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Epidemiological study on porcine circovirus type 2 (PCV2) infection in the European wild boar (*Sus scrofa*).

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Abstract -

Porcine circovirus type 2 (PCV2) is considered as the causative agent of postweaning multisystemic wasting syndrome (PMWS) in domestic pigs, where the virus is ubiquitous as evidenced by serological surveys. We present the results of the first nationwide sero-survey on the presence of PCV2 antibodies in European wild boars, and report the first PMWS case in a wild boar from Spain. Sera from 656 hunter harvested wild boars from 45 different geographical sites and 22 additional imported animals were analysed by means of an immunoperoxidase monolayer assay (IPMA). We also examined the tissues from 55 healthy and one diseased wild boars for the presence of PCV2 nucleic acid and PMWS lesions by in situ hybridisation and histopathology, respectively. Additionally, abundance estimates of wild boars and field interviews were carried out on 30 sampling sites. The prevalence of medium to high PCV2 serological titres among the examined wild boars was 47.89 +/- 1.9%. Seropositive wild boars appeared in all but one of the geographical regions analysed. Seroprevalence and titre of PCV2 antibodies were closely related to the management of the wild boar populations. Wild boars from intensively managed, farm-like populations had higher prevalence than wild boars living in more natural situations. The effect of wild boar abundance and management on PCV2 antibody prevalence was further evidenced by the high correlation existing between the relative abundance estimates of animals and the percentage of wild boars with medium to high levels of PCV2 antibodies. PCV2 nucleic acid was detected in the tissues of three wild boars. One of these was diagnosed as PMWS. The results, in addition to information on piglet mortalities, suggest a potential role of PMWS in piglet mortality in intensively managed wild boar populations.

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