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# Malignant Hidradenocarcinoma in the Lower Extremity: A Case Report of a Rare Tumor

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ABSTRACT

Malignant hidradenocarcinomas are rare soft tissue tumors of sweat gland origin. We present the case of a soft tissue, fungating tumor of 15 years' duration of the medial ankle in an 85-year-old male that exhibited malignant features clinically and radiographically. Subsequent punch biopsy revealed a diagnosis of malignant hidradenocarcinoma. Given the risk of recurrence and the poor radiation and chemotherapy options, the patient initially decided to leave the lesion untreated. However, he soon developed lower extremity cellulitis from the exposed lesion and decided to have the tumor excised, eliminating the source of the infection. In the present case study, we discuss the etiology, clinical and radiographic characteristics, and treatment options for this rare lesion. At the 18-month follow-up visit, he had had no recurrence of the lesion.



Hidradenocarcinoma (HAC) is a rare adnexal skin tumor that arises from eccrine or apocrine sweat glands (1). It most often arises de novo but rarely can be a malignant transformation from a benign hidradenoma (HA) (2). In a study evaluating 450,000 biopsies sent to a dermatopathology laboratory over 20 years, 35 were diagnosed as HAC (<0.001%) (3). Of all malignant eccrine tumors, HACs account for 6% (4). The most common age predilection is between the fifth and seventh decades of life but every age can be affected, with a case reported of a 15-month-old patient (5,6). HAC is most often found on the head, neck, and trunk and rarely on the extremities (7). No known race or sex predilection exists.

HACs are difficult to distinguish clinically and therefore require histologic evaluation (8). They can present, clinically, with a variety of appearances but most frequently as a solitary nodule or plaque that is firm and nonmobile (9). However, they can also be ulcerated such as in our present patient. HAC is often mistaken for HA, even histologically. HACs are aggressive, with a metastatic rate as great as 60%; therefore, surgical excision with wide margins is recommended (6,10).

Given the rarity of this pathology, we present the case of an 85-year-old male with a left leg malignant HAC to expand the knowledge of this often overlooked tumor and share our surgical treatment for this patient.

## Case Report

An 85-year-old male presented to Jersey Shore University Medical Center (Neptune, NJ) with an incidental finding of a lesion of the medial ankle of 15 years' duration. The patient reported an initially small lesion that grew slowly over time. He denied an inciting, traumatic event. The patient also reported a previous biopsy of the lesion but the records of the pathology report could not be recovered. Since the time of the biopsy, the patient reported daily, sanguineous drainage from the wound. The patient denied pain and denied any difficulty with his activities of daily living. The patient had a significant medical history of diabetes mellitus and hypertension, with a 30-year history of tobacco use.

The lower extremity physical examination revealed a firm, nonmobile fungating lesion of the left medial leg just proximal to the ankle that measured $5.5 \times 6.5 \times 0.7$ cm (Figs. 1 and 2). Fissures were present throughout the wound, with a centrally depressed area that measured $0.3 \times 0.3 \times 0.5$ cm. The wound was hypervascular with

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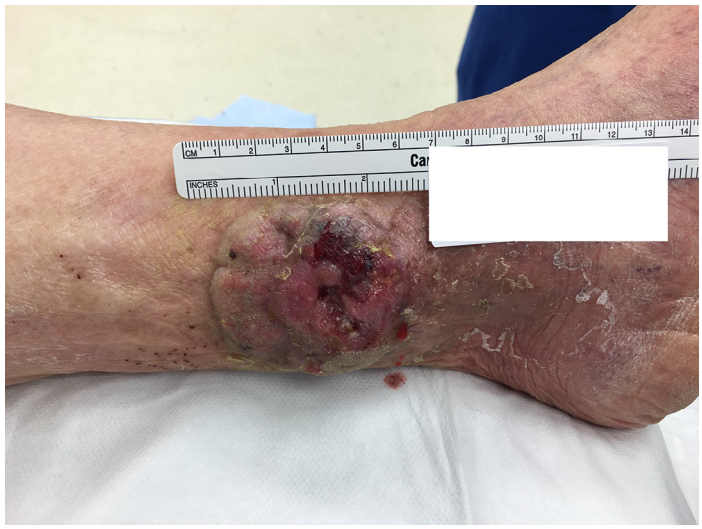

**Fig. 1.** Clinical presentation of ulcerated soft tissue lesion of the medial aspect of the left leg slightly proximal to the ankle joint. Note the centrally depressed area.

