EXPOSURE TO HEPATITIS E VIRUS IN DOMESTIC AND WILD LAGOMORPHS IN ANDALUSIA (SOUTHERN SPAIN)

D. B. Vázquez-Calero, DVM[1]*, J. Caballero-Gómez, DVM[2] , A. Rivero-Juárez, DVM, PhD[3], S. Castro-Scholten, DVM[2], D. Cano-Terriza, DVM, PhD[2], J. A. Aguayo-Adán, BS[4], D. Jiménez-Martín, DVM[2], A. Beato-Benítez, DVM[2], J. Barbero, DVM[2], I. García-Bocanegra, DVM, PhD, Dip ECZM (Wildlife Population Health)[2]

[1] Clínica Veterinaria ARACAVIA de animales exóticos, Málaga, Spain.
[2]Universidad de Córdoba, Grupo de Investigación en Sanidad Animal y Zoonosis (GISAZ), Departamento de Sanidad Animal, Córdoba, Spain.
[3]Universidad de Córdoba, Instituto Maimónides de Investigación Biomédica de Córdoba (IMIBIC), Grupo de Virología Clínica y Zoonosis, Unidad de Enfermedades Infecciosas, Córdoba, Spain.
[4]Universidad de Córdoba, Departamento de Botánica, Ecología y Fisiología Vegetal. Área de Ecología, Córdoba, Spain.

Abstract: Hepatitis E virus (HEV) is the leading cause of acute viral hepatitis in humans, being responsible of more than 20 million infections annually worldwide. In industrialized countries, Hepatitis E (HE) is an emerging zoonotic disease mainly transmitted through the consumption of animal products or the contact with infected animals. Although the European rabbit (*Oryctolagus cuniculus*) is the main reservoir of the zoonotic and emerging subtype HEV-3ra and clinical cases associated to this subtype have been reported in Europe, the information about the role of lagomorphs in the epidemiology of HEV is still very limited. The main aim of the present study was to assess HEV exposure in domestic and wild rabbits and in Iberian hare (*Lepus granatensis*) in Andalusia. Between 2016 and 2021, samples from 168 pet rabbits, 220 wild rabbits y 59 Iberian hares were collected. In addition, five of the pet rabbits sampled were longitudinally surveyed (twice per animal) during the study period. The presence of anti-HEV antibodies in sera was determined by a commercial double antigen ELISA, whereas a RT-PCR was used to detect HEV RNA in faeces. Eighteen (4.0%; CI95%: 2.2-5.9) of the 447 analyzed animals showed anti-HEV antibodies. The seroprevalence was 4.8% (8/168; CI95%: 1.5-8.0) in pet rabbit, 2.7% (6/220; CI95%: 0.6-4.9) in wild rabbit and 6.8% (4/59; CI95%: 0.4-13.2) in Iberian hare. Three of the five longitudinally sampled animals tested negative whereas two presented seropositivity at all samplings. At least one seropositive wild lagomorph was detected in seven (11.5%) of the 61 sampled hunting estates. None of the analyzed animals were positive for HEV active infection. Our results indicate a limited exposure to HEV in domestic and wild lagomorphs in southern Spain. Hence, the risk of transmission of HEV from lagomorphs to other species, including humans, could be considered low. Nevertheless, further studies are needed, particularly in domestic rabbits, to confirm this hypothesis.

*Corresponding author:
D. B. Vázquez Calero
Clínica Veterinaria ARACAVIA de animales exóticos
Calle Saint Exupery 10
Málaga, 29007
Spain
daniel.vazquez@aracavia.es