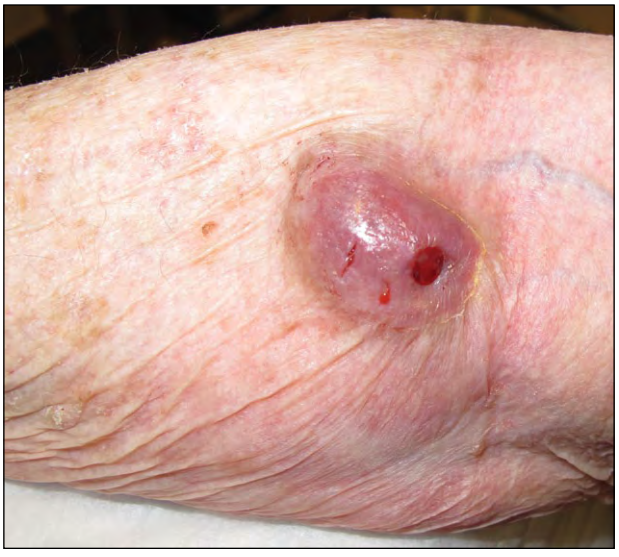
What Is Your Diagnosis?



An 88-year-old woman with Alzheimer disease and a history of numerous basal cell carcinomas presented to our clinic with a rapidly growing nodule on the right arm of 2 weeks' duration. No antecedent lesion was present at that site. The nodule was asymptomatic, and a review of systems did not reveal constitutional symptoms. Physical examination revealed a 3×2-cm, oval, dome-shaped, burgundy-colored nodule with a smooth shiny surface adjacent to the right antecubital fossa. A round, 0.5-cm, crateriform ulceration was present at the right pole of the nodule.

PLEASE TURN TO PAGE 286 FOR DISCUSSION

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The Diagnosis: Spiradenocarcinoma

Spiradenocarcinoma is an extremely rare sweat gland neoplasm.[1] This neoplasm also has been referred to as malignant eccrine spiradenoma (ES), eccrine adenocarcinoma, and sweat gland carcinoma ex eccrine spiradenoma. Although it is rare, spiradenocarcinoma has a propensity for metastasis; therefore, early diagnosis is essential for patient management.

Kersting and Helwig[2] first diagnosed ES in 1956; malignant transformation of this otherwise benign entity was not reported until 1972.[3] Clinically, ES generally presents as a tender, solitary, subcutaneous nodule that most often appears on the head, neck, or torso. Signs of malignancy include increasing pain, ulceration, and changes in size and/or color. Some investigators have postulated that spiradenocarcinoma may develop within a preexisting ES, a hypothesis that has been supported by frequent histologic findings of 2 lesions in tandem. Our case demonstrates de novo spiradenocarcinoma (Figure 1), which also has been previously reported.[1,4]

Microscopic examination of ES typically reveals 1 or more basophilic nodules within the dermis comprised of 2 cell types: dark basaloid cells and large, pale, vesicular cells accompanied by ductlike structures and scattered lymphocytes. Nuclear pleomorphism, increased mitoses, and loss of the 2 distinct cell populations may signal malignant transformation of ES. In our patient, histologic examination revealed a large, mostly well-circumscribed, symmetric dermal and subcutaneous nodule composed of basaloid epithelial cells distributed in aggregations of varying size (Figure 2). Some areas demonstrated large cystic spaces, while in other areas, smaller collections were distributed in a papillated fashion, some surrounding small, circular, ductal structures. Large areas of necrosis were visible. Marked nuclear pleomorphism and numerous atypical mitoses were observed (Figure 3).

The metastatic potential of spiradenocarcinoma is high, ranging from 40% to 57%,[5,6] with the most

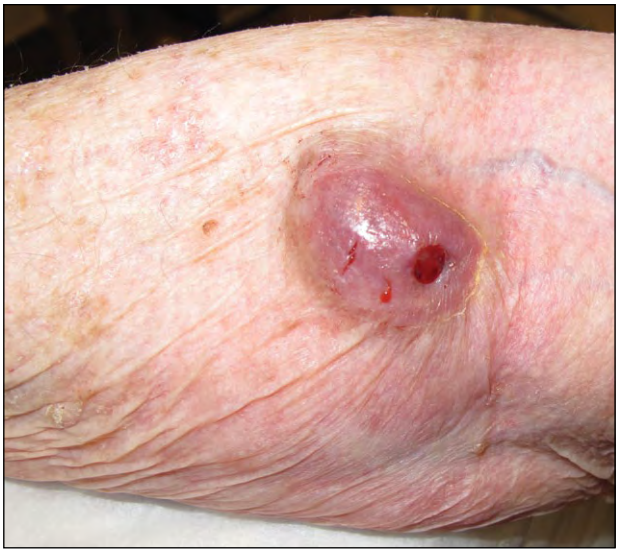

Figure 1. A 3×2-cm darkly erythematous nodule near the right antecubital fossa.

