

Bird flu: Father infected by dying son

By Nigel Hawkes, Health Editor

From The Times April 8, 2008

Alarm about a flu pandemic has been restarted by clear evidence that bird flu, which is rife in the Far East, can be transmitted person to person.

This could be one of the first steps in the evolution of the H5N1 strain of avian flu into a deadly pandemic strain that could infect hundreds of millions of people.

The new evidence involves a 52-year-old man who caught the disease from his 24-year-old son, who himself seems to have picked it up at a poultry market. The son died, while his father narrowly survived.

A team of doctors led by Yu Wang, of the Chinese Centre for Disease Control and Prevention in Beijing, report in *The Lancet online* that the two cases of avian flu were detected in the family from Nanjing, in Jiangsu Province, in December last year.

The man of 24, a salesman, developed fever, chills, headache, a sore throat and a cough. He was treated with antibiotics but his condition worsened and he was admitted to hospital, where he died five days later.

Just before he died, tests showed that he was infected by H5N1 avian flu virus. His father, a retired engineer, lived six miles away. When his son fell ill he went to see him and helped to look after him in hospital for two days.

The father fell ill a week later but survived after being treated with antiviral drugs and blood plasma from a woman who had been deliberately infected with inactive H5N1 in a clinical trial. He spent 22 days in hospital.

Samples of H5N1 virus taken from the father and son were genetically identical, save for one small change. Flu virus mutates rapidly, so the fact that these two samples were so nearly identical is strong evidence of direct infection from son to father.

Jeremy Farrar and colleagues from the Hospital for Tropical Diseases in Vietnam said in *The Lancet*: "If we continue to experience widespread, uncontrolled outbreaks of H5N1 in poultry, the appearance of strains well-adapted to human beings might be just a matter of time."

A further 100 close contacts of the father and son were identified and followed up

for ten days. Eight had been exposed to both men, but none developed H5N1 flu. The team concluded that the son passed the infection to his father, probably at the hospital. The son had gone to the poultry market six days before falling ill.

It is possible that his father caught the disease independently, when he visited another market to buy vegetables. There were poultry being slaughtered there, but the father said that he did not go anywhere near them.

So the odds are strongly that he caught avian flu from his son. Other cases of suspected person-to-person transmission have also been between blood relations, suggesting that there may be a genetic susceptibility to H5N1 infection, the authors said.

Wendy Barclay, Chair in Influenza Virology at Imperial College London, said: "Although it is possible that the father did catch H5N1 influenza from his son, there is no virological evidence to support the idea that this strain of H5N1 virus has acquired mutations that allow it to pass readily from one person to another."