



A Case of Eccrine Porocarcinoma Accompanying Renal Cell Carcinoma

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Abstract

In this case report, we present the coexistence of eccrine porocarcinoma (EPC) and renal cell carcinoma (RCC) in a 69-year-old male patient whose surgical resection pathology of the skin lesion in the right gluteal region was reported as EPC and concurrent radical nephrectomy pathology of the right renal mass was reported as RCC.

Keywords: Eccrine porocarcinoma, malignant eccrine poroma, poroid neoplasm, renal cell carcinoma, sweat gland tumour

Introduction

Eccrine porocarcinoma (EPC) is a rare, malignant skin adnexal tumour arising from the intraepidermal section of the eccrine sweat glands (1,2). The aetiology of EPC is still unclear; it can be a *de novo* lesion or develop from eccrine poroma (EP). Chronic immunosuppression and ultraviolet light are etiologic factors (1,2). EPC was firstly described by Pinkus and Mehregan (3) as a different entity in 1963. It is a solitary, pink-red nodule or plaque and typically seen in people aged ≥ 60 years. Its estimated incidence is below 0.3/100,000 in European countries and has comparable incidence in both genders (2). Local recurrence and tumour metastasis are major clinical features of EPC, and the tumour tissue usually metastasise to local lymph nodes (LN) or skin and less common to the breast, liver, lungs, retroperitoneum and ovaries (4). In general, both local recurrence and LN metastasis can be seen in 20% of EPC cases, and the distant metastasis rate has been reported as 10% (5,6). Coexistence of EPC with haematologic malignancies, colorectal carcinoma and squamous cell carcinoma was reported separately (7,8). However, coexistence of urological malignancies and EPC has not been reported yet.

Herein, we present the coexistence of EPC and renal cell carcinoma (RCC) in a 69-year-old male patient whose surgical resection pathology of skin lesion in the right gluteal region was reported as EPC and concurrent radical nephrectomy pathology of the right renal mass was reported as RCC.

Case Presentation

Written informed consent was obtained from patient for publication of his case and accompanying images.

A 69-year-old man presented with a swelling lesion in the right gluteal region that has been present approximately for 7 years and has grown and demonstrated ulceration for the last few months. He had no history of smoking, obesity or hypertension. A mass measuring 65×60×45 mm in the right kidney was detected by urinary system ultrasonography due to right side pain a month ago.

Dermatological examination revealed a pinkish grey oval plate of 25×25 mm in diameter, with raised skin, crusts and superficial ulcers (Figure 1). Dermoscopic examination revealed pink, yellow, white and occasionally blue-grey asymmetrical areas and hairpin-shaped, linear and spot veins (Figure 2).

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Figure 1. Appearance of the lesion: a pinkish grey oval plate with a diameter of 25 × 25 mm, with raised skin, crusts and superficial ulcers



Figure 2. Dermoscopic appearance of the lesion

Surgical resection of the lesion revealed a solid tumour with desmoplastic stroma associated with the epidermis. Tumour cells forming large and small islands were malignant cells with large, pleomorphic vesicular nuclei, prominent nucleoli and large eosinophilic cytoplasm. Ductal and squamous differentiation areas, coagulation necrosis and calcification were observed (Figure 3a and Figure 3b).

Immunohistochemical examination revealed that the cells forming the lesion were strongly positive with p63 and epithelial membrane antigen; by contrast, actin, carcinoembryonic antigen and cytokeratin (CK) 20 were negative. Ductal differentiation areas were positive for CK7 and luminal periodic acid Schiff, and squamous differentiation areas were positive for CK5. Ki-67 staining in the most intense area was 15% (Figure 3c and Figure 3d).

