June 2020

Final degree project

EPIDEMIOLOGY AND RISK FACTORS OF EQUINE VIRAL ARTERITIS IN CATALONIA

CARMEN NART POMAR

1. INTRODUCTION

Equine Viral Arteritis (EVA) is an infectious contagious viral disease of mandatory declaration [1].

TRANSMISSION [1]
- *Respiratory*
- *Venereal*
- *Congenital*

DISTRIBUTION
- *Many countries around the world [1].*
- *Spain: in the last 5 years Spain has gone from infected country to absent in 2019 [2].*

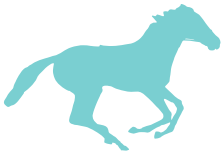
SEROPREVALENCE [3, 4]
- *Europe: 20,6% (8,7-55,1%), from several studies.*
- *Spain: Valencia (12,2%), Madrid (17,3%).*

RISK FACTORS [3, 4, 5]
- *Older age*
- *Breed*
- *Region*
- *High density horses*
- *Reproductive pathologies*

2. OBJECTIVES

- *Determine the seroprevalence of EVA in equines of Catalonia, and study if there are regions with greater seroprevalence.*
- *Identify risk factors for EVA.*

3. MATERIAL AND METHODS



- *N=185 equines of Catalonia.*
- *Comercial indirect ELISA kit.*

4. RESULTS

Table 1. *Calculation of the seroprevalence of EVA in each region of Catalonia corresponding to the years 2016 and 2017. Reading: EVA+, seropositive. EVA-, seronegative or doubtful. CI, Confidence Interval..*

Region	EVA +	EVA -	Seroprevalence (CI) in %
Alt Camp	1	9	10 (0-28,6)
Bages	0	6	0 (0-0)
Maresme	11	29	27,5 (13,7-41,3)
Noguera	1	6	14,3 (0-40,2)
Osona	0	5	0 (0-0)
Segrià	9	39	23,1 (11,2-35)
Selva	1	9	10 (0-28,6)
Vallès Occidental	1	4	20 (0-55,1)
Vallès Oriental	1	5	16,7 (0-46,5)
TOTAL	36	149	**19,5 (13,8-25,2)**

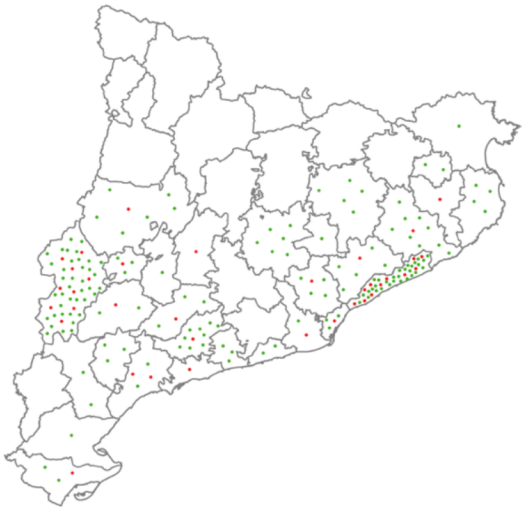


Figure 1. *EVA seroprevalence map of different horses from Catalonia in 2016 and 2017. Reading: Red dot, seropositive. Green dot, seronegative.*

5. CONCLUSIONS

- *Seroprevalence of EVA in Catalonia in 2016-2017 -> 19,5% (13,8-25,2) -> Catalonia is a risk region -> Higher seroprevalence than in Madrid and Valencia.*
- *Catalonia is an heterogenous region -> Maresme, Segrià and Vallès Occidental have the highest seroprevaneces, while Bages and Osona have the lowest.*
- *The Purebred Spanish Horse is a risk factor for EVA.*

6. REFERENCES

1. MAPAMA. 2016. Arteritis Viral Equina. Madrid: Ministerio de Agricultura, Pesca y Alimentación; [cited 2020 Mar 22]. Available from: https://www.mapa.gob.es/es/ganaderia/temas/sanidad-animal-higiene-ganadera/arteritisviralequina_tcm30-111421.pdf.
2. OIE. 2020. Frecuencia de las enfermedades: AVE en España [Internet]. Paris: WAHIS Interface; [cited 2020 Mar 22]. Available from: https://www.oie.int/wahis_2/public/wahid.php/Countryinformation/Countrytimelines.
3. Cruz López F. 2014. Seroprevalencia de Anemia Infecciosa Equina, Arteritis Vírica Equina y Herpesvirus Equino-1/-4 en caballos PRE de la región central de España. Factores de riesgo y asociación con otros problemas reproductivos [Thesis]. Madrid: UCM. Available from: https://eprints.ucm.es/28482/1/T35771.pdf.
4. Lazić S, Lupulović D, Gaudaire D, Petrovic T, Lazić G, Hans A. 2017. Serological evidence of equine arteritis virus infection and phylogenetic analysis of viral isolates in semen of stallions from Serbia. BMC Vet Res. 13(1):316. doi:10.1186/s12917-017-1226-x.
5. Talafha AQ, Abutarbush SM, Rutley DL. 2016. Epidemiologic Status of Equine Viral Arteritis, Equine Infectious Anemia, and Glanders in Jordan. J Equine Vet. Sci. 42:52-56. doi:10.1016/j.jevs.2016.04.006.