Merkel cell carcinoma: mitoses, expression of Ki-67 and bcl-2 correlate with disease progression.

Department of Dermatology, Krankenhaus Hietzing, Wolkersbergenstrasse 1, Vienna, Austria. andreas.steiner@wienkav.at

Abstract

BACKGROUND: There are conflicting data on markers of disease progression and outcome of Merkel cell carcinoma.

OBJECTIVE: We suggest to review histological and various immunohistochemical features of Merkel cell carcinoma specimens, in order to identify prognostic markers of clinical relevance.

METHODS: We collected paraffin-embedded blocks from primary tumours from 26 patients diagnosed with Merkel cell carcinoma and determined the following: type and size of the tumour, number of mitoses, proliferation rate (Ki-67 antibody), (anti)-apoptosis rate (bcl-2, p53, p63 antibodies) and lymphatic vessel invasion (D2-40 antibody for podoplanin). Two authors blinded to clinical outcome, independently assessed and scored all samples. The findings were correlated with tumour progression, which was determined by local recurrence, lymph node- or distant metastases.

RESULTS: During the average follow-up period of 63.4 months 12 (46%) patients had disease progression. Statistical analysis revealed Ki-67-staining (P = 0.005) as a marker of disease progression, high number of mitoses (P=0.026) correlated with lymph node metastasis, while a tendency for increased Bcl-2 expression (P=0.064) was found in patients with local recurrence. A higher number of invaded lymphatic capillaries showed a tendency in correlation with metastases (P=0.072).

CONCLUSION: The findings indicate that high numbers of mitoses, proliferation and survival of tumour cells as marked by Ki-67- and Bcl-2-staining, and infiltration of lymphatic vessels, might correlate with the biological behaviour of Merkel cell carcinoma.