

## OTHER ORBIVIRUSES: UPDATED INFORMATION ON AFRICAN HORSE SICKNESS AND EPIZOOTIC HAEMORRHAGIC DISEASE IN EUROPE AND THE MEDITERRANEAN BASIN

M. Martinez<sup>1\*</sup> B. Rodriguez<sup>1</sup> J.M. Sanchez-Vizcaino<sup>1</sup>

■ OPENING PRESENTATIONS

Orbiviruses are vector-borne pathogens that can cause notifiable diseases in animals, such as bluetongue (BT) and epizootic haemorrhagic disease of deer (EHD) in ruminants, or African horse sickness (AHS) in equines. The relatively recent expansion of BT in Europe to higher latitudes than expected has evidenced the need to explore the ways of introduction and exposure of other orbiviruses in Europe and in the Mediterranean Basin. AHS was successfully eradicated from Europe since the 1990s but continues to be endemic in many African countries. Of the nine AHS serotypes, two have been present in Mediterranean countries: AHS-9 (1966) and AHS-4 (1987-1990). The last outbreaks (up to 2008) of AHS in Africa classified by serotype occurred in Senegal (AHS-9), Kenya (AHS-4), and Nigeria, Senegal and Ethiopia (AHS-2). EHD is caused by 10 serotypes and is notifiable to the World Organisation for Animal Health (OIE) since 2008. It is present in America, Australia, Asia and Africa and is known to affect wild ruminants as well as cattle. EHD has been present in cattle in North Africa (EHD-9) and the Middle East (EHD-7) since 2006. Transport of infected *Culicoides* from Northern Africa to Southern Europe by wind is a proved way of orbivirus introduction. Import of infected asymptomatic animals

from an endemic country also happened the first time AHS was introduced in Spain. Then, certain environmental conditions such as warm temperatures can favour perpetuation of the disease in animals exposed to infected vectors. The frequent consideration of horses as expensive leisure animals can worsen the economic and social consequences of a possible outbreak. However, nowadays there are good diagnostic techniques for AHS. Eradication can be achieved with the available polyvalent live vaccines and control measures. This is not the case for EHD, because an effective vaccine is urgently needed and there have been cross-reactions in the diagnoses between BT and EHD. European countries can prepare against other orbivirus outbreaks by prevention through educational campaigns and inactivated vaccine banks for AHS, and by further research on the possible vectors, the overwintering capacity of certain orbiviruses, the infectivity in all affected species, the identification of other possible reservoirs, and the development of risk assessments and modelling.

**KEYWORDS:** BLUETONGUE – AFRICAN HORSE SICKNESS – MEDITERRANEAN REGION.

1. Facultad de Veterinaria, Universidad Complutense de Madrid, Avda. Puerta de Hierro, 28040 Madrid, Spain.

\* Corresponding author

Tel.: +34 9 13 94 38 96; Fax: +34 9 13 94 38 82,

E-mail: marta@sanidadanimal.info