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Influenza Virus

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Why is in news? H5N1 avian influenza virus confirmed in two panchayats in Kerala's Kottayam

In Kerala, a **highly pathogenic H5N1 avian influenza virus** has been confirmed in two panchayats in Kottayam district.

The tests conducted at the National Institute of High-Security Animal Diseases in Bhopal has confirmed the presence of the virus.

H5N1 – Avian Flu:

Highly pathogenic avian influenza (HPAI) (**H5N1**) virus occurs mainly in birds, is highly contagious among birds, and can be deadly, especially in domestic poultry.

Since December 2003, an Asian HPAI H5N1 virus has resulted in high mortality in poultry and wild birds in Asia, the Middle East, Europe, and Africa.

Although avian (bird) influenza (flu) A viruses **usually do not infect people**, there have been **some rare cases** of human infection with these viruses.

The illness in humans from bird flu virus infections have ranged in severity from no symptoms or mild illness to severe disease that resulted in death.

Influenza (Avian and other zoonotic):

Humans can be infected with **avian, swine and other zoonotic influenza viruses**, such as **avian influenza virus** subtypes **A(H5N1)**, **A(H7N9)**, and **A(H9N2)** and **swine influenza virus** subtypes **A(H1N1)**, **A(H1N2)** and **A(H3N2)**.

Human infections are primarily acquired through direct contact with infected animals or contaminated environments, these viruses have not acquired the ability of sustained transmission among humans.

Avian, swine and other zoonotic influenza virus infections in humans may cause disease ranging from mild upper respiratory tract infection (fever and cough), early sputum production and rapid progression to severe pneumonia, sepsis with shock, acute respiratory distress syndrome and even death. Conjunctivitis, gastrointestinal symptoms, encephalitis and encephalopathy have also been reported to varying degrees depending on subtype.

The **majority of human cases of influenza A (H5N1) and A(H7N9) virus** infection have been associated with direct or indirect contact with infected live or dead poultry. Controlling the disease in the animal source is critical to decrease risk to humans.

Influenza viruses, with the vast silent reservoir in aquatic birds, are impossible to eradicate. Zoonotic influenza infection in humans will continue to occur. To minimize public health risk, quality surveillance in both animal and human populations, thorough investigation of every human infection and risk-based pandemic planning are essential.

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Humans can be infected with zoonotic influenza viruses such as avian or swine influenza viruses.

There are four types of influenza viruses: **types A, B, C and D**:

Influenza A viruses infect humans and many different animals. The emergence of a new and very different influenza A virus with the ability infect people and have sustained human to human transmission, can cause an influenza pandemic.

Influenza B viruses circulates among humans and cause seasonal epidemics. Recent data showed seals also can be infected.

Influenza C viruses can infect both humans and pigs but infections are generally mild and are rarely reported.

Influenza D viruses primarily affect cattle and are not known to infect or cause illness in people.