

## Research project IZS VE 20/10

**Survey on Hepatitis E Virus infection in different animal species and in at-risk working categories**

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*Hepatitis E Virus* (HEV) is responsible for enterically-transmitted acute hepatitis in humans with two distinct epidemiological patterns. In developing countries, HEV infection is mostly a waterborne disease associated with large epidemics due to water contamination and poor sanitation conditions. In developed countries (including many European countries) hepatitis E occurs sporadically but it raises a serious concern for its zoonotic transmission potential.

HEV is single-stranded RNA virus classified in the *Hepeviridae* family, with at least four main genotypes of mammalian HEV and one avian HEV. Swine and human strains of HEV are genetically closely related and pigs (i.e. the main HEV reservoir) are potentially able to transmit the virus to humans through direct contact or through the consumption of contaminated pork products.

In Italy, prevalence of Hepatitis E in humans is unknown, but serological surveys suggested that undiagnosed or subclinical infections may occur rather frequently. Descriptive studies on HEV prevalence have been carried out in swine herds but the nature of the collected information is very different among studies.

The purpose of the present project is to set up a monitoring program to investigate the prevalence and the genetic characteristics of HEV in animal and human populations in northern Italy, with particular emphasis on reservoir animals (pigs and wild boars) and exposed working categories. The attention will be also drawn to alteration induced by the infection in different organs of serologically positive pigs and to viral antigen localization.