

A serological study of antibodies to H9N2 Avian Influenza Virus in Human Population of Ardabil area, Iran

Azizpour, A.^{1*}, Bokaei, S.², Sheikhi, N.³, Habibzadeh, S.⁴

1-* Young Researchers Club, Ardabil branch, Islamic Azad University, Ardabil, Iran (Aidin_azizpour@yahoo.com)

2- Department of Epidemiology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran

3- Department of Poultry Diseases, Science and Research Branch, Islamic Azad University, Tehran, Iran

4- Department of Infectious Diseases, Ardabil University of Medical sciences, Iran

Orthomixoviridae family viruses (Influenza viruses) are major cause of death in human with respiratory diseases. Although avian influenza in Iranian chickens are associated with H9N2 subtype, there was not any study for seroprevalence of H9N2 avian influenza virus in human of Ardabil area as yet. This study was carried out to determine antibodies to H9N2 avian influenza virus in different human populations during November to February 2010 in Ardabil area, which is situated in the northwest of Iran. Antibodies against H9N2 virus were measured using HI test in 311 sera from two populations (patient and healthy) with different sex and age-groups including 86 serum samples of patients hospitalized with clinical symptoms of respiratory disease, 88 sera of patients hospitalized without respiratory complications, 41 sera of veterinarian and vaccinators, 44 sera of hospitalized medical personnel who related to health profession, and 52 sera of farmers, poultry-farm and slaughter-house workers. Data was evaluated with SPSS. The results of the HI test showed that in patients: 37.2% with 22.03 ± 10.74 titer of the patients hospitalized with clinical symptoms of respiratory disease and 23.9% with 21.88 ± 10.41 from patients hospitalized without respiratory complications, in healthy: 29.3% with 21.14 ± 10.59 titer from veterinarian and vaccinators, 18.2% with 20.00 ± 10.00 titer from hospitalized medical personnel who related to health profession and 15.4% with 26.02 ± 11.35 titer from farmers, poultry-farm and slaughter-house workers were positive (HI titers $\geq 1/20$). Seroprevalence of 27.0% and 23.6% were determined in male and female, respectively ($P \geq 0.05$). The highest and lowest seroprevalence among four age-groups of two human populations (patient and healthy) were observed in $30 \leq$ (26.5%) and 46-60 (22.4%) years, respectively, ($P \geq 0.05$). According to results of this study, different groups of humans were contacted with H9N2 avian influenza virus that the highest contact was detected in patients hospitalized with respiratory complication and in regard to occupation was observed in veterinarian and vaccinators.

Key words: Avian influenza, H9N2 subtype, Human, Ardabil