

## **Abstract**

Parvovirus B19 is a common human pathogen that typically infects erythroid progenitors and causes hematological problems such as anemia and aplastic crises. The clinical presentation depends mainly on the immunological status of the patient. PVB19 can cause serious clinical disorders in immunocompromised patients after transplantation. More than 1500 samples from 90 patients who passed the HSCT in 2015 were tested for the presence of PVB19 in this work. This work describes the incidence of the virus and two typical periods of onset of infection in patients after the transplantation. Although several sources report the negative effect of PVB19 infection on the survival of allogeneic graft patients, this work did not confirm this assertion. Also, the results of this work suggest that allogeneic grafts are not the main source for transmission, but that it is likely to be reactivated after long-term persistent or latent PVB19 infections.

PVB19 is divided into 3 genotypes. Genotype 1 is the most widespread, genotype 2 is very rare in Europe for the last 10 years, and genotype 3 occurs mainly in tropical localities. This work as the first describes the distribution of genotypes in the Czech Republic. More than 130 samples from 125 PVB19 positive patients, stored in the Motol University Hospital from 2004 to 2017, were genotyped based on the NS1-VP1u region analysis. Up to 3 patients when a rare genotype 2 was detected (2.4%) were genotype 1.

**Keywords:** parvovirus B19, anemia, allogeneic HSCT, immunocompromised patients, incidence, GVHD, genotype