

Excretion of different species of polyomavirus by immunocompetent individuals from the states of Bahia and Pernambuco.

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The human polyomaviruses (HPyV) are small, non-enveloped virions with a double-stranded DNA genome, members of the *Polyomaviridae* family. These viruses establish persistent, primarily asymptomatic, infections. The molecular characteristics of HPyVs have been thoroughly analyzed, however much is unknown about their pathogenesis. The epidemiology pattern of HPyV suggests that transmission can occur by direct contact or aerosol. Although the excretion of HPyV in samples from immunocompetent individuals has been described, the significance of these infections in such individuals has hardly been characterized. The aim of this study was to investigate and compare the frequencies of HPyVs in the saliva of 190 healthy volunteers, aged between 8 and 87 years, in the states of Bahia (98 samples) and Pernambuco (92 samples) in northeastern Brazil. The samples were analyzed by real-time PCR for detection of four different species of HPyV (BKPyV, JCPyV, KIPyV and WUPyV). HPyV DNA was detected in 75 (39.5%) samples. Of these, 48 (71.6%) were positive for BKPyV, 21 (31.3%) to KIPyV, 1 (1.5%) for JCPyV. Coinfections were observed in 5 (7.5%) samples. WUPyV was not detected. However, the percentage of positivity, and the distribution of viral species detected was quite different between the two states. In the state of Pernambuco 21.7% (20/92) of the samples were positive and 90% (18/20) of these belonging to KIPyV species. In Bahia 56.1% of the samples was positive and 85.5% (47/55) of these belonging to BKPyV species. There was no significant difference with positivity and the volunteers' gender ( $p = 0.9766$ ). Regarding age, in Pernambuco individuals between 11 and 20 years and 41 and 50 years had a higher positivity while in Bahia individuals 21-30 and 51-60 years had higher positivity. Data presented in this study reveal a wide circulation of HPyV in the immunocompetent population of two states of the Brazilian Northeast. Studies have suggested that HPyV co-evolve with the human population and the identification of genotypes of these viruses has been suggested as a marker of human migration. This fact could explain the observed differences with regard to the distribution of species HPyV detected in these two states. Although both belong to the same geographical region of the country, have different population characteristics.

Keywords: Polyomavirus, saliva, immunocompetent

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