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Hiroshi Kida
Hokkaido University, Japan

For the control of avian and human influenza

H5 Highly Pathogenic Avian Influenza Viruses (HPAIVs) have spread around Eurasia and Africa. Unless these viruses were eradicated from poultry in Asia, those may perpetuate in the lakes where migratory water birds nest in summer in Siberia and outbreaks of HPAI must occur everywhere in Eurasia every year. We, thus, strongly propose to eradicate those HPAIVs from Asia by stamping-out without misuse of vaccine through international collaboration. Each of the past 4 pandemic influenza viruses is thought to be a re-assortant generated in a pig between avian influenza virus and the preceding human strain. We have shown that pigs were susceptible to infection with both of avian and mammalian influenza viruses of different HA subtypes, generating re-assortants with human receptor specificity. Since each of influenza A viruses of all known subtypes perpetuates among migratory ducks and their nesting lake water and avian viruses of any subtype can contribute genes in the generation of re-assortants in pigs, none of viruses of the 16HA and 9NA subtypes can be ruled out as potential candidates for future pandemic strains. We have established a library of 2,000 low pathogenic avian influenza virus strains of 144 combinations of 16HA and 9NA sub-types for vaccine strain candidates and diagnostic use. In addition, it was strongly proposed that surveillance of swine influenza and drastic improvement of seasonal influenza vaccine are of crucial importance in order to assure the effective preparedness for pandemic influenza.

Biography

Hiroshi Kida has a DVM and is a PhD holder. He is a Member of the Japan Academy and a Professor Emeritus, Head of the Research Center for Zoonosis Control at Hokkaido University, Sapporo, Japan. He is the Head of the OIE Reference Laboratory for Avian Influenza and Head of the WHO Collaborating Centre for Zoonoses Control. He has experiences of the development of influenza and leptospirosis vaccines as Research Officer at Takeda Chemical Industries, Ltd. He has devoted himself to research and education at Hokkaido University and been the recipient of several awards and honors such as Japan Academy Prize for 'Studies on control of influenza -mechanism of emergence of pandemic influenza virus strains in poultry, domestic animals and humans, and molecular basis of the neutralization of viral infectivity with antibodies'. He is the author of 304 original articles and 142 book chapters and reviews. His research interest includes ecology and pathogenesis of influenza viruses, zoonoses control and vaccinology.

kida@vetmed.hokudai.ac.jp

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