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Presence of human parvovirus B19 genomic sequence in tissue DNA of post-mortem individuals with unspecified encephalopathy

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Encephalopathy is a syndrome characterized by a global brain dysfunction. It can have different causes, including viral infections, but in many cases the aetiology and pathogenesis remain unclear. Human parvovirus B19 (B19) belonging to *Parvoviridae* family, *Parvovirinae* subfamily and *Erythroparvovirus* genus is considered as clinically important pathogen in different diseases, but data on B19 association with a variety of neurological manifestations is ambiguous. The aim of this study was to determine the frequency of B19 genomic sequence in tissue DNA of individuals (post-mortem) with unspecified encephalopathy (UEP). Autopsy brain tissue (frontal lobe and temporal lobe) and peripheral blood samples from 19 individuals with UEP were included in this study. DNA from tissue and peripheral blood samples was extracted using phenol-chloroform method, presence of B19 NS1 genomic sequence in DNA samples was determined using nested PCR (nPCR). B19 NS1 genomic sequence was detected in 8 out of 19 (42.1%) individuals with UEP. In two individuals with UEP viral genomic sequence was detected in all three sample types (peripheral blood, frontal and temporal lobe tissue), in two individuals - two different sample types (one in blood and temporal lobe and other in brain tissue) and in four individuals just in one of DNA sample types (one in blood and three in brain tissue). Obtained results showed that B19 genomic sequence is present in tissue DNA of individuals with UEP, therefore further research is carried out by increasing study cohort and determining viral load, and antigen expression in UEP comparing to control group.

Biography

Anda Vilmane has done her Master's in Biology and is a Research Assistant at August Kirchenstein Institute of Microbiology and Virology, Riga Stradins University, Riga, Latvia. She is a first year PhD student at Riga Stradins University and her PhD thesis is about human parvoviruses B19 and human bocavirus involvement in inflammatory neurological diseases.

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