Update on Avian Influenza

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The cumulative number of cases is 274 and the deaths are 167. Since the beginning of the year there have been 11 confirmed human cases (in Indonesia, Nigeria and Egypt) of which 9 have dead.

The Food and Agriculture Organization of the United Nations expressed concern about new flare-ups of avian influenza since the beginning of this year in China, Egypt, Indonesia, Japan, Vietnam, Nigeria, South Korea, Thailand, Hungary, UK, Russia and Afghanistan but stressed that the number of outbreaks in the first weeks of 2007 has been significantly lower than the epidemic waves of 2006. The United Nations agency urged countries to remain vigilant and cooperate fully with international organizations.

Latest on H5N1 virus

Writing in the journal *Nature*, published in January 2007, a group of international scientists revealed the critical clue of how the 1918 influenza virus killed so quickly and efficiently. They showed that the 1918 virus was indeed different from all the other viruses. The team was able to show that the 1918 virus prompted a deadly respiratory infection that echoed historical accounts of how the disease claimed its victims. They showed that infection with the virus prompted an immune response that seemed to derail the body's typical reaction to viral infection and instead unleashes an attack by the immune system on the lungs. As immune cells attack the respiratory system, the lungs fill with fluid and victims, in essence, drown.

The **same excessive immune reaction** is characteristic of the deadly complications of H5N1 avian influenza, the strain of bird flu present in Asia. However, the H5N1 avian influenza has not yet shown a capacity to spread easily among people.

Knowing that the virus does something during the early stages of infection to trigger such a devastating immune response may provide biomedical researchers with clues about how to intervene and stop or mitigate the potentially lethal effects of the virus.

Latest on Antiviruses

Amantadine resistance

Published recently in the *New England Journal of Medicine*, a study has shown that there has been a dramatic increase in resistance to amantadine by 70-90% in communities in Asia and North America on patients who have never been previously treated with amantadine.

Latest update in Research

Recent research done by scientists on mice at St. Jude Children's Research Hospital in Memphis, Tennessee is suggesting that it is possible that some people previously infected with or vaccinated against influenza may have slight protection from H5N1. It is not protection from infection but enough immunity is available to keep the new infection from being deadly.

There are hundreds of 'H' and 'N' designations. The 'H' referes to haemagglutinin, the protein that the flu virus uses to get into cells and the 'N' refers to neuraminidase which is used to get back out of infected cells and spread to others.The H1N1 has been circulating since the 1918 pandemic and a descendant of H1N1 ciculates today and is part of the seasonal flu vaccine.

The scientists concluded that having some immunity to N1 might protect people from the worst effects of H5N1. Antibodies to the human version of N1 do cross-react to some extent with the H5N1.