HOMOLOGY ANALYSES OF NUCLEOTIDE AND AMINO ACID FROM LENTOGENIC NEWCASTLE DISEASE VIRUS IN SURABAYA

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ABSTRACT

Newcastle Disease is infectious disease in many countries. In Indonesia, it caused loss in poultry industry during 2009-2011 and still become endemic. Vaccinated poultry farm still can be infected by vNDV. It might be caused by seed vaccine virus did not match to the circulating NDV in Indonesia. Seed vaccine usually used was genotype II of class II NDV while circulating NDV in Indonesia were genotype VII and XIII of class II. Homology between vaccine virus and infecting virus were noted control its epidemiology. Ten suspected Lentogenic NDV were analyzed to find original Lentogenic NDV strain. Death time of these samples were observed during biology characteristic in 8 old days SAN embryonated eggs. Six samples showed death time more than 90 hpi were processed into One Step RT-PCR using primer for amplifying cleavage site of Fusion protein gene. There were five suspected samples had cleavage site amino acid motive belongs to Lentogenic NDV (^{112}GRQGRL^{117}) while one suspected sample had cleavage site amino acid motive belongs to vNDV (ND2) (^{112}RRQKRF^{117}). Their homology score (five Lentogenic NDV and ND2) were measured compared to NDV Indonesia isolates. They showed high similarity 80-87% compared to NDV Indonesia isolates. It meant they approached to become one species compared to NDV Indonesia isolates. Nucleotide and amino acid mutations were analyzed. Some nucleotide mutation were occurred in the cleavage site of Fusion protein could lead to amino acid mutation while other could not.

Key words: ND, homology, mutation, cleavage site, original.