Squamous Cell Carcinoma and Multiple Familial Trichoepitheliomas: A Recurrent Association

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Cutaneous squamous cell carcinoma (cSCC) is one of the leading causes of skin cancer mortality (1). The recognition of, and stratification by, histological subtype is important in the prognostication of outcome. Follicular, or infundibulocystic, cSCC is a recently described subtype which is thought to arise from follicular cells and is estimated to account for approximately 1.3% of cSCC (2). Fewer than 90 cases have been reported, and this poorly understood form may be more common than previously thought (3). Hence the development of follicular cSCC in rare genetic conditions such as CYLD cutaneous syndrome (CCS) is informative and provides insights into tumour pathogenesis. Multiple familial trichoepitheliomas (MFT) is one of 3 phenotypes reported in CCS, and is associated with rare, germline mutations in CYLD (4). In this report we present a case of a follicular cSCC in a patient with the MFT phenotype.

CASE REPORT

A 56-year-old woman presented with an ulcerated tumour on the dorsum of her left-hand (Fig. 1a). It had been increasing in size over the preceding 4 months and was reported not to have arisen from a preexisting skin lesion. She had first presented in her teens with multiple facial papules that, after excision from her melolabial skin, were confirmed to be trichoepitheliomas. At the age of 53, a benign vulval cylindroma was excised. She had a history of significant UV exposure, having spent 4 months per year in Turkey for the past 10 years. She had two children, who both developed MFT in their teens, one of whom had been confirmed to have pathogenic mutation in CYLD (c.1112C>A). Skin examination of the patient revealed freckling and subtle poikiloderma consistent with her history of UV exposure. The tumour on the dorsum of her hand was a pink ulcerated nodule measuring 20 × 26 mm (Fig. 1A). The skin on her face had numerous, skin-coloured papules consistent with trichoepithelioma. No lesions were otherwise noted on the arms or torso. A punch biopsy of the nodule on the hand revealed features compatible with either trichofofolliculoma or adnexal basal cell carcinoma. Clinopathological correlation raised the suspicion of trichoblastic carcinoma or squamous cell carcinoma. As trichoblastic carcinoma has been reported to metastasize (5), a staging workup, including computerized tomography (CT) of the chest and abdomen was performed, and did not find evidence of systemic metastasis.

The tumour was then excised using Mohs micrographic surgery (MMS) and took 4 stages to clear, leaving a defect of 52 by 52 mm. The debulk specimen showed poorly differentiated follicular cutaneous SCC, which was 6 mm thick and had an infiltrative growth pattern (Fig. 1B). Positive Mohs stages, however, showed basaloid nests of immature palisading tumour cells in the dermis, consistent with trichofofolliculoma (Fig. 1C). BerEp4 staining was negative in the debulk and positive in the Mohs stages (Fig. 1D). There was no evidence of recurrence or distant metastasis during a 3-year follow-up period.

DISCUSSION

Follicular cSCC is a relatively uncommon subtype of cSCC that has only been recently recognised (3), and hence our finding of this tumour type on the genetic background of a germline CYLD mutation is of interest. The genetic mechanism underpinning this link is not yet clear. CYLD loss has been reported in sporadic human cSCC (6), and has been shown to increase cSCC invasion in mice. It is of interest that recently in oral squamous cell carcinoma, CYLD loss is seen as driving factor that facilitates in-
We report the novel finding of follicular cSCC in CCS, and the lack of recurrence 3 years after excision with MMS. Notably, it took 4 stages to achieve clear margins and it is likely that standard margins for excision would have resulted in incomplete excision. cSCC in CCS may have an adverse outcome, and as such, patients should be instructed to report tumours that are ulcerated, increasing in size or are visibly different to the benign tumours these patients develop for clinical and histological assessment. The morbidity associated with cSCC in these rare cases supports the use of MMS, as performed in our case.

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REFERENCES