

Session 08

Theatre 2

Understanding foot-and-mouth disease virus transmission biology: identification of the indicators of infectiousness

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Foot-and-mouth disease virus (FMDV) causes one of the world's most important infectious vesicular diseases of domesticated and wild cloven-hoofed animals. In ruminants, a common route of transmission is by direct contact between infected and naïve animals. Using quantitative data on the transmission biology of FMDV between cattle we previously reported on the relationship between the onset of clinical signs (any visible lesions or body temperature above 39.5 °C) and the transmission of FMDV. Animals are unlikely to transmit virus unless they show clinical signs, which is a period of time when virus is readily detectable in pharyngeal and nasal secretions and in aerosols. We therefore re-examined the data from our experimental transmission study using Nonmetric Multidimensional Scaling and Nonparametric Multiplicative Models in an attempt to determine predictors of the onset of clinical signs. Identification of the predictors of the onset of clinical signs should enable refinement of epidemiological models/methods to combat outbreaks.