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Cross Sectional Survey of Live Bird Markets and Zoo Birds for Circulating Influenza Subtypes in Pakistan

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Abstract

In Pakistan, avian influenza surveillance has been both active and passive. Here, we present the results of a survey effort focusing solely on the live bird markets and wild bird species from different zoos and national parks to understand the impact of live bird markets on the spread of highly pathogenic avian influenza viruses. A cross sectional survey was conducted from Jan-Dec 2011 to identify and isolate the circulating avian influenza virus subtypes in live bird markets and wild birds from different localities in and around Islamabad Capital Territory. Swabs, tracheal tissues and sera samples were collected, screened and diagnosed by hemagglutination inhibition assay and RT-PCR. The highest seropositivity was recorded for H9 (100 %) followed by H5 (89.4%) and H7 (72.3%). All 27 isolates were of the low pathogenic H9N2 subtypes and no viruses could be successfully isolated of subtype H5N1 or H7N7. The higher prevalence of H5N1 (89.4%) observed in the present study was an alarming threat; therefore, we suggested immediate control strategies against this emerging risk of H5N1 for human in live bird markets in Pakistan. The factors unveiled in this study will help in understanding the lapses in controlling persistent outbreaks of avian influenza in country.

Key words: Influenza, Live bird markets, Pakistan, PCR, Prevalence, Surveillance



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