

Poxviridae

Viruses of the Poxviridae family are among the largest viruses infecting animals. The enveloped, brick-shaped. Poxvirus can be seen by light microscopes. The poxviral genome consists of a linear double stranded DNA molecule. Exceptional for DNA viruses, poxviruses replicate in the cytoplasm of infected cells.

Fowlpox

Fowlpox is a serious slow-spreading, worldwide disease that affects chickens and turkeys. Transmission is by contact through abrasions in the skin and by biting insects. In its most frequent form, *cutaneous form* or dry fowlpox form, the disease is characterized by proliferative lesions primarily confined to the skin of unfeathered body parts such as eyelids, comb, wattle, legs and feet. When lesions affect the eyelids, complete closure of the eyes is common. Lesions range from small nodules to wart-like masses that evolve to scars before healing. A less common, severe form of the disease known as *diphtheric fowlpox* or wetpox is characterized by caseous plaques or necrotic pseudomembranes firmly attached to the mucosa lining the upper respiratory tract and esophagus. Cutaneous and diphtheric forms may coexist in the same animal. Aerosols have been suggested to play a role in transmission of fowl diphtheria.

Diagnosis of fowlpox is based on clinical signs and histopathology (inclusion bodies). Virus can be isolated by inoculation of lesion material into avian cell cultures for appearance of cytopathic effect, or the chorioallantoic membrane of chicken embryos for development of pock lesions. Attenuated live fowlpox and pigeonpox virus strains are used to protect poultry from fowlpox. The vaccines are usually applied by wing web inoculation.

Poxviral Diseases in Other Bird Species

Avipoxviruses infect a variety of wild and caged birds, including penguins, ostriches, canaries, parrots, and sparrows. Disease ranges from cutaneous lesions in the head and feet to severe diphtheric forms. Disease in canaries is usually systemic, with hepatic necrosis and pulmonary nodules, and mortalities that may approach 90%. Vaccination is practiced by some canary breeders.