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Heart to Heart

With Philip S. Chua, M.D.

NEWS 2nd week of November

China Reports New Outbreaks of Bird Flu

Calling the avian flu virus a "serious epidemic," China announced 3 new outbreaks of the disease in its western and southern provinces. The latest outbreak resulted in the killing of 175,000 birds. Meanwhile, China is going ahead with plans to vaccinate billions of birds in stepped-up efforts to contain the disease.

As Reported by USA Today

U.S. Unprepared for Bird Flu Pandemic

Health officials admit that it will take 3-to-5 years for U.S. production capacity to produce enough flu vaccine for all Americans, an estimated 300 million doses. Until then, the Department of Health and Human Services has suggested a plan to help states prioritize who would get the first vaccines in the event of an U.S. outbreak. Health-care workers and vaccine producers top the list. However, Michael Leavitt, HHS Secretary, was quick to point out that no such vaccine yet exists, and that it could take up to 6 months to develop one for H5N1 once the strain was identified.

As Reported by Meet the Press/NBC News

CDC Seeks to Improve Quarantine Rules

The Centers for Disease Control and Prevention is seeking to revamp its quarantine program with an emphasis on screening travelers for symptoms of bird flu. This would be the first overhaul to quarantine rules in 25 years, and already the agency has put in place medical officers at 18 airports, ship ports, and border crossings. The new rules would require airlines and cruise ships to maintain passenger and crew lists, and to make those lists available to the government upon request. The need for such changes became apparent during the 2002-2003 SARS epidemic when public health officials had difficulty getting passenger information from airlines to trace the contacts of people who had been infected.

As Reported by The New York Times

Poultry Imports From Bird-Flu Regions Banned

The United States wants more information about a case of bird flu recently reported in British Columbia before lifting a ban on poultry imports from Canada. This, despite Canadian health officials' insistence that the type of virus carried by the bird was not the same strain as the one circulating in Asia. The U.S. bans imports of poultry from any country where H5N1 has been found, including Cambodia, Romania, China, Russia, Indonesia, South Korea, Japan, Thailand, Kazakhstan, Turkey, Laos, Vietnam, and Malaysia.

Bird flu basics

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Posted by Taraneh Razavi, M.D., Staff Doctor

As flu season approaches, there's been a lot of talk about bird flu. I thought I'd try to clarify some of the issues and misconceptions around this illness. I keep up with news on this and other emerging diseases in a number of ways, including [Pro-MED](#), which is produced by the Federation of American Scientists, and the [World Health Organization](#) site. You can also read lots more at the CDC site, especially [here](#).

Bird (avian) flu is an influenza virus type A that normally infects birds, but can also infect pigs and other animals. Wild birds, the natural hosts, normally don't get sick from this virus, but domestic animals such as chickens and turkeys can be severely affected severely. Humans, meanwhile, can be infected with influenza types A, B, and C.

Genetic changes and sharing (the closest thing viruses have to sex) can occur under certain circumstances such as in crowded conditions where poultry, pigs, and people live in close quarters. This change can allow a virus to become much more infectious to humans and more easily transmitted from person to person. And this is where a "pandemic" comes in: it's a worldwide outbreak of a new influenza A virus between humans, while epidemics tend to be seasonal, involving viruses that already exist.

For you history buffs, previous pandemics include:

1918-19: Spanish flu. Caused more than 500,000 deaths in the U.S., and 50 million worldwide.

1957-58: Asian flu. 70,000 deaths in the U.S.

1968-69. Hong Kong flu. 34,000 deaths in the U.S.

Both the 1957-58 and 1968-69 pandemics were caused by viruses containing a combination of genes from a human and an avian influenza virus. It may be reassuring to note that the number of deaths has decreased with each pandemic, possibly due to better supportive medical care.

The avian flu's jump to humans was first detected in 1997, although all the human deaths reported so far (about 60 since 2003) have been due to transmission from animals to humans. There has been more concern recently because the virus has been detected in migratory birds which can't be caught and killed - and which may carry the virus to Europe and Africa within the next two migratory seasons.

The consensus is that although it's possible an avian flu epidemic may occur, no one can predict if it will take place in weeks or years. It all depends on when that genetic shift (from birds to humans) takes place.

There has been no detection of this virus in the U.S. It is possible for travelers to be infected, but most of the cases in humans have been in those with closer contact to birds than a casual traveler has. Since the infection occurs via fecal-oral route, to reduce your risk while traveling, avoid bird markets, zoos, and areas in parks, etc. with high concentrations of bird feces.

