



Avian Killer Flu Pandemic: Fact, Fear, or Fiction

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The Asian bird flu virus (HN51) was first detected in Asia in 2003. Since then it has caused the deaths of millions of chickens, turkeys and other birds and fowl. To date, this virus has caused about 100 human deaths in people who had direct contact with birds or their internal organs. Millions more chicken and turkeys are being slaughtered by the governments of various countries to try to limit the spread of this fatal disease. The virus has now been found in chickens and other birds in Asia, Europe and Africa. Fortunately, this virulent strain of virus has not mutated sufficiently to allow it to spread from human to human. Public health authorities around the world, including the World Health Organization and the United States Centers for Disease Control, are debating the likelihood of a pandemic of this killer flu virus although no one is certain that such a pandemic will occur. Is it possible? Yes. Is it likely? Debatable. This essay addresses the facts and discussions to date regarding the Asian killer flu virus, reviews the most recent literature on the subject, and discusses the implications of the findings, observations, debates and speculations.

Brief history

The avian flu virus surfaced in China in 1996 and killed six people in Hong Kong in 1997. In 2003, it began its deadly spread throughout Asia and human cases have since been confirmed in Europe, Africa and the Middle East [1]. The occurrence of human avian flu virus (H5N1) in Southeast Asia has paralleled large outbreaks of avian influenza A (H5N1) that killed millions of chickens, turkeys and other birds. The avian epidemics of 2004 and 2005 only rarely led to disease in humans [2]. People who are involved in mass culling of poultry do not become infected.

The expanding geographic distribution of avian flu (H5N1) infections, with recent outbreaks in Kazakhstan, Mongolia and Russia, indicates that human populations are indeed at risk [2]. At the time of writing, May 2006, over 200 human cases have been confirmed, half of which were fatal [1]. So far, avian flu has occurred only in individuals or communities with close links to poultry [3-5]. None has occurred where human-to-human transmission was implicated beyond doubt [6].

Summary and Conclusions

The avian flu virus was first found in China in 1996 and killed six people in Hong Kong in 1997. The virus differs from the one that caused the 1918-1919 influenza pandemic, which killed millions of people, and other influenza epidemics of the 20th century. Avian flu has now affected humans in many countries in Asia, Europe and Africa and has killed over 100 people. For the interested reader, Hilleman [7] provides an extensive review of the pathogenesis, epidemiology and control of human viral influenza. The control of a possible avian flu pandemic will require further research in addition to national and international preparedness at various levels. Also, as Drs. Wong and Yuen [8] stress: "the epidemiology, neurology, clinical features, laboratory diagnosis, management and hospital control measures need to be examined from a clinical perspective." The earlier influenza pandemics need to be compared to the human avian influenza [6]. Advising patients, targeting patients, and coping with the demand for services if an avian flu pandemic occurs must all be considered [6]. Little is written in the literature about the management and/or prevention of human avian flu.

The usual antiviral agents may not be effective in avian flu [9]. This H5N1 virus may become resistant to currently available antiviral agents. The exact risk or threat of an avian influenza pandemic is unknown [10,11]. The pharmaceutical industry is currently working on developing an effective vaccine or anti-H5N1 antiviral agent [12].

The title of this essay – "Avian killer flu pandemic: fact, fear or fiction" – is intentionally provocative to stimulate thought and dialogue. It is an accepted fact that human avian flu exists and has been reported in over 200 people, more than half of whom have died. It is not yet known whether a pandemic is likely or probable, but it is certainly possible – notwithstanding the response of some scientists who downplay an immediate or future threat. Perhaps the most exciting news is the recent demonstration by an Israeli team of the efficaciousness of elderberry extract against avian flu [5]. In the meantime, the world is in a race against time to develop vaccines against avian influenza [13]. This fact is important in view of a report of lethal influenza A (H5N1) infection in a pregnant woman in Anku Province, China

[15]. A recently described vaccine may be effective in preventing influenza A (H5N1) disease in humans [15,16].

Most scientists feel that an avian flu epidemic is inevitable. The question is not “if” but “when.” This essay reviews the subject and debates surrounding it.

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