AVIAN INFLUENZA IN DOMESTIC CATS IN INDIA

V.C.INGLE, ALKA GALAV, NAVIN MISHRA AND YADUVEER SINGH

Department of Veterinary Microbiology, Apollo College of Veterinary Medicine, Jaipur

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The first cases of highly pathogenic avian influenza (H5N1) virus clade 2.3.2.1a infection in domestic cats in India has been reported from Chhindwara, Madhya Pradesh in January 2025. The cases were linked to a live bird market and involved three pet cats suggesting a potential source of infection.

H5N1 is classically an avian virus, but certain mutations allow it to replicate in mammalian hosts. The discovery of H5N1 in cats, especially with 27 mutations identified in the Chhindwara strain, raises concerns about the virus's potential to adapt and potentially infect humans as seen in past outbreaks like Covid.

The whole-genome sequencing and phylogenetic analysis of two cat H5N1 isolates revealed the circulation of triple reassortant viruses in cats. The identification of reassortant HPAI H5N1 clade 2.3.2.1a viruses in domestic cats in India highlights the urgent need for enhanced surveillance in domestic poultry, wild birds, and mammals including humans to track genomic diversity and molecular evolution of circulating strains.

Prior to February 2025, reported cases of H5N1 in cats were limited to outdoor-only animals. The detection of H5N1 in two indoor-only cats with no direct exposure to infected farms also raises new questions about how the virus is spreading.

In 2025, the number of cats on the earth has reached new heights. There are an estimated 600 million to 1 billion cats living around the world today. Around 370 million of them are kept as pets, while the rest live as strays or feral cats in urban and rural areas. The population of pet cats in India amounted to nearly 3.6 million in the year 2023 and was forecast to reach approximately 5.76 million by the end of year 2028.

Cats have become infected with H5N1 through various routes, primarily involving contact with infected birds or contaminated, often raw food. Cats can catch bird flu through drinking raw milk, eating raw pet food containing poultry such as duck, chicken or turkey, exposure to or consuming dead birds, outside contact with contaminated clothing, especially shoes or boots or exposure to wild waterfowl.

Though birds and poultry are most affected by bird flu, the virus can sometimes jump to other species as well including our pets. Dozens of domesticated cats have been diagnosed with bird flu or avian influenza A (H5N1), since March 2024, according to the American Veterinary Medical Association (AVMA). Horizontal transmission (cat-to-cat), and zoonotic transmission (cat-to-human) of H5N1 is not yet reported. Regardless, ongoing research and surveillance for this concerning possibility continues.

Symptoms of H5N1 in cats can include lethargy, breathing difficulties, nasal and eye discharge, drooling, inability to walk, circling, and seizures. Neurological signs are more commonly reported in cats and can be quite severe. The severity and range of symptoms can vary between individual animals. Other symptoms could include respiratory issues, general malaise, fever and poor appetite. In cats, the disease can progress rapidly, and severe symptoms leading to death can develop quickly.

To date, there have been no reports of H5N1 bird flu transmission from cats to humans, but that possibility is not without precedent. The first ever cat-to-human transmission of influenza A(H7N2), an avian-lineage influenza A virus, was reported in 2016.[1] In that case, a

veterinarian contracted the virus during an outbreak of H7N2 among cats in New York City animal shelters. Researchers tested 165 humans with exposures to infected cats and reported only one case, concluding "risk for cat-to-human transmission was low. [1]

Diagnosis H5N1 in cats typically involves a polymerase chain reaction (PCR) test. This test detects the virus's genetic material in samples like swabs from the nose and throat, blood, or urine. Early detection of H5N1 allows for prompt treatment and helps prevent the spread of the virus to other animals, including humans.

Currently, there is no available vaccine for H5N1 in cats or other pets unfortunately. Only supportive care is available for cats with bird flu and no antiviral drugs are yet available.

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