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Newcastle disease virus detection in chickens and differentiation from avian influenza by streptavidin-biotin immunostaining of formalin fixed, paraffin-embedded tissue sections: A field case study

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Avian Influenza (AI) and Newcastle Disease (ND) are two important viral diseases of poultry, which often lead to similar clinical signs and pathological lesions in poultry. Highly pathogenic AI and ND lead high morbidity and mortality, causing huge economic losses to the poultry industry. Confirmatory diagnostics are necessary to distinguish between these two important viral diseases. The aims to this investigation was to assess the specificity of two biotin-streptavidin immunohistochemistry tests (IHC-SB) to differentiate between infection caused by virulent Newcastle disease virus (vNDV) and highly pathogenic avian influenza virus (HPAI) in a commercial poultry farm. The laying hens showed clinical signs of torticollis and paralysis, as well as hemorrhagic lesions in the lungs and/or digestive system. The lungs, brains and digestive tract samples were collected tested with IHC-SB tests specific for either vNDV or HPAI. The results showed that these tests could be used to safely and reliably detect vNDV and HPAI-specific antigen in infected cells, thus confirming their role in definitive differential diagnosis between these two pathogens.

Biography

Raden Wasito is a Professor of Veterinary Pathology at Department of Pathology, Faculty of Veterinary Medicine, Gadjah Mada University, Indonesia. He is currently a Staff Member at Faculty of Veterinary Medicine, Gadjah Mada University. He has received his DVM degree from Gadjah Mada University in 1978 and pursued his Advanced Degrees in Pathology at Department of Pathology, Michigan State University, USA and obtained MS in 1984 and PhD in 1987.

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