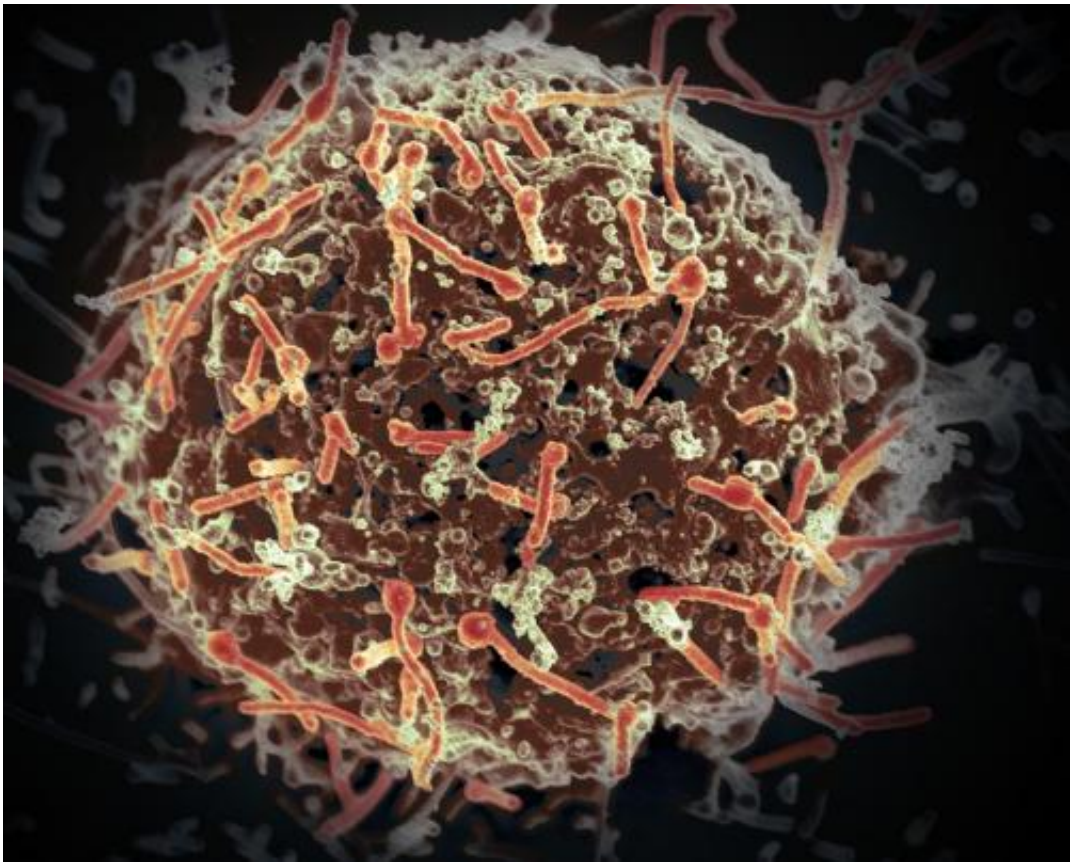

The Ebola virus, isolated in November 2014 from patient blood samples obtained in Mali. The virus was isolated on Vero cells in a BSL-4 suite at Rocky Mountain Laboratories. Credit: NIAID

To determine how long Ebola virus could remain infectious in a body after death, National Institutes of Health (NIH) scientists sampled

deceased Ebola-infected monkeys and discovered the virus remained viable for at least seven days. They also detected non-infectious viral RNA for up to 70 days post-mortem.

The study, published in *Emerging Infectious Diseases*, suggests that Ebola transmission from deceased individuals may be possible for an extended period of time following death, underscoring the importance of using safe practices for handling corpses. The research also highlights oral swabbing of bodies as a reliable and safer alternative to riskier procedures for obtaining diagnostic samples.

To conduct this study, scientists at NIH's National Institute of Allergy and Infectious Diseases tested samples from five deceased macaques used in Ebola virus studies and euthanized after showing signs of disease. To assess the stability of the virus post-mortem, the scientists placed the bodies in a chamber to mimic environmental conditions in West Africa. After the scientists sampled seven different body surfaces and removed tissue from four internal organs, they measured the amount of live Ebola virus and viral RNA, and compared test results at various times. The group determined that live virus was detectable in surface swabs up to seven days after death, and in the tissue samples up to three days post-mortem. Viral RNA was detectable in several swab and tissue types for up to 10 weeks.

The scientists believe these findings are likely to be consistent for non-human primates such as gorillas and monkeys. In fact, they designed the study to test animals found dead in the wild, but shifted the timing and emphasis to human implications related to the ongoing West Africa Ebola outbreak.

More information: J Prescott et al. Post-mortem stability of Ebola virus. *Emerging Infectious Diseases* DOI: 10.3201/eid2105.150041 (2015).

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