Swine Flu Is Now Infecting Dogs

H1N1, a flu virus originating from birds and commonly identified as swine flu, has been discovered in dogs from the Guangxi region of China. These animals were brought to the vet after showing symptoms consistent with canine influenza, and researchers published their analysis of the 16 strains of flu they found. The most notable discovery was H1N1, the swine flu strain responsible for the 2009 pandemic that resulted in more than 200,000 deaths. Study co-author Adolfo García-Sastre, director of the Global Health and Emerging Pathogens Institute at the Icahn School of Medicine at Mount Sinai in New York, says there is a reason to be cautious.

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> *In our study, what we have found is another set of viruses that come from swine that are originally avian in origin, and now they are jumping into dogs and have been reassorted with other viruses in dogs. We now have H1N1, H3N2, and H3N8 in dogs. They are starting to interact with each other. This is very reminiscent of what happened in swine ten years before the H1N1 pandemic.”*

Adaptable Influenza

The continuing battle to correctly guess the dominant flu strain of the season showcases how adaptive and varied the flu is. Often pandemics originate in animals, usually birds or swine. While dogs have never been considered a significant carrier of the virus, more varied and potentially strains have been showing up in canine tests. The potential for a devastating flu pandemic that we aren’t prepared for is high in man’s best friend. There have been documented instances of

viruses from avian, porcine, and equine sources successfully jumping to dogs, and that’s a potential flu cocktail that humans don’t have immunity against.

Can It Affect Us?

Does that even matter? There is no case of a human ever being infected by canine flu.

Humans have previously been infected by the strain of flu found in the dogs, H1N1, but previous exposure has come from birds, who were the original carriers. Of course, H1N1 is now more closely identified with pigs, after 2009 swine flu outbreak. H1N1 became the dominant strain of flu in 1998, and the virus was seriously affecting humans within ten years. Before then, the idea that humans would be suffering from swine flu was farfetched.

It’s important to note that vaccination efforts were unsuccessful in both pigs and humans, primarily due to how fast the virus evolves. H1N1 also showed resistance to Tamiflu, the controversial antiviral drug. Healthcare professionals in the U.S. ended up using vaccines nearly identical to the seasonal flu vaccine, which is a daunting prospect in light of how poorly that immunization performed this year. If the discovery of an adaptable H1N1 virus in dogs follows the same trajectory as H1N1 did in pigs, do we have any good solutions? In cases of avian flu, farmers eliminate diseased birds from the flock immediately. Is that even an option when many Americans consider their dog a member of the family?

The More You Know

Scientists repeatedly mention how diverse canine flu strains are becoming, and there isn't a push to figure out why. Perhaps part of the answer is the proximity of the animals to the ultimate disease incubators – us.

The further we continue down the rabbit hole of our health care system, the more it becomes clear that we have dramatically underestimated our opponents. Our answers to the problems posed by bacteria and viruses have seemed to inspire those pathogens to greater and more creative heights at a speed not seen in nature.

Sources:

- *Dogs Can Be A Future Risk for Future Influenza Panic* – ASM
- *Rise of dog flu strains could increase risk of next human pandemic, scientists warn* – Independent
- *2009 Swine-Flu Death Toll 10 Times Higher Than Thought* – Live Science
- *Timeline: The secret history of swine flu* – Live Science