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# Avian influenza

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## Overview:

Influenza A virus, also known as the avian influenza virus (AIV), is considered a multi-host virus (Naguib et al., 2019). Wild birds of the order Anseriformes (ducks, swans and geese) and Charadriiformes (gulls, terns and waders) are the main transmitters of influenza A virus, so-called avian influenza virus (AIV) (Naguib et al., 2019). Wild birds can transmit AIV to domestic birds followed by transmission to humans, so-called zoonotic infections (Naguib et al., 2019).

AIV infection in humans can go from being asymptomatic to fatal pneumonia (Garcia-Sastre Schmolke, 2014). Live poultry markets increase transmission to humans Schmolke, 2014). H5N1 and H7N9 are the two most commonly detected AIV strains (Garcia-Sastre & Schmolke, 2014).

Human AIV infection is rare (Canada, 2023). Transmission to humans occurs in the case of close contact with infected birds or live poultry markets (Canada, 2023).

## avian influenza Symptoms

Symptoms can range from mild to severe (Canada, 2023). It usually takes 1 to 5 days for symptoms to develop after exposure. Symptoms include cough, shortness of breath, high fever, aching muscles, headache, diarrhea, runny nose, sore throat, fatigue, red eyes, and bleeding gums (Canada, 2023).

In rare cases, AIV can develop into fatal respiratory conditions such as difficulty breathing, pneumonia, and acute respiratory distress syndrome (Canada, 2023).

Neurological changes such as seizures and mental state changes can also develop in rare cases (Canada, 2023).

## avian influenza Diagnosis

\* Nasopharyngeal aspirates (NPA), nasopharyngeal, throat, and nose swabs are used as clinical specimens for laboratory diagnosis of AIV (Peiris, de Jong, & Guan, 2007)

\* AIV is diagnosed via virus culture, antigen detection, detection of viral nucleic acids by RT-PCR, and detection of rising titers of antibodies (Peiris, de Jong, Guan, 2007)

\* Respiratory specimens are the first choice when it comes to screening (Peiris, de Jong, Guan, 2007)

## Treatment

\* Adamantanes which are antiviral drugs M2 ion channel blockers such as amantadine and rimantadine (Peiris, de Jong, & Guan, 2007)

\* NA inhibitors such as oseltamivir, zanamivir, peramivir and laninamivir (Peiris, de Jong, Guan, 2007)

\* Oxygen treatment and mechanical ventilation are given to patients who develop respiratory conditions (Peiris, de Jong, & Guan, 2007)

## References

Canada, P. (2023, February 20). Government of Canada. Retrieved April 26, 2023, from <https://www.canada.ca/en/public-health/services/diseases/avian-influenza-h5n1.html>

Garcia-Sastre, A., & Schmolke, M. (2014).

Avian Influenza A H10N8-a virus on the verge? *The Lancet*, 383(9918), 676-677.

doi:10.1016/s0140-6736(14)60163-x Naguib, M. M., Verhagen, J. H., Mostafa, A., Wille, M., Li, R., Graaf, A., . . . Olsen, B. (2019).

Global patterns of Avian Influenza A (H7): Virus evolution and zoonotic threats. *FEMS Microbiology Reviews*, 43(6), 608-621. doi:10.1093/femsre/fuz019

Peiris, J. S., De Jong, M. D., & Guan, Y. (2007). Avian influenza virus (H5N1): A threat to human health. *Clinical Microbiology Reviews*, 20(2), 243-267. doi:10.1128/cmr.00037-06

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