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Melanocytes in squamous cell carcinoma of the skin

Sir, Matsumoto et al. have reported a cutaneous pigmented squamous cell carcinoma of the scrotum. The authors illustrate a neoplasm composed of spindle and epithelioid cells with atypical nuclei in both squamous and melanocytic components. Only a pre-existing lentigo was found in the surrounding tissue. In addition, intratumoral and intra-epithelial melanocytes differed in the expression of immunohistochemical markers including S-100 protein, HMB-45 and vimentin. The atypical nuclear features and the immunophenotype of the tumour melanocytes are consistent with an activated status of the cells.

An earlier study has described four biphenotypic neoplasms with squamous and melanocytic differentiation involving the upper and mid-dermis, although that finding had been reported earlier. One case of the series of Pool et al. revealed a connection between the tumour and lentigo maligna in the adjacent epidermis. In addition, the immunohistochemical profile reported was similar to that described by Matsumoto et al. Pool et al. interpret their tumours as true malignant proliferations of two distinct phenotypes. No genetic analysis, such as that based on microsatellites, has been carried out in order to prove tumour cell identity in both components. Therefore, the real nature of these neoplasms cannot be certain and could include colonization by normal cells of a pre-existing neoplasm, a collision neoplasm, or a biphenotypic neoplasm.

The relationship between pigmented squamous cell carcinomas and biphenotypic squamous-melanocytic tumours must be clarified in order to achieve a better understanding of the biological aspects of those neoplasms and improve the prognostic meaning of tumour classification.

Ultraviolet-induced generalized acquired dermal melanocytosis with numerous melanophages

Sir. Acquired dermal melanocytosis (ADM) usually starts in early adult life as symmetrical grey–brown macules on the face, and is not rare in middle-aged Asian women.

A 24-year-old Japanese woman apparently developed widespread bilateral symmetrical greyish-brown macules due to repeated ultraviolet (UV) irradiation. She had regularly visited a suntan salon for 3 years (1994–96) and noted the macules on her entire body in January 1996, after the 10th UV irradiation session. Until the ninth irradiation, she had tanned normally. No inflammation or itching occurred after any session.

Examination revealed dark or greyish-brown pigmentation, symmetrically distributed on the entire body except the face, periaxillary areas, parts of the flexor aspect of the forearms, and the posterior surface of the legs, where UV exposure was limited. The radial side of the forearms had normal colour, but the ulnar side showed well delineated greyish-brown macules (Fig. 1a). She had no Mongolian spots in the gluteal region, and none of her family members have similar pigmentation.

Histological examination of the greyish-brown area on the arm and the normal area of the axilla revealed no difference in basal layer pigmentation between the pigmented and normal areas. However, there were numerous dendritic pigmented cells in the upper dermis of the pigmented areas, although we could not confirm whether they were melanocytes or macrophages.

By immunohistochemical double-staining with egg white-derived avidin and NU-c-KIT, avidin-conjugated c-KIT positive mast cells, cells positive for c-KIT alone (considered to be immature melanocytes), and numerous avidin-non-conjugated c-KIT-negative cells (considered to be melanophages or mature melanocytes) were detected in the pigmented area (Fig. 1b). In the normal area, avidin-non-conjugated c-KIT negative cells were not observed, but a few avidin-conjugated c-KIT positive mast cells and numerous non-avidin-conjugated c-KIT positive cells with and without pigment.

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