

Seroprevalence of hepatitis E virus (HEV) in domestic pigs and wild boars in Switzerland

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Key words

Hepatitis E virus, serology, pigs, wild boar, prevalence, Switzerland

Aim of the study

The prevalence of persons seropositive for HEV in Switzerland ranges from 3.2% to 4.9% - a low prevalence compared to other countries. No data were available regarding the seroprevalence in pigs or wild boar – the most likely reservoir of this virus. The aim of this study was to obtain the information regarding domestic and wild suidae living in our country and to determine whether there was a change in prevalence over time.

Material and methods

Geographically stratified random serum samples from the serum bank and collected in 2006 and 2011 were used. To estimate a prevalence of 50% with +/- 3.1% absolute accuracy at a 95% confidence level, samples from 1'000 farms (one sample per farm) were analyzed for both points of time, 2006 and 2011, i.e. a total of 2'000 samples. Since contacts between domestic pigs and wild boars were observed quite regularly by game wardens and pig owners some 303 wild boar sera collected by the Swiss Centre for Fish and Wildlife Health from different regions of Switzerland were included in this study. Seropositive animals were identified using a commercially available ELISA kit.

Results and significance

The overall HEV seroprevalence was at 58% (1161/2001) and 12.5% (38/303) in domestic and wild pigs, respectively. The prevalence in domestic pigs was significantly higher in 2006 (62.3%; 624/1000) than in 2011 (53.7%; 537/1000). These results demonstrate the presence of HEV in Switzerland in domestic and wild pigs at prevalence comparable to that in other countries. The reason for the relatively low prevalence in human beings, therefore, cannot be attributed to rare presence or even absence of virus.

Publications, posters and presentations (Formatvorlage Überschrift 2)

Stephan, R.; Zweifel, C.; Waldvogel, A. (2012) Hepatitis E –Mastschwein als Reservoir für ein Virus mit zoonotischem Potential. Schweizer Zoonosenbericht 2011, Bundesamt für Veterinärwesen, 18-19.

Burri, C.; Reist, M.; Vial, F.; Ryser-Degiorgis, M-P.; Cavassini, M.; Schwermer, H-P.; Waldvogel, A. (2012) Seroprevalence of hepatitis E in pigs and wild boars in Switzerland. (in preparation).

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