

Pigeon Herpesvirus (Smadel's Disease)

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Species

Pigeon herpesvirus can affect all columbiformes including feral, wild and aviary pigeons and doves.

Status in Canada

Pigeon herpesvirus is not common in Canada but has been recognized periodically in most provinces and has affected feral pigeons and commercial pigeons (mainly racing pigeons).

Etiology

Pigeon herpesvirus infection is caused by a herpes virus classified as an Alphaherpes virus. It was first recognized in racing pigeons used for military purposes and described by Joseph E. Smadel in 1945, working in a U.S. Army medical establishment of the Rockefeller Institute for Medical Research in New York. It was recognized in eastern Canada in the late 1970s in feral pigeons and then in racing pigeons. It now occurs across Canada and has been reported in North and South America, Europe, Australia, Asia and Africa.

Smadel's disease (pigeon herpesvirus infection) is presently seen world wide in any breed of young squabs or immunocompromised adult pigeons. Subclinical infections are likely present in almost every racing and fancier pigeon loft, and less frequently observed in free-living and urban pigeons.



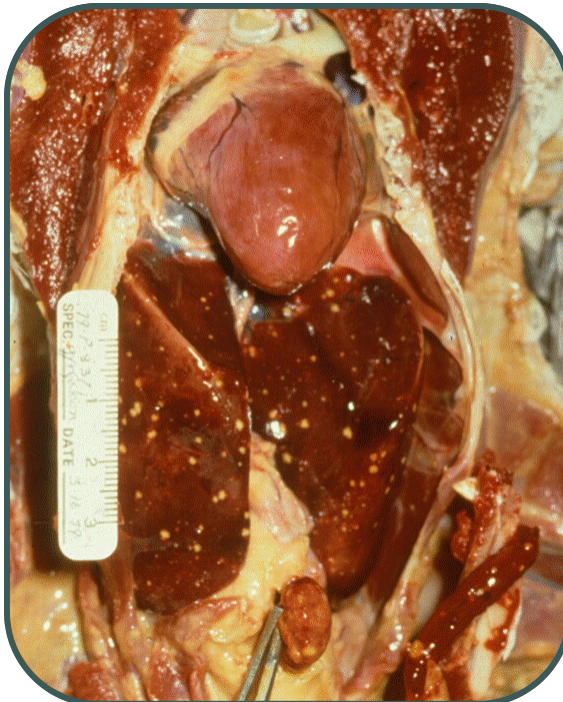
The Disease

Inhalation of virus-containing dust derived from feathers, nasal discharge, saliva, urine, and feces is the predominant way of transmission of this virus from bird to bird. Adults that feed their offspring with crop-milk (feral and domestic pigeons, some psittacine birds) experience an activation of their latent infection in the oropharyngeal region during egg incubation and transmit the virus via crop-milk to their newly hatched offspring.

Infected squabs appear weak, do not grow, have a distended abdomen, and die as emaciated nestlings.

In lofts infected with the immunosuppressive circovirus (see circovirus fact sheet), clinical disease and mortality from pigeon herpesvirus may be much worse. Forms of the disease in adult pigeons are less frequently seen but older birds may develop liver disease (hepatitis), lesions in the oral cavity or intestinal tract and occasionally brain infections. Such pigeons often have a history of poor performance during racing competitions or shows, suffer from parasite infections, and have occasional respiratory or enteric problems. Small, solid, greyish foci may be observed in the mouth and throat area. At necropsy affected pigeons often have necrosis in the liver (hepatitis) and microscopic lesions in the brain.

Pigeons likely become infected early in life and an important feature of the disease is the viruses ability to remain latent in neurological tissues (for example the trigeminal ganglia) and become activated weeks, months or even years later during periods of stress or breeding activity.



Dead pigeon with pigeon herpesvirus infection. Note the multiple white spots on the liver and spleen (forceps). These white spots are areas of necrosis (cell death).

Treatment

There is no practical treatment unless dealing with very valuable birds. Acyclovir, an anti-herpes drug has been used to treat herpes virus infections in birds but it is expensive and needs careful monitoring by your veterinarian. Good husbandry, a high level of barn sanitation and efforts to minimize stress will reduce the severity of disease. There are no commercial vaccines available and there are no commercial tests to determine if live birds are carriers of the virus.

Certain strains of pigeon herpesvirus have been shown to infect falcons and other birds of prey. Birds of prey in the wild are likely infected by eating infected pigeons. Dead pigeons should not be used as a food source for falconer's birds or captive raptors. If this practice is done, then removing the pigeon's head before feeding will slightly help reduce the risk, as the latent virus is thought to reside in nervous tissue.

Prevention

As carrier birds cannot be identified it is difficult to prevent pigeon herpesvirus from entering a loft or breeding area. Always purchase replacement birds from a reputable source with an active disease monitoring program.

The virus is frequently transmitted during pigeon races when birds are in close contact with each other and stress levels in the birds are elevated. Having birds at their healthiest at the time of transportation and ensuring that sick birds are not entered are important preventative measures.



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