A Case of Recurrent Eccrine Porocarcinoma with Regional Lymph Nodal Metastasis, Arising on a Bowen's Disease Patch

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Abstract Eccrine carcinomas are very rare, comprising only less than 0.005 % of all cutaneous carcinomas, as reported by Goellner et al. (Cancer 56:1147–1162, 1985). We are reporting a case of recurrent eccrine porocarcinoma (EPC) with regional lymph nodal metastasis, which arose on a Bowen's disease patch. Wide local excision of the lesion with lymph node dissection and excision of the Bowen's disease was done.

Keywords Eccrine porocarcinoma (EPC) · Bowen's disease (BD) · Bowenoid changes · Appendage tumor of eccrine differentiation

Introduction

Eccrine porocarcinoma is a rare malignancy of the eccrine sweat glands. Here, we report a case of *eccrine porocarcinoma* developing on a *Bowen's disease* patch, which is probably the first case reported in literature.

Case Report

A 69-year-old lady presented with pigmented, plaque-like lesions on her back of many years duration and an ulcerated

swelling overlying the lateral part of the lesion, below the left scapular region, of 8 months duration (Fig. 1).

The swelling measured 11.5 cm transversely and 8 cm vertically. The swelling was mobile, and there was a palpable lymph node of 2 cm size in the left axilla. Incision biopsy from the ulcerated lesion showed high-grade carcinoma of adnexal origin. Biopsy from the skin lesions showed in situ squamous cell carcinoma (Bowen's disease).

The patient gave a past history of an ulcerated lesion in the back which was resected completely 3 years back. Previous biopsy and treatment records were reviewed, which showed a high-grade carcinoma of adnexal origin, of size 8 cm × 6 cm × 1.5 cm. We did a wide excision with negative margins, left axillary lymph node dissection, and excision of the pigmented lesions on the back followed by split skin grafting. She is on follow-up. Now it is 8 months after the surgery. There is no local or systemic recurrence. She is on chemotherapy with cisplatin (80 mg/m²/day × 2 days) and 5 fluorouracil (600 mg/m² in divided doses on 2 days). Chemotherapy is started considering the risk for recurrence and metastasis.

Microscopy (Fig. 2) showed a neoplasm arising from the epidermis composed of cells arranged in lobules and nests. Cells were pleomorphic with abundant eosinophilic cytoplasm and pleomorphic vesicular nucleus. Keratinization and dyskeratotic cells were seen. Small ducts with cuticle were seen embedded in the tumor tissue. Frequent mitosis was seen. The stroma showed desmoplasia and lymphoplasmacytic infiltration. Features were suggestive of high-grade malignant appendage tumor of eccrine differentiation, possibly eccrine porocarcinoma. Immunohistochemistry (IHC) staining pattern was consistent with malignant appendage tumor of eccrine differentiation (tumor cells—diffuse positivity for CK and epithelial membrane antigen (EMA), negative for CD31 and CD 34, and ductal structures were strongly positive for EMA). Overlying skin showed in situ carcinoma. All resected margins, including deep resected margin, were free of

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Fig. 1 Ulcerated lesion with Bowen's disease patch

tumor. Three out of 13 axillary lymph nodes identified showed metastasis.

Discussion

Eccrine porocarcinoma is a rare malignancy of the eccrine sweat glands. It mostly affects men and women equally in their sixth to seventh decade [1]. Only less than 300 cases have been reported so far [1]. It may arise as a primary sweat gland tumor or result from malignant transformation of an eccrine poroma [2]. EPC presents as a plaque, ulcerated nodule, or as a polypoid verrucous lesion. There are no confirmatory histological markers for EPC. The differential diagnosis includes squamous cell carcinoma, sebaceous carcinoma, Paget's disease, and metastatic adenocarcinoma. There is a report of eccrine porocarcinoma arising at the exact site of preexisting Bowen's disease (BD) [3]. Another report details eccrine porocarcinoma and Bowen's disease arising synchronously, forming one lesion in a seborrheic keratosis nodule [4]. Some cases of EPC have been reported with bowenoid changes. Epithelial tumor marker is not a useful marker to

distinguish eccrine porocarcinoma with bowenoid changes from Bowen's disease [5].

Ideal management of eccrine porocarcinoma is controversial, as there is no consensus on treatment [3]. Most patients undergo surgical excision often with wide margin. But some of these patients go on to develop regional nodal involvement (20 %) or distant metastases (10 %) [6]. Mortality among patients with EPC with nodal metastasis is high at 67 % [3]. In their study of 69 patient cases, Robson et al. [6] found that infiltrative as opposed to a pushing histologic subtype is predictive of local recurrence after controlling for both tumor depth and mitosis [6]. They also found that, depth >7 mm, >14 mitosis per high power field, and lymphovascular invasion were predictive of death due to EPC. In a second study of 24 cases, Belin et al. [7] identified that infiltrative and pagetoid EPCs were associated with local, regional, and distant recurrences. Nodal recurrence suggests occult lymphovascular involvement and may argue for excision with wider margins and/or sentinel lymph node sampling as part of the staging workup. Currently, there are no formal criteria for sentinel lymph node biopsy in cases of EPC.

The role of adjuvant therapy for EPC is no less controversial. Adjuvant radiotherapy; single or multi-agent chemotherapy with isotretinoin, interferon alfa, methotrexate, cisplatin, bleomycin, adriamycin, paclitaxel, or tegafur; and electro chemotherapy have been reported with varying responses [1, 8].

Statement of Informed Consent Informed consent was obtained from the patient and relatives for publishing the details and photographs.

Conflict of Interest All the authors declare that they have no conflict of interest.

Fig. 2 Eccrine porocarcinoma-invasive tumor cells arranged in nests. H&E $\times 100$

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