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**EXPERIMENTAL CONTACT INFECTION OF MINK WITH INFLUENZA
A VIRUSES AND DISTRIBUTION OF ANTIBODIES AGAINST
INFLUENZA VIRUSES IN MINK, SWINE AND HUMANS**

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Experimental contact infection of mink with influenza A viruses of avian and mammalian origin was conducted because mink have been known to be susceptible to various influenza A viruses by intranasal inoculation. An avian influenza A virus was found to be transmitted to mink by contact. This is the first evidence of contact infection of avian influenza virus in mammals. Further, in the present study, distribution of antibodies against influenza viruses in mink and virus isolation from the turbinate of mink, whether mink become naturally infected with influenza virus from humans, experimental intranasal infection of mink with influenza B and C viruses and distribution of antibodies against influenza A viruses in swine and humans were also performed. The results are summarised as follows.

1) The avian influenza A virus Hav7N2 was transmitted to mink by contact. The other avian influenza A viruses, Hav4Nav1 and Hav6Nav5, were not transmitted to mink by contact, and mammalian influenza A viruses, human, swine and equine, were transmitted to mink by similar contact.

2) Serological examinations of 421 mink sera for influenza A viruses, collected from November to December 1980 in a mink-breeding farm in the vicinity of Sapporo, showed that 75 sera (about 18%) were positive against A/Hokkaido/45/80 (H3N2). Antibody response in the HI titers more than 1:1024 was found in many of the mink. Virus isolation from the turbinate of some of these mink was negative.

3) Two mink were exposed to crowds during the epidemical seasons of influenza but these mink did not become naturally infected with any influenza viruses.

4) Mink were infected by intranasal inoculation with influenza B and C viruses. Contact infection of mink with influenza B virus was unsuccessful.

5) The sera from swine and humans in Hokkaido, collected from January to December 1980 and from June to September 1978 respectively, were studied for the presence of antibodies against influenza A viruses. The distribution of antibodies in the 19 subtypes of influenza A virus was as follows: of 754 swine, 16, 6.8 and 2.7% were positive against H3, H0 and H1, respectively. Of 142 humans, 47, 45, 35 and 9.2% were positive against H2, H3, H1 and H0, respectively.