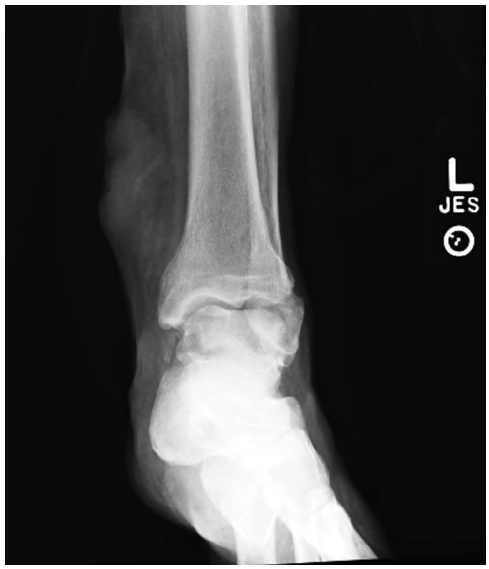


**Fig. 3.** Anteroposterior plain film radiograph of left ankle showing increase in soft tissue volume and density in the area of the mass along the medial tibia.

sanguineous drainage. Mild periwound erythema was present. The patient had palpable pedal pulses and full active range of motion of the ipsilateral ankle. Light touch and protective sensation were diminished bilaterally. No palpable adenopathy of the ipsilateral inguinal or popliteal lymph nodes was present. Plain film radiographs were obtained and showed a prominent soft tissue mass without evidence of underlying bone involvement (Fig. 3). A magnetic resonance imaging study, with and without contrast, was obtained and showed a heterogeneous mass with invasion into the flexor digitorum longus tendon and the posterior tibialis tendon and muscle, without involvement of the tibia (Fig. 4).

The patient was taken to the operating room and four 4-mm punch biopsies were obtained of the lesion. The biopsies were obtained of the lesion centrally and at the 12-, 3-, and 6-o'clock positions. The pathology laboratory at our hospital prepared the samples and reported that the samples centrally and at the 12-o'clock and 3-o'clock positions were consistent with malignant HAC with positive margins. This conclusion was based on the infiltrating borders and tumor necrosis with a moderate degree of cytologic atypia (Figs. 5 and 6). The sample at the 6-o'clock position was consistent with granular tissue and showed no evidence of malignancy.

In an effort to adequately eradicate the lesion, we approached the lesion using the expertise of both a surgical oncologist and a plastic surgeon. A recommendation was made for surgical excision with wide margins. The patient underwent wide local excision of the HAC (Fig. 7). It is recommended that 3-cm margins be obtained if possible; however, given the location of the tumor and the lack of surrounding normal

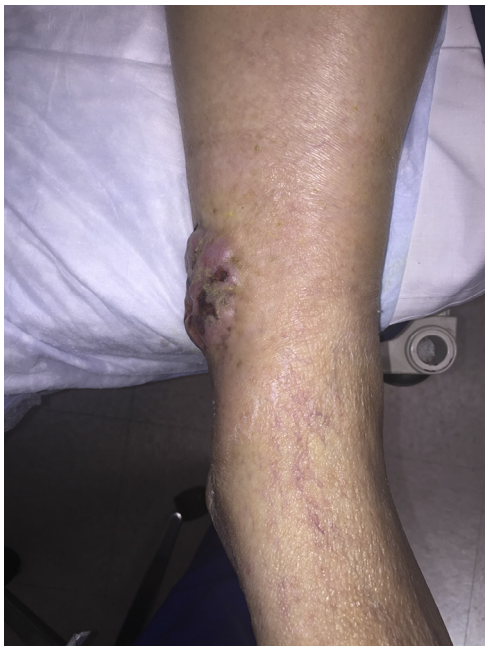

**Fig. 2.** Clinical presentation of ulcerated soft tissue lesion from an anterior to posterior view.

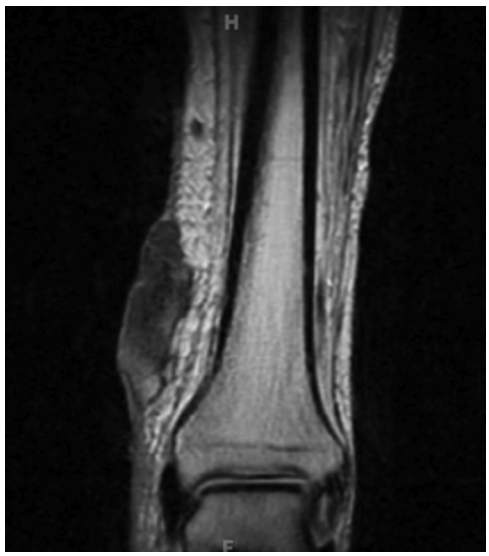


**Fig. 4.** T1-weighted coronal view magnetic resonance imaging study of the left ankle showing hypointense neoplasm with cystic components and no evidence of bone involvement.