

CORRESPONDENCE



Lethal Avian Influenza A (H5N1) Infection in a Pregnant Woman in Anhui Province, China

TO THE EDITOR: On November 2, 2005, fever, chills, and cough developed in a previously healthy woman who was four months pregnant. Chickens and ducks in her household had become ill and had died during October. From October 25 through October 30, the patient had been actively involved in slaughtering and defeathering sick poultry before they were cooked for family consumption. She presented to the hospital in Tongling City, China, on November 7 with dyspnea, cyanosis, a temperature of 38.8°C, a pulse of 118 beats per minute, a respiratory rate of 37 breaths per minute, and an oxygen saturation of 69 percent. Her white-cell count was 4050 per cubic millimeter, with a lymphocyte count of 608 per cubic millimeter. A chest radiograph showed bilateral diffuse infiltrates in the lower lobes. Her condition deteriorated despite treatment with azithromycin and cefotaxime. She required intubation that evening. The following day, her chest radiograph showed extensive infiltration of both lungs. Despite intensive supportive care, disseminated intravascular coagulation and multiorgan failure developed, and she died on November 10.

Three tracheal aspirates obtained on November 8 tested positive for the H5 strain of avian influenza A virus and for the genes encoding M protein by reverse-transcriptase–polymerase chain reaction (PCR) and by real-time PCR. Influenza A/Anhui/1/2005 virus was isolated from a specimen of tracheal aspirate. Whole-genome sequencing indicated that all segments were of avian origin. The hemagglutinin-receptor–binding site was similar to those of other avian H5N1 viruses, and

a polybasic amino acid cleavage site (LRERRRKRKRG) was present. Changes in amino acids related to antiviral resistance were not detected in the M-protein or neuraminidase genes. The hemagglutinin gene sequence was different from that of other H5N1 human isolates (Fig. 1) and was similar to that of influenza A/duck/Fujian/1734/2005 (GenBank accession number DQ095629), a clade 2 virus. Other fatal human infections with clade 2 viruses have been identified in China and are genetically related to the isolate in this case (Anhui/2/2005 and Guangxi/1/2005).

Women in the second and third trimesters of pregnancy are at increased risk for complica-

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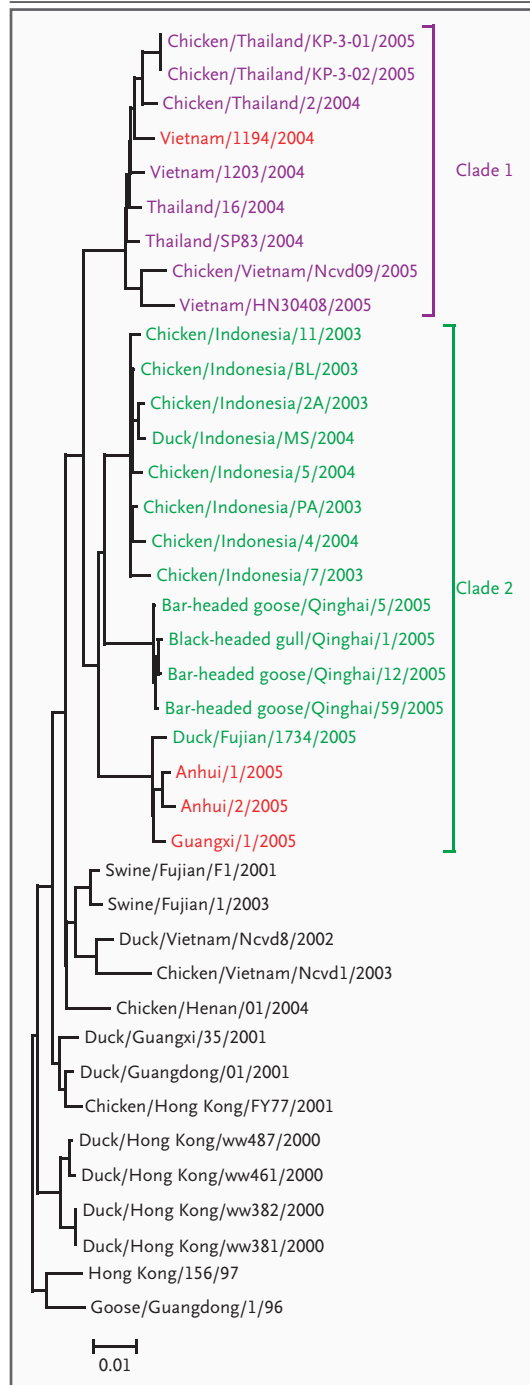


Figure 1. Phylogram Showing the Genetic Relationships among Representative Strains of the Hemagglutinin Gene.

The phylogenetic tree displays the genetic relatedness of influenza A (H5N1) strains isolated from animals and humans. The phylogram shows nucleotide positions 29 through 1732 (1704 bp); the scale bar indicates 0.01 nucleotide change per site. Anhui/1/2005 is the virus isolated from the pregnant woman reported here. A/Vietnam/1194/2004 and A/Vietnam/1203/2004 are vaccine strains under development. Clades 1 and 2 designate clusters of genetically related viruses. The absence of a leading animal designation implies human origin of the isolate. The strains discussed here are highlighted in red.

tions of influenza and should be considered for vaccination.^{1,2} The genetic diversity of H5N1 influenza strains causing serious human disease is greater than previously recognized. These observations have important implications for vaccine development, since the vaccine strains being developed include A/Vietnam/1194/2004 (in China) and A/Vietnam/1203/2004,³ which belongs to clade 1.

Yuelong Shu, Ph.D.

State Key Laboratory of Infectious Disease Prevention and Control
Beijing 100052, China
yshu@vip.sina.com

Hongjie Yu, M.D., M.P.H.

Chinese Center for Disease Control and Prevention
Beijing 100050, China

Dexin Li, M.D.

National Institute for Viral Disease Control and Prevention
Beijing 100052, China

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Influenza Vaccination and False Positive HIV Results

TO THE EDITOR: Six weeks after an occupational needle-stick injury, a 35-year-old man presented to a clinic in the Los Angeles area for testing to rule out acute infection with the human immunodeficiency virus (HIV). The patient had no other risk

factors for HIV infection and reported having had no symptoms suggestive of an acute retroviral syndrome. His recent medical history was notable only for his having received an influenza vaccination 11 days before presentation.