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Detection and molecular characterization of hepatitis E virus in humans, swine and wild boars in Croatia

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Hepatitis E is caused by a RNA virus mostly transmitted by the fecal-oral route and is the cause of sporadic and epidemic forms of acute hepatitis. The causative agent of hepatitis E is a member of the Hepeviridae family, consisting two genera, *Orthohepevirus* (*A*, *B*, *C* and *D*) and *Piscihepevirus*. Members of species *Orthohepevirus A* is divided into four genotypes; HEV-1 and HEV-2 are human specific while HEV-3 and HEV-4 are known to have zoonotic potential. Because of the possibility of zoonotic transmission by contact with infected animals or through environmental exposure Hepatitis E is an important public health problem. A comprehensive survey based on viral RNA detection was carried out in Croatia including IgM positive human sera samples and blood, tissue and feces samples originating from swine and wild boars. Molecular characterization of ORF1 genomic region confirmed the phylogenetic clustering of the obtained sequences into genotype 3, previously reported in Europe. Furthermore, our results proved the presence of identical sequence variants in different samples, regardless of their origin, age or habitat of the host, suggesting mutual source of infection or interspecies transmission. Moreover, a close genetic relationship of Croatian animal strains and known human HEV strains from the GenBank opens the question of possible cross species HEV transmission in Croatia.

Biography

Jelena Prpic has completed her PhD from University of Zagreb, Faculty of Science. She is a Senior Assistant at Department of Virology, Laboratory for Classical Swine Fever, Molecular Virology and Genetics at Croatian Veterinary Institute, Zagreb. She has published more than 21 papers in reputed journals.

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