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364 STUDY OF TOXOPLASMA GONDII IN WILD AND DOMESTIC LAGOMORPHS IN SPAIN

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Abstract Text

Toxoplasmosis is a zoonosis caused by the protozoa *Toxoplasma gondii* which infects warm-blooded species worldwide, including humans. Wild rabbits and hares are very important small game species in Spain and demand for their meat for human consumption is increasing. In addition, these species are the most important food for the endangered Iberian Lynx (*Lynx pardinus*), which is a definitive host of *T. gondii* and can close the parasite cycle. Although infections in lagomorphs are documented to be mainly subclinical, fatal acute toxoplasmosis and clinical outcomes has been previously reported. A total of 1,127 serum samples from wild and domestic lagomorphs were collected in 16 provinces of Spain between 2018 and 2021 and were assayed for antibodies against *T. gondii* by the modified agglutination test (MAT, cut-off 1:25). Antibodies against *T. gondii* were detected in 50 of 1,127 animals (4.4%; 95%CI: 3.2-5.6) and antibody titres of 1:25, 1:50, 1:100 and $\geq 1:500$ were found in 33 (66.0%), 12 (24.0%), 4 (8.0%) and 1 (2.0%) individuals, respectively. By species, the frequency of positives was 10.9% (5/46) in Iberian hare (*Lepus granatensis*), 4.8% (43/898) in wild rabbit (*Oryctolagus cuniculus*), 1.1% (2/178) in domestic pet rabbit (*Oryctolagus cuniculus domesticus*) and 0.0% (0/5) in European hare (*Lepus europaeus*). At least one *T. gondii* seropositive animal was detected in 33.7% (30/89) of the analyzed hunting states. No statistically significant differences were observed by age, sex or sampling area, although significantly higher seroprevalence was observed in wild lagomorphs (5.1%; 95%CI: 3.7-6.5) compared to domestic ones (1.1%; 95%CI: 0.0-2.7) ($P = 0.046$). The results obtained indicate a limited and moderate *T. gondii* exposure in domestic and wild lagomorphs, respectively. However, the high hunting state prevalence, indicates widespread circulation of this parasite among wild lagomorphs in Spain, with may pose a potential risk for humans if consumed undercook meat.