SEROPREVALENCE OF BLUETONGUE VIRUS IN SHEEP, GOAT, AND CATTLE IN WEST BENGLA, INDIA

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ABSTRACT

Bluetongue (BT) is an arthropod (Culicoides) vector-borne viral disease of ruminants, caused by bluetongue virus (BTV). The clinical (haemorrhagic) form of the disease is reported in sheep, while it is primarily asymptomatic in other ruminant livestock. There are reports of several bluetongue epidemics in India, and seropositivity in animals has been reported from various states. However, there is no history of bluetongue epidemic in eastern India. This paper presents the seroprevalence of BTV in a sample population of 302 animals, comprising 137 sheep, 115 goats, and 50 cattle, covering five agro-climatic zones (Old alluvial, New alluvial, Red laterite, Coastal saline, Terai) and seven districts (Jalpaiguri, Dakhshin Dinajpur, Malda, Nadia, Burdwan, South 24 Parganas) in the state of West Bengal, India, by i-ELISA. The study revealed high seroprevalence of BTV (60.26%) in West Bengal. The incidence was the highest in goats (66.95%), followed by sheep (57.66%) and cattle (52%). Inter-species difference was statistically non-significant (P≥0.05). The incidence was the highest in Red laterite zone (66.66%) and the lowest in Terai zone (53.01%). The difference between the agro-climatic zones was statistically non-significant (P≥0.05). Malda district had the highest incidence of BTV (76%), while Dakhshin Dinajpur district had the lowest incidence (45.83%). The difference between the districts was significant (P≤0.05). It is emanated from this study that the gray areas of BT research viz., identification of vectors in different agro-climatic zones, and determination of BTV serotypes need to be addressed for strategic control of the disease.

KEY WORDS

Bluetongue, Cattle, Goat, i-ELISA, Seroprevalence, Sheep, West Bengal

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