

IMPROVEMENT IN THE WEST NILE VIRUS MONITORING PROGRAM OF HORSES OF CATALONIA

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INTRODUCTION

West Nile virus is the most widely distributed arbovirus in the world and in the last decades has acquired great importance due to its large capacity of invasion of new territories, It is a Flavivirus belonging to the antigenic complex of Japanese Encephalitis.

Mosquitoes of the genus *Culex* are the main vectors and maintain the enzootic cycle infecting wild birds (amplifiers of the virus). Occasionally these vectors can infect humans and other mammals such as horses, although these are considered terminal hosts because they are not capable of transmitting virus.

OBJECTIVE --> The objective of this work has been to enhance the WNV Surveillance program by expanding the sampling of horses through active surveillance and directing it to those areas where they have optimal conditions for virus spread.

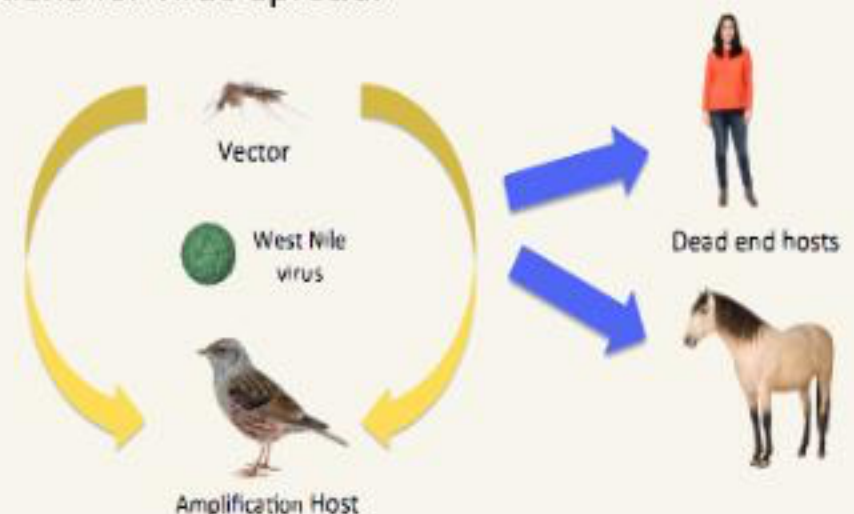


Figure 1: WNV transmission cycle

MATERIAL AND METHODS

Obtaining samples from geographical areas without sampling by active surveillance where there is higher risk of Flavivirus circulation, such as breeding areas of *Culex pipiens*.

The aim was to obtain serum samples from three horses per farm and three farms in each county, with the support of three field vets

Analysis of samples by competitive ELISA in the laboratory CReSA

Analysis of samples positive to ELISAc in the laboratory in Algete using capture ELISA serum neutralisation test for confirmation

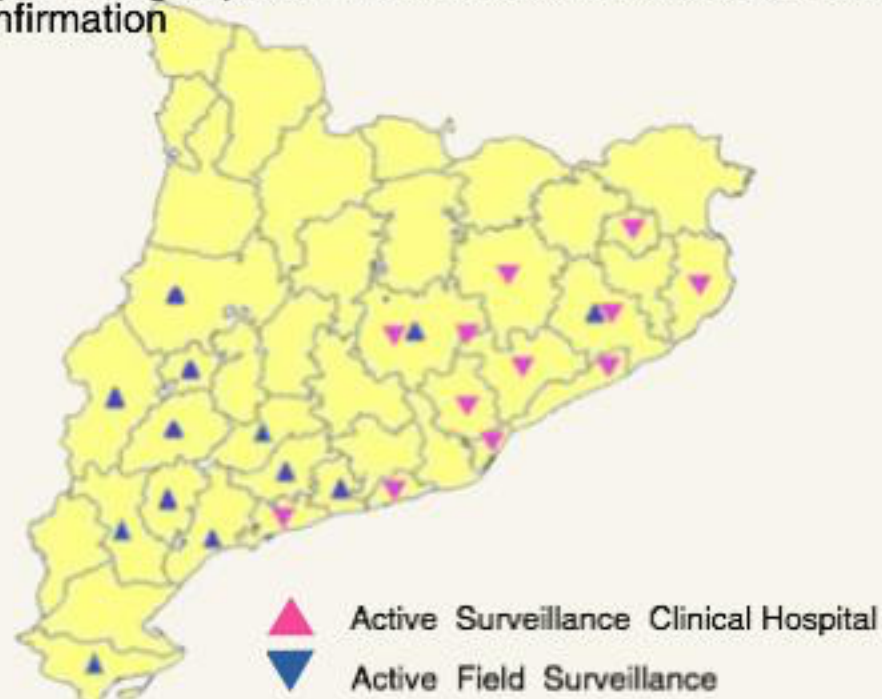


Figure 2: Sampling map according to the different regions

RESULTS and DISCUSSION

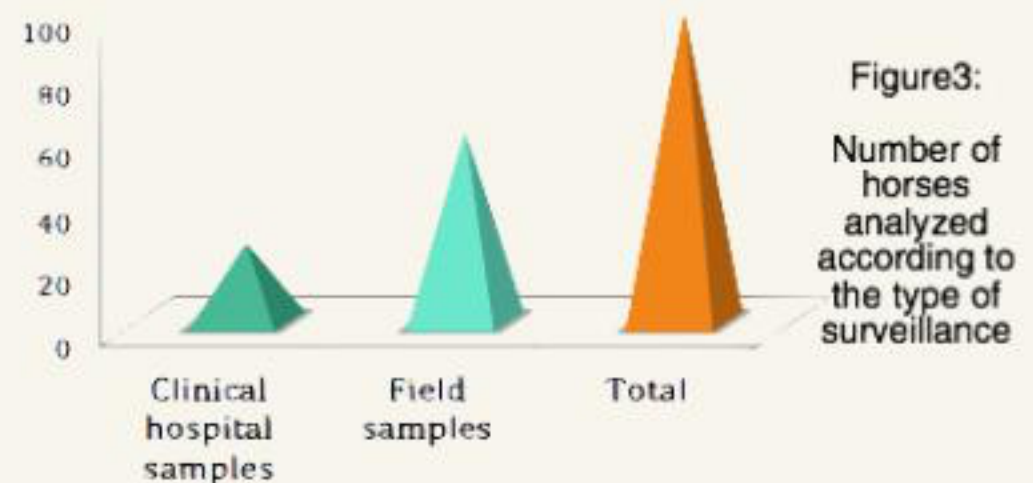


Figure3:

Number of horses analyzed according to the type of surveillance

A total of 86 samples were obtained, 25 on the part of the Clinical Hospital of the UAB and 61 by field sampling. The results are shown in the following table:

Table 1: Number of seropositive horses to ELISAc by region of origin

Region	Competition ELISA positive horses	Detection Ac IgM by capture ELISA	Seroneutralization
Tarragona	1	Negative	Negative
Lleida	2	Negative	Negative
Girona	1	Negative	Negative
Barcelona	1	Negative	Negative

A circulation of flavivirus belonging to the family of the Japanese Encephalitis has been demonstrated, but there is not an existing circulation of West Nile. Possibly, this is due to the fact that migratory birds are infected in endemic countries and subsequently come to Catalonia where there are not the necessary conditions for the transmission of the virus.

CONCLUSIONS

West Nile virus positive horses have not been detected and therefore we can not confirm the circulation of this virus among the horses of Catalonia. However it is important to maintain active surveillance and promote passive surveillance, due to territory condition, the disease's introduction may occur at any moment.