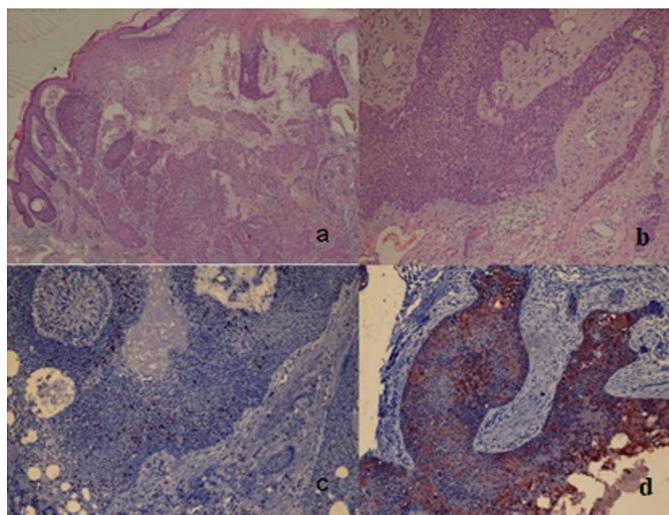


Figure 3. a. Neoplastic cells with invasion areas (hematoxylin and eosin (H&E) staining, ×50), b. Neoplastic cells with large pleomorphic and hyperchromatic nuclei and islets of invasion at the periphery (H&E, ×100), c. High Ki-67 ratio (Immunoperoxidase, ×100), d. Diffuse epithelial membrane antigen positivity (Immunoperoxidase, ×100)

The skin lesion was diagnosed as EPC according to clinical, histopathological and immunohistochemical findings.

No regional LN involvement or distant metastasis was detected in the contrast-enhanced thoraco-abdominal computed tomography, which was performed for clinical staging of the right renal mass. The patient underwent right laparoscopic radical nephrectomy, and histopathological examination of the renal mass revealed a stage 1 clear cell type RCC (pT1bN0M0). No local recurrence or distant metastasis of EPC or RCC was detected during the 2-year follow-up period.

Discussion

Coexistence of RCC, which is an important urological malignancy, and EPC, which is a rare dermatological malignancy, was found in a 69-year-old man. Although coexistence of EPC with various malignancies has been reported previously, to the best of our knowledge, no other case in the literature showed the coexistence of EPC and RCC.

Poroid neoplasms represent a spectrum of adnexal tumours arising from the intraepidermal section of the eccrine sweat glands. EP represents benign sections of these tumours, but if untreated for a long period, the risk of malignant transformation to EPC is definite (2). Well-defined risk factors for RCC include tobacco use, obesity and hypertension (9). However, these factors are not considered to increase the risk of developing an EPC. The aetiology of EPC is still unclear; it can be a de novo lesion or develop from EP. Chronic immunosuppression and ultraviolet light are aetiological factors (1,2). Bleeding, ulceration and growth are indicative of malignant transformation in an existing EP lesion (2,10). Similarly, in the present case, the lesion in the right gluteal region grew and ulcerate during the last few months. In addition, an increase in vascularity in the lesion was detected by dermoscopic examination, as shown in Figure 2.

EP is typically seen on the palms and soles, but at least 25% of the cases may occur in other areas such as the face and scalp. Although the typical clinical appearance is a pink-red, solitary nodule or plaque, pigmented variants were also described (1,11,12). EPCs are frequently seen in the lower extremity, but can also be seen in the trunk, head, scalp and upper extremity (13). In the present case, the lesion was found in the right gluteal region, unusually.

A high mitotic activity, atypical mitosis and pleomorphic nucleus are strong indicators of EPC in histopathological examination (1). Similarly, histopathological examination revealed that the tumour cells had large eosinophilic cytoplasm, pleomorphic vesicular nucleus and prominent nucleoli. Remarkably, the lesion contained squamous differentiation, coagulation necrosis and calcification areas.

Tumours accompanying EPC include haematologic malignancies, colorectal carcinoma, tricholemmal carcinoma and squamous cell carcinoma (7,8). Immunosuppression is considered the cause for the coexistence of EPC and haematologic malignancies (8). Dewan et al. (8) reported two patients who received immunosuppressive therapy for chronic lymphocytic leukaemia and red cell aplasia and polycythaemia rubra vera in two patients who died due to septicaemia and acute myeloid leukaemia, respectively (8).

Conclusion

EPC is a rare dermatological malignancy, typically seen in the older population. Although it is frequently observed in the lower extremities, it can also be seen in unusual areas such as the gluteal region. It is mostly seen as an isolated malignancy, but may accompany urological malignancies such as RCC.

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Ethics

Informed Consent: Written informed consent was obtained from patient for publication of his case and accompanying images.

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Authorship Contributions

Concept: A.T.M., G.T.D., Design: A.T.M., G.T.D., Data Collection or Processing: N.K., Ş.Y., Y.A., Analysis or Interpretation: N.K., G.T.D., Literature Search: N.K., Critical Review: H.K., A.T.M., Y.A., Writing: N.K., Ş.Y.

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