Mapping of specific sentinel node locations for skin cancer of the head

Wolfram Hoetzenecker, Emmanuella Guenova, Thomas Ulrich Böttinger, Hans-Martin Häfner & Helmut Breuninger

In current dermatological practice lymphatic mapping and sentinel lymph node biopsy (SLNB) are frequently used in patients with cutaneous cancers, like malignant melanoma, squamous cell carcinoma and Merkel cell carcinoma. However, those tumors are often located on the head and neck, regions with notoriously variable lymphatic drainage patterns. Consequently, the incidence of successful SLNB in the head and neck is considerably lower compared to the SLNB on the trunk and extremities. Thus, there is a need to improve the hit rate of SLNB in this special area. Therefore, in the current study we analyzed SLNB of 149 patients treated for cutaneous tumors at the Department of Dermatology, University of Tuebingen, Germany. By mapping SLN (sentinel lymph node) locations to their specific tumor sites on the head and neck, we were able to calculate the frequency of SLN distribution to defined tumor locations. Furthermore, our analysis revealed that approximately 7% of tumors on the head and neck drain to contralateral SLN, which is of relevance for the classification in the current cancer TNM system. Thus, our mapping can predict SLN location in patients with cutaneous head and neck tumors and might help to further increase the rate of successful SLNB.