Prevalence of MCPyV in Merkel cell carcinoma and non-MCC tumors

Abstract:
Background Merkel cell polyomavirus (MCPyV) is the likely causative agent of Merkel cell carcinoma (MCC). However, the prevalence of MCPyV in non-MCC population and its possible role in the pathogenesis of other skin cancers are not known yet. Methods A molecular pathology study was performed in 33 MCC samples and 33 age- and sex-matched samples of sun exposed non-MCC tumors (12 seborrheic keratoses (SK), 11 basal cell carcinomas (BCC) and 10 lentigo maligna melanomas (LMM)). All tumors were analyzed for presence of MCPyV-DNA by polymerase chain reaction (PCR) and Southern-Blot hybridization of PCR products. Results MCPyV sequences were detected in 21 MCC samples (64%) and in 2 non-MCC tumors of sun exposed skin (6%; both SK-patients). Neither the tissue samples from BCC nor LMM proved positive for MCPyV sequences. Conclusion We were able to confirm prior data on prevalence of MCPyV-DNA in MCC. Furthermore, a female predominance of MCPyV-positive MCC-patients was detected. There was no relevant association of MCPyV with SK, BCC and LMM. Speculative, prevalence of MCPyV in an age- and sex-matched non-MCC population could average up to 6%. Andres C, Belloni B, Puchta U, Sander CA, Flaig MJ. Is Merkel cell polyomavirus also prevalent in non-Merkel cell carcinoma (MCC) tumors of sun exposed skin? A study of 66 patients.