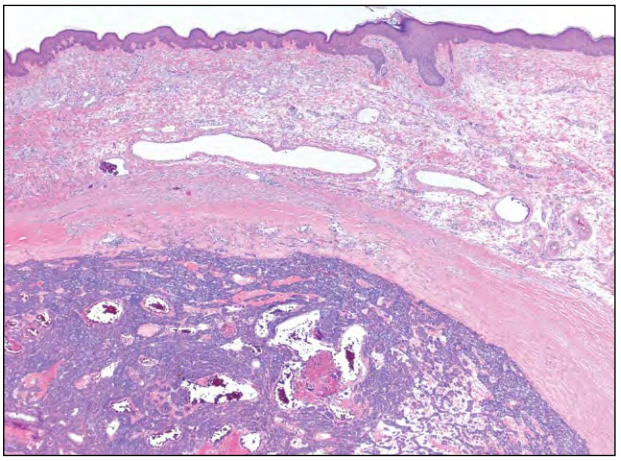

Figure 2. Well-circumscribed dermal and subcutaneous nodule composed of basaloid epithelial cells surrounding ductal structures (H&E, original magnification ×25).

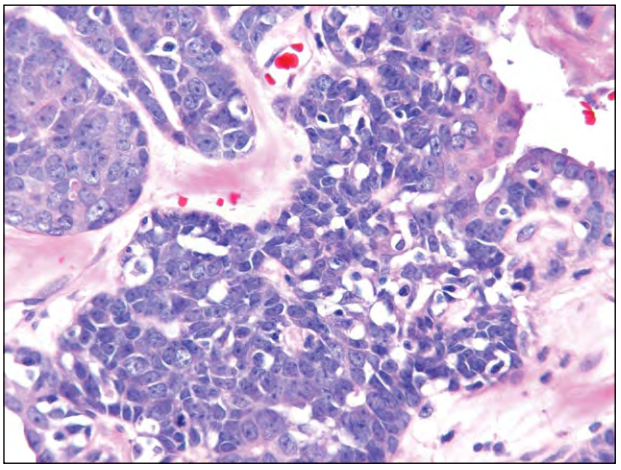

Figure 3. Collections of basaloid epithelial cells demonstrating enlarged nuclei with nuclear crowding and increased mitoses (H&E, original magnification ×400).

common sites being the regional lymph nodes, lungs, brain, and liver.[5] Estimates of mortality rate vary widely from 0% to 39%.[5,6] Because of its high morbidity, spiradenocarcinoma should be treated via surgical excision.[4] Use of Mohs micrographic surgery has been proposed as a means of visualizing subclinical tumor extension and tissue conservation.[1] Data addressing lymph node biopsy and adjuvant treatments such as chemotherapy and radiation are limited given the rarity of spiradenocarcinoma, and no set guidelines currently exist. Excision of nodules diagnosed as ES can prevent malignant transformation of this benign entity. Close postoperative follow-up including lymph node examination is essential to monitor patients for recurrence and metastasis.

REFERENCES

1. Hantash BM, Chan JL, Egbert BM, et al. De novo malignant eccrine spiradenoma: a case report and review of the literature. *Dermatol Surg*. 2006;32:1189-1198.
2. Kersting DW, Helwig EB. Eccrine spiradenoma. *AMA Arch Derm*. 1956;73:199-227.
3. Dabska M. Malignant transformation of eccrine spiradenoma. *Pol Med J*. 1972;11:388-396.
4. Yildirim S, Aköz T, Akan M, et al. De novo malignant eccrine spiradenoma with an interesting and unusual location. *Dermatol Surg*. 2001;27:417-420.
5. McCluggage WG, Fon LJ, O'Rourke D, et al. Malignant eccrine spiradenoma with carcinomatous and sarcomatous elements. *J Clin Pathol*. 1997;50:871-873.
6. Beekley AC, Brown TA, Porter C. Malignant eccrine spiradenoma: a previously unreported presentation and review of the literature. *Am Surg*. 1999;65:236-240.