Equine Encephalomyelitis Outbreak Caused by a Genetic Lineage 2 West Nile Virus in Hungary

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The spread of lineage 2 West Nile virus (WNV) from sub-Saharan regions to Europe and the unpredictable change in pathogenicity means a potential public and veterinary health threat and requires a scientific awareness. Authors’ address: Large Animal Clinic, Ullo, Dora Major 2225, Szent Istvan University, Faculty of Veterinary Science, Hungary; e-mail: kutasi.orsolya@aotk.szie.hu (Kutasi). © 2009 AAEP.

1. Introduction
The aim of the present study is to describe the results of clinical and virological investigations on the first outbreak of a genetic lineage 2 West Nile virus (WNV) encephalomyelitis in horses.

2. Materials and Methods
Data were collected from 18 horses showing nervous system symptoms between August and October 2008. Diagnosis was based on serologic testing. Histopathology was carried out on four horses, two of which were assessed for the presence of WNV in their nervous system.

3. Results
Neutralizing antibody titers were between 10 and 270 (median = 94 ± 72) 2–35 days after the onset of clinical signs. The results of other serological assays were concordant with the plaque reduction neutralization test (PRNT). Common signs were ataxia, weakness, asymmetric gait, muscle tremors, hypersensitivity, cranial nerve deficits, and recumbency. Thirteen animals survived. Both tested specimens were positive and allowed for molecular characterization of the viral strain.

4. Discussion
This outbreak has been caused by a lineage 2 WNV; however, such strains are often considered as non-pathogenic for animals or humans. Characteristic neurological signs and survival rate were similar to those reported in previous lineage 1 virus infections. The occurrence of the disease was not limited to a certain wetland area as it had been typical for European outbreaks, but we experienced significant northwestern spread of the pathogen.