Countries that are the most vulnerable to this flu are Indonesia, Vietnam, and Cambodia, due to their high concentration of bird markets. Other areas involved are Thailand, China (south and north), Tibet, Russia, Kazakhstan, and Mongolia. For an update on outbreaks before you travel, check the [CDC info for southeast Asia](#) and [east Asia](#).

Symptoms of bird flu in humans have ranged from typical flu-like symptoms (fever, cough, sore throat, muscle aches) to eye infections and pneumonia. If you feel you've been exposed, there are a couple of treatment recommendations available today that

you may want to discuss with your doctor. Until these are tested in a pandemic, however, their true efficacy is unknown. There are currently no vaccines available, but many companies are working on them.

The Killer Bird Flu

Bird flu has been dominating the headlines the past few weeks. People around the globe are very concerned about a potential pandemic of this killer flu. The World Health Organization has reported that, as of October 10, 2005, there were 117 confirmed H5N1 bird flu among humans worldwide, and more than half of them (60) have died. And from Asia, the bird flu has now traveled to Europe!

What is Bird Flu?

Also called avian flu, bird flu is caused by influenza A virus that infects birds, ducks, turkey, chicken. This infection was first recognized in Italy in 1878 and extremely contagious in birds, with a mortality approaching 100%. A wide range of influenza viruses have been known to circulate in wild birds, but it was only in 1997 when it was discovered that avian flu (subtypes H5N1 and H9N2) for the first time jumped the species barrier, from birds to humans. The strain (H5N1) of the disease resulted in the death of six people in Hong Kong that same year, the first human death reported in mid-May 1997. The outbreak that killed those six infected 12 others, nine of whom were children under 10. About two years later, 2 cases of human infection by the H9N2 strain of the virus occurred, also in Hong Kong. Taiwan has H5N2 strain. Both strains were found to be circulating among chickens in that city and some of the victims had contact with poultry (bird droppings) when they got sick.

Is there human-to-human transfer?

There is no evidence to date to show that human to human spread of avian flu with either strain has taken place. Fortunately, bird to human transfer is not common. Somehow, waterfowl, the reservoir (carrier) of the avian virus, are more resistant to the illness but the virus is fatal to the domestic birds, chickens, turkey, who are infected by contact with the droppings of these waterfowl. Transmission to, and among, susceptible birds is by inhalation of the influenza viral particles in nasal and respiratory secretions and from contact with the excrements of infected birds, whose feces are loaded with the virus.

So, why the worry?

If the avian flu virus remains unchanged in its morphology, virulence, and other attributes, the virus will basically infect only birds. However, viruses are known to mutate “for survival, to prevent their own extinction.” If the avian flu virus mutates into a more lethal form, and one that is transmissible from person to

person, this could unleash a most catastrophic and fatal worldwide disease, worse than what mankind has ever experienced before. The more the bird flu spreads in various countries, the greater the chances of mutation. Frequent mutation of the virus makes it most difficult to find a specific vaccine or cure for the specific strain of the virus. The World Health organization is particularly concerned that the bird flu virus could swap genes with a common (human) flu virus, creating a lethal pathogen that could spread around the globe within months and kill men by the millions, like the flu pandemic in 1918-1919, when a new subtype of influenza emerged and killed an estimated 40-50 million persons around the world in several waves of infection over two years. This grave potential is what worries the global scientific and lay community. The United States, for one, has already started bracing itself against possible pandemic of the bird flu, a pre-emptive strategy every country should do. The bird flu is no longer only a national but a global concern, given our super fast air, sea, and land modes of transportation today which would allow one infested person to spread the infection around the world in a matter of days, if not hours.

How vulnerable are humans to the bird flu?

Since we do not have immunity to the bird flu viruses, those of us who are exposed to the virus are very susceptible to catch the disease. Bird flu H5N1 strain (transmitted from infected birds to humans) has at least 70% mortality rate in humans. If the virus mutates to allow human to human transmission, this disease entity will be a lot worse than SARS and spread over continents like wild fire. And since there is no cure for the bird flu, let's hope and pray the feared mutation does not occur, because if it does, it could conceivably wipe out villages worldwide.

Is there a vaccine against bird flu?

The best way to prevent the bird flu, besides avoiding exposure and good personal hygiene, is the use of vaccine for prophylaxis. A recent major scientific achievement is the development of the vaccine against H5N1 bird flu virus, which could be the strain involved in a possible pandemic, if one ever occurs. But the vaccine and anti-viral medication production may not be sufficient and fast enough for the whole world. Also, new strains of the virus, which will not respond to the H5N1 vaccine, may yet come out. Nations around the globe, through the World Health Organization, are pooling their expertise and resources to avert the onslaught of a pandemic of the killer bird flu, and to be prepared for it, if it ever comes.