

Influenza infections in Poultry and Wild birds

Susceptible species

All poultry species, but also many ornamental and wild bird species are susceptible to avian influenza viruses (AIV). Wild waterfowl populations are the natural reservoir of AIV.

For humans and other mammals (e.g. pigs, mustelids, cats, and dogs) a risk of infection with AIV is limited to very intensive contact with infected poultry. However, infection may lead to severe and even fatal disease.

Distribution area

AIV occur worldwide in wild birds. In poultry holdings, AI infections may occur occasionally. Notifiable AI infections with highly pathogenic (HP) AIV, which also pose a direct risk for human health, are found continuously in poultry holdings in Southeastern Asia and Egypt since 2005. In Europe including Germany, sporadic occurrence of HPAIV was sporadically observed in wild birds and poultry.

Causative agent

There are different subtypes of AIV. When subtypes H5 and H7 infect poultry, they can mutate spontaneously into a variant causing very high mortality (HPAIV). The clinical picture associated with HPAIV infections is called “Classical Fowl Plague”.

Transmission

Infected animals mainly excrete AIV with their feces. Eggs from infected animals also may contain virus. The

infection is transmitted by direct contact between birds or by ingestion of virus-contaminated material or contaminated drinking water. Transmission between holdings may occur by trade with animals or indirectly by contaminated vehicles, persons, equipment, packaging material etc.

Clinical Picture

Sudden disease in chicken and turkey holdings causing rapid mass mortality is highly suspicious for HPAIV. Similar courses can be observed in wild birds (in particular in diving ducks and birds of prey). Low pathogenic AIV in contrast often only cause mild symptoms, however, they can cause a decrease in egg production or daily weight gain of fattening poultry. Also in such cases exclusion of AIV subtype H5/H7 infection is indicated.

Ducks and geese often develop less severe disease and mild forms may remain completely unnoticed.

Diagnostics

Safe detection of the virus in diseased or suspect wild birds and poultry is crucial. For a legal outbreak declaration the determination of the subtype (H5 or H7) as well as of the pathogenicity (low or highly pathogenic) is required.

For more detailed information please refer to the “Amtliche Methodensammlung” (in German language only).

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Similar clinical pictures

Newcastle Disease (atypical fowl plague), Fowl Cholera, acute intoxications and management problems (high ambient temperatures, lack of drinking water).

Control

Infections of poultry with viruses of the subtypes H5 and H7 are notifiable independently of the pathotype and are actively controlled worldwide by culling and safe disposal of poultry of the affected holdings. The animal holder is indemnified.

Prevention of contact between wild birds and poultry is the most important protection measure, which however

is difficult to implement in free-range poultry holdings. In the EU vaccination against AIV is prohibited. Humans should avoid unprotected contact with animals confirmed to be infected by wearing appropriate protective clothing. AIV are rapidly destroyed by common disinfectants and thorough cooking of eggs or poultry meat.

More Information

Information of the FLI on [Avian Influenza \(AI\) / Fowl Plague](#)