

A Serological Survey of Selected Pathogens in Wild Boar in Slovenia

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Summary

Serum samples collected from 178 shot wild boars (*Sus scrofa*) were tested for the presence of antibodies against classical swine fever virus, Aujeszky's disease virus (ADV), porcine reproductive and respiratory syndrome virus, porcine respiratory coronavirus (PRCV), transmissible gastroenteritis virus, swine influenza virus, porcine parvovirus (PPV), swine vesicular disease virus, *Actinobacillus pleuropneumoniae* (APP), *Mycoplasma hyopneumoniae*, *Salmonella* spp., *Brucella* spp. and *Haemophilus parasuis* (HPS) throughout Slovenia during the hunting season 2003/2004. The number of samples corresponds to 3% of the total hunting bag. By enzyme-linked immunosorbent assay (ELISA) antibodies against ADV were detected in 55 sera (31%), against PRCV in five sera (3%), PPV in 87 sera (49%), APP in 93 sera (52%), *M. hyopneumoniae* in 38 sera (21%), *Salmonella* spp. in 85 sera (47%) and HPS in 33 sera (18%).

Introduction

Geographically, Slovenia is a Central-European country situated between Italy, Austria, Hungary and Croatia. In its entirety, different species of wildlife can be found and biodiversity in this area is very high (Mršič, 1997). The wild boar (*Sus scrofa*) is one of the most important big-game species in Slovenia with a hunting bag of around 6000 pigs per year. The population density of wild boars in Slovenia has increased drastically during the last decade despite hunting. Wild boars are present all over the country; however, the highest densities are situated in the southwest part of the country. As in Slovenia, wild boar population has increased both in number and density across Europe (Artois et al., 2002). In the last decade, evidences accumulated show that in some situations wild boars can act as a reservoir for infectious diseases of domestic pigs (Elbers et al., 2000; Laddomada, 2000; Al Dahouk, et al., 2005) and movement of these animals can potentially result in dissemination of these diseases. Currently there is no recorded data regarding prevalence and distribution of the most important infectious agents among wild boars in Slovenia. Therefore, our objective was to determine the seroprevalence against selected infectious pathogens in wild boars from Slovenia.

Data regarding exposure to different infectious agents and movement of wild boar populations may play an important role in minimizing the exposure of domestic pig to these infectious diseases and may also help to perform studies of risk assessment of infectious diseases.

Materials and Methods

Blood samples were collected from 178 shot wild boars throughout the country during the hunting season 2003/2004. Hunters had previously been trained to collect the blood. Immediately after a shoot, blood was collected from the animal into sterile tubes and sent to the laboratory. Serum was obtained by centrifugation and frozen at –20°C until examination. Only sera with limited haemolysis (178 samples out of 208) and absence of protein denaturation were selected for analysis.

The following tests were carried out in accordance with the manufacturer's instructions.

Serological investigations against viral diseases

Enzyme immunoassay for detection of antibodies against CSFV
Chekit-CSF-sero (Bommeli Diagnostics, Bonn, Switzerland), an enzyme immunoassay designed to detect antibodies against the glycoprotein E2 of the classical swine fever virus (CSFV) in serum of pigs, was used.

Enzyme immunoassay for the detection of antibodies against glycoprotein gII of ADV

Svanovir, Pseudorabies-gII-Ab EIA Test Kits, (Svanova Biotech, Uppsala, Sweden), was used. Antibodies against glycoprotein gII of Aujeszky's disease virus (ADV) may be expected in the serum from infected or vaccinated pigs but absent in sera of non-infected and non-vaccinated pigs.

Enzyme immunoassay for the detection of antibodies against PRRSV

HerdChek PRRSV Antibody Test Kit (IDEXX, Westbrook, ME, USA), an enzyme immunoassay for the detection of antibody against porcine reproductive and respiratory syndrome virus (PRRSV) in swine serum using PRRS and normal host cell antigens, was used.

Enzyme immunoassay for the detection of antibodies against TGEV and PRCV

Ingezim Corona Differential (Ingenasa, Madrid, Spain), blocking immunoenzymatic assay for the specific detection and differentiation of transmissible gastroenteritis virus (TGEV)