has been linked with immunosuppression that is related to various conditions, such as organ transplantation, acquired immunodeficiency syndrome, and chronic lymphocytic leukemia. We agree with Andres et al. that further studies are required to confirm this finding and to evaluate the prognostic significance of MCPyV infection in MCC.

Recent data suggest that MCPyV infection is widespread in the general population. In the North American population, 64% of blood donors showed evidence of MCPyV exposure (presence of circulating MCPyV IgG) in blood samples collected in 1994–1996, and the frequency of sera testing positive for MCPyV IgG increased from 50% among children aged 15 years or younger to 80% among individuals older than 50 years (2). In line with this observation, MCPyV DNA was detected in lesional and nonlesional skin biopsy samples from patients with various types of skin diseases and even in normal-appearing skin collected at plastic surgery (3).

The role of MCPyV in molecular pathogenesis is more strongly supported in MCC than in some other types of cancer. In MCC, the viral DNA is integrated into the host genome (4), it is frequently present in the primary tumor at high copy numbers and it may be present in both the primary tumor and a metastasis (5), a credible molecular mechanism (ie, MCPyV large T antigen helicase–truncating mutations) has been presented (6), presence of MCPyV DNA in the tumor is associated with patient survival, and there is serological evidence of MCPyV infection among patients who have MCPyV DNA–positive MCC (2). However, other factors besides MCPyV infection, such as immunosuppression, are likely required because MCCs are rare and MCPyV infection may be common in the general population.

The mere presence of MCPyV DNA, detected by polymerase chain reaction, in occasional tumor samples may have limited molecular biological significance or clinical importance. Andres et al. reported that MCPyV DNA can be detected in small cell lung carcinomas, many of which are morphologically indistinguishable from MCC. This observation remains to be confirmed; Wetzels et al. (5) detected MCPyV DNA in none of the 10 small cell lung carcinomas analyzed, and we also failed to find MCPyV DNA in 12 small cell lung carcinomas using quantitative polymerase chain reaction (H. Sihto, O. Tynninen, T. Böhling, H. Joensuu, Biomedicum Helsinki and Helsinki University Central Hospital, unpublished observations). On the other hand, in line with Kassem et al. (7), we detected MCPyV DNA in 11 (50%) of 22 of basal cell carcinomas of the skin, but the median ratio of MCPyV DNA to control DNA was up to 1 million-fold smaller in MCPyV DNA–positive basal cell carcinomas than in MCPyV–positive MCCs (H. Sihto, O. Tynninen, T. Böhling, H. Joensuu, unpublished data). Further evidence is thus required before we can conclude that MCPyV has a clinically significant role in the molecular pathogenesis of these tumor types.

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References

Notes
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