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Optimizing the immunization strategy to prevent hepatitis E virus (HEV) zoonotic transmission by vaccinating animals

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Hepatitis E virus (HEV) infection has become a global public health problem. Currently, there are increasing reports of human HEV infections, which are mediated by the consumption of undercooked meat from various animals. Thus, it is essential to prevent the food-borne transmission of HEV. Recent study showed that HEV 239 vaccine could completely protect rabbits against HEV infections using the same immunization strategy as that of humans. However, this strategy is not suitable for immunizing animals in a large scale because of the cost. To explore a better strategy to prevent HEV zoonotic transmission, forty rabbits were divided randomly into five groups of 8 rabbits each and inoculated intramuscularly with two 10 µg doses, two 10 µg doses, two 20 µg doses, a single 30 µg dose, two 0 µg dose of HEV 239, respectively. All animals were challenged intravenously with different titers and genotypes of HEV three weeks after completion of the vaccination courses. As results, two 10 µg and two 20 µg doses of the vaccine were superior to a single 30 µg dose in preventing rabbits against rabbit HEV (rHEV) and swine HEV-4 (sHEV-4) infections and obviously two 10 µg doses were more cost-effective. These results could provide the laboratory evidences for developing the optimal immunization strategy to prevent HEV zoonotic transmission worldwide.

Biography

Ling Wang completed her PhD at Kyoto University, Japan. She is working as a Professor in the Department of Microbiology, School of Basic Medical Sciences, Peking University, Beijing, China. She has published more than 20 papers in reputed journals on HEV research.

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