
RSNA Press Release

X-Rays Good Predictor of Survival in Avian Flu Patients

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CHICAGO - Ordinary chest x-rays show distinctive disease patterns of avian flu in humans that are good predictors of patient survival, according to University of Oxford investigators. Their findings indicate that patients with more severe x-ray appearances would benefit from aggressive treatment earlier, giving them a better chance of survival. The study was presented today at the annual meeting of the Radiological Society of North America (RSNA).

"On chest x-rays in patients with avian flu, the most common abnormality we found was multifocal consolidation, which usually represents pus and infection in patients with fever and a cough," said Nagmi Qureshi, F.R.C.R., a fellow of thoracic radiology at the University of Oxford in England. "We also discovered that the severity of these findings turned out to be a good predictor of patient mortality."

The investigators studied 98 x-rays of 14 patients admitted to Ho Chi Minh City Hospital in Vietnam after testing positive for avian flu. They assessed the x-rays for features commonly seen in chest infection and then looked for associations between x-ray appearances and mortality. Of the 14 patients studied, nine patients died and five survived.

Three of the five patients who survived underwent computed tomography (CT) exams after discharge from the hospital. CT images showed that even though the patients' respiratory symptoms had abated, the abnormal appearance of the lungs persisted, suggestive of scar tissue formation.

Dr. Qureshi described the findings as similar to what was seen previously in patients with severe acute respiratory syndrome (SARS). "The appearance of multiple accumulations of infection in the lung is found in both avian flu and SARS," Dr. Qureshi said. "However,

At A Glance

- X-rays show distinctive disease patterns of avian flu, including fluid in the space surrounding the lungs, cavities in the lung tissue and enlarged lymph nodes.
- The severity of these patterns is a good predictor of patient mortality.
- Identifying avian flu disease patterns will help physicians with more aggressive treatment planning to improve a patient's chance of survival.
- People have little or no immune protection against avian flu.

additional abnormalities we discovered in avian flu patients—including fluid in the space surrounding the lungs, enlarged lymph nodes and cavities forming in the lung tissue—were absent in patients with SARS."

The influenza virus that causes avian flu is highly unstable and prone to mutations. While common in birds, some experts warn that this virus could mutate and become contagious between humans, leading to a possible pandemic. Because avian flu in its current form does not typically infect humans, there is little or no immune protection against it in the human population.

Symptoms of avian flu in humans have ranged from ordinary flu-like symptoms (fever, cough, sore throat and muscle aches) to eye infections, pneumonia, severe respiratory diseases (such as acute respiratory distress) and other severe and life-threatening complications.

Dr. Qureshi's co-authors are Jeremy Farrar, D.Phil., Fergus Gleeson, F.R.C.R., and Tran Hien.

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Dr. Qureshi will present *Avian Flu: The Prognostic Implications of the Radiological Pattern of Disease* on Friday, Dec. 2 at 10:30 a.m. CT in Room E351.

Note: Copies of RSNA 2005 news releases and electronic images will be available online at RSNA.org/press05 beginning Monday, Nov. 28.

RSNA is an association of more than 38,000 radiologists, radiation oncologists, medical physicists and related scientists committed to promoting excellence in radiology through education and by fostering research, with the ultimate goal of improving patient care. The Society is based in Oak Brook, Ill.

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