First aetiological evidence of infectious laryngotracheitis virus in Sri Lanka

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Introduction and Objectives: Infectious laryngotracheitis (ILT) is an upper respiratory tract infection of chicken, with peracute, subacute and chronic clinical forms that account for severe production losses including increased mortality and reduced egg production. Gasping, nasal discharges, conjunctivitis and expectoration of bloody mucus are the clinical signs in the acute form of the disease. Morbidity can be 100% in peracute and subacute forms, with an average mortality ranging from 10-20%. The causative agent of ILT is a double stranded DNA virus in the *Herpesviridae* family called *Gallid alphaherpesvirus 1*, commonly known as the ILT virus (ILTV). Clinical signs suggestive of ILT have been observed in local poultry flocks and the presence of antibodies against ILTV by serology has been previously reported. Antigenic evidence to confirm the presence of ILTV infection in Sri Lanka is not available. Therefore, this study was carried out to investigate and confirm the presence of ILTV infection in Sri Lanka using molecular techniques.

Methods: Clinical signs manifesting mild respiratory distress, including eye and nasal discharge were observed among four flocks of different age groups, each consisting of about 30,000 commercial layer birds in battery cages in a large-scale layer farm. Paired ILT ELISA was performed in 120 birds using acute and convalescent sera. Postmortem examination of 60 birds was performed and one tracheal sample each was collected from birds of each of the four age groups. Total DNA was extracted from each tracheal sample and conventional PCR was performed. PCR products were analysed in 1% agarose gel.

Results: Of the 120 tested samples, 72 showed clear seroconversion in paired ELISA. Postmortem examination revealed complete or partial blockade of the larynx by yellow caseous clots, haemorrhagic tracheitis with blood clots and blood-stained mucus along the length of the trachea. All 4 samples tested positive for PCR, expressing the anticipated 588 bp band specific for *p32* gene of ILTV.

Conclusions: Considering the clinical signs and PCR results, the flock was infected with ILTV. Conventional PCR can be recommended as a method of rapid confirmation of ILTV infection. Currently, vaccination against ILTV is not widely practiced in Sri Lanka and registered vaccines are not available. It is crucial to establish a proper prophylactic plan such as vaccination against ILTV to prevent the negative consequences caused by this disease to the local poultry industry.

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