عنوان مقاله:

Effect of Vaccination on Distribution and Immune Response of Avian Influenza Virus H۹N۲ in Coturnix coturnix

محل انتشار:

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خلاصه مقاله:

Influenza viruses can multiply in quails and be transmitted to other animal species. As vaccination reduces virus shedding in chickens, the effect of the killed H۹N۲ avian influenza virus (AIV) on tissue distribution and virus shedding was evaluated in quails. One hundred ۲۰-day-old quails were divided into six equal groups, kept in separate pens, and fed ad libitum. Before vaccination, blood samples were randomly collected from the wing veins. Four groups were vaccinated with the inactivated H۹N۲ Razi Institute vaccine at ۲۱ days subcutaneously at the back of neck. Three weeks later, two groups were re-vaccinated. Two weeks later, at the age of ۵۶ days, three groups were challenged with ۱۰۰ µL of allantoic fluid containing ۱۰۵ EID۵۰ H۹N۲ through the oculonasal route. Blood samples were collected from quails at ۴۲, ۵۶, ۶۳, and ۷۰ days from each group to determine AIV antibodies by the hemagglutination inhibition test. Three quails were randomly selected and euthanized from each group on days ۱, ۳, and ۶ post-inoculation (PI). Tissue samples were collected, and the RT-PCR test was performed. No clinical signs or gross lesions existed in any of the groups during the experiment. However, the virus was detected in different tissues on the first, third, and sixth days after the challenge in unvaccinated challenged birds. Virus detection was significantly more frequent in the quails vaccinated once and challenged than in the twice-vaccinated challenged group (P≤۰.۰۵). On the third day of PI, the virus was detected in some organs of the challenged groups. On the sixth day of PI, the virus was detected only in the lungs of two unvaccinated and once-vaccinated challenged birds. It was concluded that the vaccination of quails against AIV H۹ is necessary to protect them from clinical signs, as well as respiratory tract and intestine replication. Two-time vaccination significantly protects the respiratory and intestine tracts, compared to one-time vaccination ((P≤۰.۰۵).

کلمات کلیدی:

Detection, Antibody titer, Clinical Signs, gross lesion