

Avian Influenza

Causative agents

There are various types of influenza viruses. Apart from the influenza viruses which can circulate among humans and cause seasonal influenza, many other influenza A viruses are found in birds and other animal species. These viruses are distinct from human seasonal influenza viruses and do not easily transmit to humans. However, some of these animal viruses may, occasionally infect humans. These are known as novel influenza viruses and avian influenza viruses are one example. Avian influenza is caused by those influenza viruses that mainly affect birds and poultry, such as chickens or ducks. Since the virus does not commonly infect humans, there is little or no immune protection against it in the human population. However, if an avian influenza virus acquired the capacity to spread easily from person to person, either through adaptation or acquisition of certain genes from human viruses, an influenza pandemic can occur. Human cases infected with avian influenza A (H5N1, H7N9 and H9N2) viruses have been identified in Hong Kong, Mainland China and other parts of the world, while human infections due to H10N8 and H6N1 viruses have been first reported in Mainland China and Taiwan respectively since 2013.

Clinical features

Clinical presentation of avian influenza in humans includes eye infection (conjunctivitis), flu-like symptoms (e.g. fever, cough, sore throat, muscle aches) or severe respiratory illness (e.g. chest infection). The more virulent forms [e.g. infection by avian influenza A (H5N1, H7N9 or H10N8) viruses] can result in respiratory failure, multi-organ failure and even death.

Mode of transmission

People mainly become infected with avian influenza through close contact with infected birds and poultry (live or dead) or their droppings. Human-to-human transmission is inefficient. Outbreaks of avian influenza in poultry have recently been reported in some Asian countries, and some cases of human infection have been reported.

Incubation period

Around 7 - 10 days depending on the specific subtypes of avian influenza A virus

High risk groups

People in close contact with poultry are more susceptible to contracting avian flu. The elderly, children and people with chronic illness have a higher risk of developing complications such as bronchitis and chest infection.

Management

Patients should get adequate rest and drink plenty of fluids. Supportive treatment can relieve symptoms. People with flu-like symptoms should seek medical advice, especially those with weakened body resistance, or if their condition deteriorates, e.g. persistent high fever or shortness of breath. Avian influenza A (including H5N1, H7N9 and H10N8 viruses) are generally more severe than common flu, and most patients require hospital care. Some anti-viral drugs may be effective in treating the condition. Unless there is bacterial infection, antibiotics should not be used. Aspirin should not be taken by children to avoid the risk of inducing Reye's Syndrome.

Prevention

Infected birds and poultry (live or dead) or their droppings may carry avian influenza virus. Therefore, members of the public should pay attention to the following issues to better prevent them from contracting avian influenza:

Handling poultry

- When buying and handling live chickens, try not to touch them or their droppings. Do not blow at their bottoms. Wash eggs with household detergent if they are soiled with faecal matter or stained with dirt. Washed eggs should be consumed immediately. Observe food hygiene when cooking chickens and eggs. Always wash the hands thoroughly with liquid soap and water after handling chickens and eggs
- Eggs should be cooked well until the white and yolk become firm. Do not eat raw eggs or dip cooked food into any sauce containing raw eggs. Poultry should be cooked thoroughly. If there is pinkish juice running from the cooked poultry or the middle part of its bone is still red in colour, the poultry should be cooked again until fully done
- There is no evidence so far that avian influenza can be transmitted through eating poultry or eggs. However, it is important to make sure poultry and eggs have been thoroughly cooked

Personal hygiene

- Keep hands clean, wash hands frequently with liquid soap, especially before eating, touching the mouth, nose, or eyes, handling food or eating, and after going to toilet, touching public installations or equipment such as escalator handrails, elevator control panels or door knobs, or when hands are dirtied by respiratory secretion after coughing or sneezing
- Cover the mouth and/or nose with tissue paper when coughing or sneezing. Dispose of the soiled tissues properly into a lidded rubbish bin, and then wash hands thoroughly
- Wear a mask if developing fever or respiratory symptoms, going to a hospital or clinic, or if caring for a patient with fever or respiratory symptoms
- If flu-like symptoms develop, stay at home and avoid going to crowded or poorly ventilated places
- Good body resistance helps prevent infections including influenza. This can be achieved through a balanced diet, regular exercise and adequate rest, reducing stress and not smoking. Normally, extra supplement is not required

Environmental hygiene

- Maintain good indoor ventilation
- Home should be cleaned thoroughly at least once per week with 1 in 99 diluted household bleach (mixing 10 ml of bleach containing 5.25% sodium hypochlorite with 990 ml of water)
- U-trap should be prevented from drying up and drain outlets should be disinfected regularly about once a week
- Repair immediately if there is defect in the U-trap or foul odour coming out from drain outlets. Qualified technicians can be hired for inspection and repair

Vaccination

- At present, there is no vaccine to prevent avian influenza in humans
- Seasonal influenza vaccine **cannot** prevent avian influenza, however it can help reduce the chance of complications and hospitalization from seasonal influenza. Given influenza vaccines are safe and effective and that serious influenza infection can occur even in healthy individuals, seasonal influenza vaccination is suitable for personal protection against clinical influenza for all persons except those with known contraindications.
- Moreover, the Scientific Committee on Vaccine Preventable Diseases recommends a number of [target groups](#) with higher priority in seasonal influenza vaccination. These target groups have been determined based on a range of scientific considerations taking into account local disease burden and international experience.

Antiviral drugs

- Whether a doctor prescribes antiviral drugs (e.g. Tamiflu) to a patient will depend on the circumstances and health needs of the patient, taking into consideration the presence of any contraindication and balancing the benefits of taking the antiviral drugs against the possible adverse side effects. Indiscriminate use of antiviral drugs may give rise to drug resistance
- Prophylaxis should be prescribed by registered doctors. Its effectiveness lasts as long as the drugs are being taken and ceases once the drugs are stopped. Self-medication is not encouraged because of the potential side effects and possibility of emergence of antiviral resistance.

Travel advice

- Avoid touching birds, poultry or their droppings and visiting poultry markets or farms when travelling outside Hong Kong
- Travellers if feeling unwell when outside Hong Kong, especially if having a fever or cough, should wear a mask and inform the hotel staff or tour leader and seek medical advice at once
- Travellers returning from affected areas with avian influenza outbreaks should consult doctors promptly if they have flu-like symptoms, and inform the doctor of the travel history and wear a mask to help prevent spread of the disease