ABSTRACT

A MOLECULAR APPROACH TO UNDERSTANDING AND CONTROLLING RABIES IN TRINIDAD

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Bovine rabies continues to be an economic burden and a public health problem in Trinidad. Although Trinidad has played an important role in originally demonstrating a link between bats and bovine rabies through extensive work conducted by Pawan in the 1930's, relatively little is known about rabies at present. This study was therefore undertaken to further increase the understanding of bovine rabies in Trinidad; to characterize rabies variants in Trinidad; to determine any links between rabies outbreaks in Trinidad and that in any neighbouring South American country; and also to assess the current surveillance and control measures as it relates to rabies.

This was achieved by using a portion of the nucleotide sequence of the nucleoprotein gene and the N-P intergenic region from thirteen rabies virus isolates collected from domestic animals in 1997, 1998, and 2000 was determined, and compared both with themselves and the nucleotide sequences of

other South American isolates. Additionally, available epidemiological and control data of rabies in Trinidad was sourced, collated, and linked to the results of nucleotide sequence analysis.

Results indicate that the clinical cases of rabies among farm animals is of the bat type and that there are at least two independently evolving variants of the rabies virus circulating in Trinidad. The nucleotide sequence of either variant did not suggest recent influence in rabies outbreaks from Venezuela. However, a recent relationship between the sequences from Guyana and those from Variant I in Trinidad was suggested.

The results of this study has provided a clearer picture of bovine rabies in Trinidad, and provided basic information required to improve the present control and surveillance measures in Trinidad.

Keywords; Arlette Wright; Bat; Bovine; Rabies virus; Nucleoprotein; Trinidad