

INFLUENZA

[Swine and Equine Influenza, Fowl Plague]

SPECIES: Ferrets primary laboratory hazard

AGENT: The causative agent is influenza type A (Orthomyxoviridae).

RESERVOIR AND INCIDENCE: Humans, wild and domestic birds, horses and pigs are reservoirs of influenza viruses, which appear to be species specific. Convalescent carriers act as reservoir hosts between epidemics. Antigenic shift is probably required before animal virus becomes epidemic in humans. Sporadic human infections with swine and avian strains have been reported. Human cases of influenza have occurred from contamination by aerosols from infected ferrets and vice versa.

TRANSMISSION: Transmission is by inhalation of droplets produced by coughing and sneezing, especially in crowded, enclosed spaces.

DISEASE IN ANIMALS: Fever has a sudden onset followed by anorexia, coughing, respiratory distress and mucoid nasal discharge, with rapid recovery. There is consolidation in the lung. Copious mucopurulent exudate fills the bronchioles.

DISEASE IN HUMANS: Typical symptoms include fever, chills, headache, myalgia, malaise, coryza, pharyngitis and cough with full recovery within two weeks, although viral or secondary bacterial pneumonia may develop, especially in the elderly.

DIAGNOSIS: Virus isolation, CF or HI serology.

TREATMENT: Bed rest, analgesics, and cough medications. Amantadine decreases duration by 50%. Antibiotics are reserved for bacterial complications. Ribavirin aerosol has helped severely ill patients.

PREVENTION/CONTROL: Polyvalent human influenza vaccine provides partial immunity (about 85% efficacy) for a few months to one year. The vaccine's antigenic configuration changes yearly and is based on prevalent strains of the preceding year. Chemoprophylaxis with amantadine will markedly reduce the attack rate among exposed individuals if begun immediately and continued for 10 days. Vaccinate horses annually. Prohibit imports of live poultry and poultry meat from countries where fowl plague occurs. Protective clothing and sanitation important, especially with ferrets infected in the laboratory.

BIOSAFETY LEVEL: BL-2

(This publication is courtesy of the University Research Compliance Office, Kansas State University.)