



A Serological Study of Antibodies to H9N2 Avian Influenza Virus in Human Population of Ardabil Area , Iran

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Background & Objectives: Orthomixoviridae family viruses (Influenza viruses) are major cause of death in human with respiratory diseases. Although avian influenza virus in Iranian chickens are associated with H9N2 subtype(1), 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 against H9N2 avian influenza virus in different human populations during November to February 2010 in Ardabil area, which is situated in the northwest of Iran.

Methods: Antibodies against H9N2 virus were measured using HI test (1) in 311 sera from two human populations (patient and healthy) with different sex and age-groups including patients hospitalized with clinical symptoms of respiratory disease (58 males and 28 females, a range 20-89 years), hospitalized patients without respiratory complications (age range 16-84 years with 50 males and 38 females), veterinarian and vaccinators (41 males, a range 25-50 years), hospitalized medical personnel who related to health profession (21 males and 23 females, a range 22-52 years), and farmers, poultry-farm and slaughter-house workers with aged 18-54 years with 52 males. Data was evaluated with SPSS.

Results: The results of the HI test showed that in patients: 37.2% with 22.03 ± 10.74 titer from 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 $\geq 1/20$). This observation is similar to reported by Hadipour (2011). Seroprevalence of 27.0% and 23.6% were determined in male and female, respectively ($P \geq 0.05$). The highest and lowest prevalence 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, ($P \geq 0.05$).

Conclusion: According to results of this study, different groups of humans were contact with H9N2 avian influenza virus. The highest prevalence was detected in patients hospitalized with respiratory complication and in regard to occupation was observed in veterinarian and vaccinators.

Keywords: Avian Influenza Virus; H9N2; Prevalence; Human; Ardabil

