Eccrine Porocarcinoma of the Foot: A Case Report

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Background

- **Eccrine porocarcinoma (EP):**
  - Rare adnexal carcinoma. Involves the epidermis and infiltrates the dermis. Often impacts the intraepidermal portion of the eccrine sweat gland and lower extremity.
  - 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 guideline.

Purpose

To expand clinician's armamentarium for screening, diagnosis, and treatment of EP by:

- Presenting details of a rare case with early intervention that required a high clinical index of suspicion and a multidisciplinary team. Clinical presentation alone was insufficient to provide a diagnosis.
- Comparing our case findings to a review of the literature.

Table: Interventions

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

Case Study & Literature Review

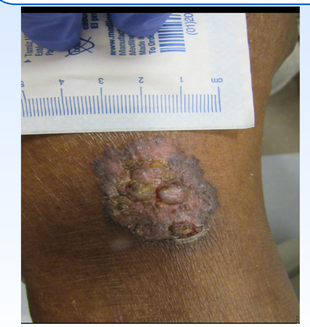
The Case

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, bleeding ulcerative lesion on the dorsum of the left foot after a remote history of a traumatic burn. A shave biopsy identified a hydroacanthoma simplex/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. An evaluation of the lesion revealed a verruca-like appearing lesion measuring 3 x 4 cm with nodulous skin islands, serpinginious borders, and fissuring with vascularity. There were no clinical signs of infection. The neurovascular evaluation was unremarkable.
- **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 identified as a EP with nuclear atypia and invasive epidermal nests consistent with a transformation of a benign neoplasm.
- **Second Intervention:** After consultation with the orthopedic oncologist, re- excision with wider 1cm margins around the lesion was recommended. The patient was taken back to the OR for successful re-excision revealing clean margins and subsequently grafted with a split thickness skin graft.
- **Follow-up:** Interim patient follow up in the clinic have shown that the patient is free of local recurrence or metastases.

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).
- The 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 tumors. 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 surgical incision 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 seen promising results. Xu et al reviewed 27 cases of EP treated with Mohs microsurgery with a mean follow up of six 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 recurrence 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).



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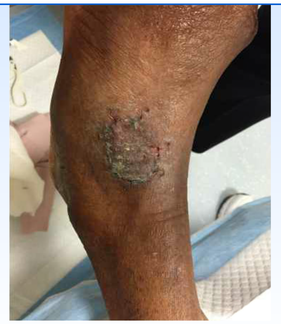

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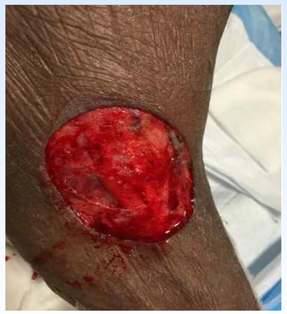

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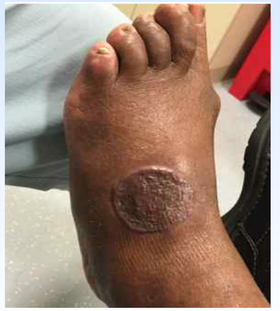

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Discussion

- 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 other various kinds of skin lesions.
- Definitive diagnosis requires histological and dermoscopic analysis.
- Treatment requires a multidisciplinary treatment.
- Wide local surgical excision is the de facto standard of care with curative rates up to 80%(6).

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