Avian Pox

College of Veterinary Medicine
UNIVERSITY OF GEORGIA

Created by: SCWDS faculty/staff

CAUSE

Avian pox is caused by viruses in the family *Poxviridae*, genus *Avipoxvirus*. At least 10 virus strains are recognized and named for their species of origin. Many viral isolates are adapted to particular taxonomic groups of birds and either less effectively infect other groups or do not infect them at all.

DISEASE SIGNIFICANCE

Avian pox is a significant infectious disease of wild turkeys in the southeastern United States, with high levels of infection and/or disease in certain areas. Young birds typically are more severely affected than adults.

HOST SPECIES

Avian pox viruses can infect a wide variety of birds, and nearly all species are considered to be susceptible. The disease has been reported in over 200 species of wild birds. Species that are particularly impacted in the southeastern United States include wild turkeys, bobwhite quail, mourning doves, and finches. Raptors occasionally are infected and the disease is rare in wild waterfowl.

GEOGRAPHICAL DISTRIBUTION

Avian pox cases occur around the world, except the Arctic and Antaractica. Disease is especially common in coastal plain regions, particularly in warmer months with greater activity of vectors such as mosquitoes.

TRANSMISSION

Pox viruses are tranmitted by blood-feeding arthropods, particularly mosquitoes. Mosquitoes that feed on an infected bird carry the virus on their mouthparts and pass it to other birds at their next feeding. Mosquitoes can harbor the virus for more than a month. Infection may also occur through breaks in the skin, close contact, inhaling infected dander, or eating scabs shed from lesions that contain virus.

FIELD SIGNS

Many turkeys with poxvirus infections do not develop disease. Lesions due to poxvirus infections are usually tan/yellow wart-like growths that may have overlying ulcerations and scabs. In the “dry” form, lesions are only on the non-feathered skin of the head, feet or legs. In the “wet” form, lesions are found on the lining of the upper gastrointestinal and respiratory tracts (mouth, esophagus/crop, trachea). Both forms can develop in the same animal at the same time. Depending on the severity, size, and location of the lesions, infected animals can have trouble seeing, swallowing, breathing, or eating. These lesions are similar to lymphoproliferative disease in wild turkeys and additional testing is required to differentiate between the two diseases.

Left: Wild turkey with pox virus infection on the face and neck (“dry” form).
Right: Examples of pox lesions in the mouth of wild turkeys (“wet” form).

RISK TO HUMANS & DOMESTIC ANIMALS

Avian pox viruses do not pose any risk to humans. Domestic poultry can be infected with avian pox viruses and are at higher risk when they are housed closely together or in areas with abundant mosquito populations.

PREVENTION & MANAGEMENT

Infected birds can be treated with supportive care and preventing secondary infections. Outbreaks associated with birdfeeders can be controlled by removing feeders and birdbaths, which reduces gatherings of birds, and disinfecting them appropriately with a 10% bleach solution. When infections occur in captive situations, infected birds should be isolated and cages should be disinfected. Vaccines for domestic poultry are available. Avipoxviruses are highly resistant to drying and can survive outside hosts for months to years depending on the temperature and humidity. Since these viruses are transmitted by mosquitoes, eliminating standing water that acts as breeding sites also aids in control.

REFERENCES

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