

PALADINS: PROTECTIVE APPROACHES LEVERAGING AD-APTIVE AND IN-NATE SYSTEMS

Monkeypox Virus Persists In The Testes Of Nonhuman Primate Survivors

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Sexual contact likely fuels the spread of monkeypox virus (MPXV) in the ongoing 2022 outbreak. However, it remains elusive whether MPXV can infect the testes and be subsequently shed in semen. We discovered that MPXV infects the testes of crab-eating macaques during both the acute and convalescent phase of the disease. MPXV primarily infects the interstitial region of the testes and progressively infects the cells within the seminiferous tubules and epididymal lumina, the sites of sperm production and maturation, respectively, leading to inflammation and necrosis during the acute phase of the disease. Furthermore, we demonstrated that MPXV, despite being cleared from the main target organs, including skin lesions, can persist in the testes of convalescent crab-eating macaques that survived exposure to MPXV. Our study provides insight to a potential mechanism of sexual transmission for MPXV, whereby testicular infection and persistence may result in viral shedding via seminal fluid, and, therefore, has significant implications on public health.

Opinions, interpretations, conclusions, and recommendations are those of the author and are not necessarily endorsed by the U.S. Army.

All studies were conducted under Institutional Animal Care and Use Committee-approved protocols in compliance with the Animal Welfare Act, Public Health Service Policy, and other federal statutes and regulations relating to animals and experiments involving animals. The facility in which this research was conducted is accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International and adheres to principles stated in the Guide for the Care and Use of Laboratory Animals, published by the National Research Council in 2011.