

Pathogenicity for Chickens of Avian Influenza Virus Strain H9N1 Isolated from Water Coot in India

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Abstract :

Avian Influenza (AI) is caused by Type A Influenza virus belonging to the family orthomyxoviridae, which is classified into 16 HA and 9 NA subtypes based on two surface glycoprotein's Haemagglutinin (HA) and Neuraminidase (NA). Influenza A viruses are divided into 2 distinct pathotypes on the basis of their virulence, highly pathogenic and low pathogenic. Highly pathogenic AI viruses are restricted to H5 and H7 subtypes and these are capable of causing severe respiratory disease and high mortality in infected chickens and can be transmitted directly to humans. In the present study one H9N1 (A/Wc/India/5844/05) Avian Influenza virus was isolated from Water Coot sample. Virus isolate showed HI titer of 1:128 with H9 subtype specific serum. RT-PCR, using HA gene specific primers yielded specific amplicons of 488bp. Intravenous Pathogenicity Index (IVPI) test was conducted by inoculating 0.2 mL of 4HA unit of 1:10 diluted virus to 3 week old chicks and observed for 10 days. Two birds were showed mild respiratory distress on 3rd and 5th day after inoculation, recovered on 7th day. All birds were sacrificed after ten days. The H9N1 virus showed an IVP index of 0.05/3.0, it indicates the present H9N1 virus isolated in India is of low pathogenic. Grossly 2 birds were showed thigh muscle hemorrhages with mild congestion of spleen, liver and lung. Microscopically hyperactive mucus glands, ballooning, infiltration of lymphocytes with deciliation in trachea, congestion with swollen neurons in brain, secondary lymphoid follicles in spleen, congestion, hemorrhages with heavy infiltration of lymphocytes in lung, necrosis of pancreatic gland, fibrous replacement and secondary lymphoid follicles were noticed in pancreas.

Key Word :

Avian influenza, H9N1, IVPI, water coot

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