Eccrine Porocarcinoma of the Foot: A Case Report

Fernando Ramirez, DPM³, Joseph Dickinson, DPM, FACFAS², Jason D. Pollard, DPM, FACFAS²

1. Resident, Kaiser San Francisco Bay Area Foot and Ankle Residency Program, Oakland, CA
2. Attending Staff, Kaiser San Francisco Bay Area Foot and Ankle Residency Program, Oakland, CA

Case Study & Literature Review

Background

- Eccrine porocarcinoma (EP): Rare adnexal carcinoma. Involves the epidermis and infiltrates the dermis. Often involves the intradermal portion of the eccrine sweat gland and lower eccrine ducts.
- Typically grows slowly and may arise de novo or evolve from a pre-existing benign eccrine poroma.
- Treatment: Modalities include local wide excision, Mohs micrographic surgery, adjuvant chemotherapy, and radiation therapy. However there are no uniform treatment guidelines.

Purpose

To expand clinician’s armamentarium for screening, diagnosis, and treatment of EP by:
- Presenting details of a rare case with early intervention findings to a review of the literature.

The Case

77-year-old male who presented with a painful ulcerative lesion on the dorsum of the foot caused by a malignant transformation of a previous benign hydroacanthoma simplex/poroma.

- **Initial Presentation:** African American male with a past medical history of hypertension and hyperlipidemia presented to the dermatology clinic for evaluation of a painful, ulcerative lesion on the dorsum of the foot caused by a malignant transformation of a previous benign eccrine poroma/poroma (See Table).
- **Referral:** Patient was referred to Podiatry in 10/2015 for surgical excision of the lesion given pain, bleeding, and difficulty wearing shoes.
- **Diagnosis:** An evaluation of the lesion revealed a verrucous-appearing lesion measuring 3 x 4 cm with nodulous skin islands, serpinginuous borders, and fissuring with vascularity. There were no clinical signs of infection.
- **Intervention:** The patient was taken to the operating room (OR) for excision of the lesion in combination with application of a split thickness skin graft taken from the ipsilateral thigh. The lesion was excised down to subcutaneous tissue leaving a 4 x 5 cm oval shaped defect. The specimen was sent preserved in formalin to pathology, which was later diagnosed as an EP with nuclear atypia and invasive epidermal nests consistent with a transformation of a benign neoplasm.
- **Follow-up:** Interim patient follow up in the clinic have shown that the patient is free of local recurrence or metastases.

Table: Interventions

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Pathology Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/11/15</td>
<td>Shave Biopsy</td>
<td>Hydroacanthoma Simplex/Poroma</td>
</tr>
<tr>
<td>11/30/15</td>
<td>Surgical Excision (4 x 5 cm) with split thickness graft</td>
<td>Porocarcinoma, arising in Eccrine Hydroacanthoma simplex with positive margins</td>
</tr>
<tr>
<td>12/28/15</td>
<td>Surgical excision with 1 cm margins</td>
<td>Negative margins with no residual tumor identified</td>
</tr>
<tr>
<td>1/19/16</td>
<td>Split thickness skin graft</td>
<td></td>
</tr>
</tbody>
</table>

Literature Review

- **EP** is an infrequently reported malignant sweat gland tumor of unclear etiology that account for 0.005% of all epithelial cutaneous neoplasms (1). In approximately 20% of cases they arise as a result of malignant transformation from a benign eccrine poroma (2).
- **Progression to malignancy appears to take a mean of 8.5 years (3). They present insidiously and are most commonly found on the lower extremities of elderly individuals (4).**
- **Prognosis is variable depending on histopathological findings including lymphovascular invasion, depth of invasion > 7mm, mitosis > 14/10 hpf and lymph node involvement (5).**
- **A clinical diagnosis based on physical exam alone is challenging and may mimic other various kinds of skin lesions. The typical presentation of an EP is an asymptomatic, <2 cm slow growing, fungating nodule that is erythematous to violaceous in color.**
- **Definitive diagnosis requires histological and dermoscopic analysis.**
- **Wide local excision is the treatment of choice for localized lesions with varying therapeutic efficacy using adjuvant chemotherapeutic agents.**
- **Curative rates of 70% - 80% of cases have been found after wide local excision (6).** Mohs micrographic surgery has shown promising results. Xu et al reviewed 27 cases of EP treated with Mohs microsurgery with a mean follow up of 6 years and noted no local recurrence, distal metastases, or disease specific death in all cases (7).
- **The infiltrative histological subtype is strongly predictive of local recurrence compared to pushing or pagetoid subtypes (7).** Regional lymph node involvement and presence of EP are approximately 20%, however systemic spread and death are implicated in up to 10% of cases (2).
- **Local recurrence and regional lymph node involvement are reported as high as 20% with a 67% mortality linked to distal lymph node metastases (2,8).**

Discussion

- **Most of our understanding of these lesions are limited to case reports.**
- **A high clinical index of suspicion is required for timely intervention and to mitigate potential risk of distant metastasis.**
- **Diagnosis is challenging given the rarity of presentation and the morphological overlapping of clinical and histological features of other types of rare malignant sweat gland tumors.**
- **A clinical diagnosis based on physical exam alone may be difficult as this can mimic various other kinds of skin lesions.**
- **Definitive diagnosis requires histological and dermoscopic analysis.**
- **Treatment requires a multidisciplinary approach.**
- **Wide local surgical excision is the de facto standard of care with curative rates up to 80% (6).**

References

7. Ferreira J, da Silva A, Duarte N, et al. Porocarcinoma: a frequent mimic of other various kinds of skin tumors. The typical presentation of an EP is an asymptomatic, <2 cm slow growing, fungating nodule that is erythematous to violaceous in color.