Kinetics of immune responses in deer mice experimentally infected with sin nombre virus

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Deer mice are the principal reservoir hosts of Sin Nombre virus, the etiologic agent of most hantavirus cardiopulmonary syndrome cases in North America. Infection of deer mice results in persistence without conspicuous pathology, and most, if not all, infected mice remain infected for life, with periods of viral shedding. The kinetics of viral load, histopathology, virus distribution, and immune gene expression in deer mice were examined. Viral antigen was detected as early as 5 days postinfection and peaked on day 15 in the lungs, hearts, kidneys, and livers. Viral RNA levels varied substantially but peaked on day 15 in the lungs and heart, and antinucleocapsid IgG antibodies appeared in some animals on day 10, but a strong neutralizing antibody response failed to develop during the 20-day experiment. No clinical signs of disease were observed in any of the infected deer mice. Most genes were repressed on day 2, suggesting a typical early downregulation of gene expression often observ