Prevalence of Merkel cell polyomavirus DNA in cutaneous lymphomas, pseudolymphomas, and inflammatory skin diseases.

Abstract: Several groups confirmed Merkel cell polyomavirus (MCPyV) as the likely causative agent of Merkel cell carcinoma. Hematolymphoid disorders are known to be a substantial risk factor for Merkel cell carcinoma, and vice versa. The association between MCPyV and hematologic neoplasms is poorly analyzed, as well as the speculation that lymphocytes may serve as reservoir for MCPyV. Therefore, we investigated the prevalence of MCPyV DNA in primary cutaneous T- and B-cell lymphomas, pseudolymphomas (PLs), and inflammatory skin diseases with dominant lymphocytic infiltrate. We performed a molecular pathology study in 22 tissue samples and 1 blood sample of different cutaneous lymphomas from 19 patients (17 mature T-cell neoplasms, 5 mature B-cell neoplasms, and 1 immature hematopoietic malignancy), 13 PLs from 12 patients, and 25 various inflammatory skin diseases from 23 patients. All tumors were analyzed for the presence of MCPyV DNA by polymerase chain reaction, confirmed by Southern blot hybridization of polymerase chain reaction products. We detected MCPyV DNA in 4 of 23 (17.4%) cutaneous lymphoma tissue samples (3 of 17 mature T-cell neoplasms and 1 of 5 mature B-cell neoplasms), in 2 of 13 (15.4%) PL tissue samples, and 2 of 25 (8%) inflammatory skin conditions (1 drug reaction and 1 erythema multiforme). We conclude that MCPyV DNA is
infrequently, but consistently present in lesional tissue from patients with primary cutaneous lymphomas, PLs, and inflammatory skin diseases; prevalence is in the range of 8%-17%. Our results suggest that MCPyV does not play a significant role in the pathogenesis of cutaneous lymphoproliferative disorders.