

Pedunculated Tumor on the Posterior Neck

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A 56-year-old man presented with a progressively enlarging lesion on the posterior neck of 8 months' duration. He reported localized pruritus of the lesion that improved with triamcinolone cream 0.05% and oral hydroxyzine as well as occasional irritation of the mass with oozing of clear fluid and blood. He denied associated pain and constitutional symptoms. Physical examination revealed a 2.5-cm, nodular, pedunculated, rubbery mass with foci of crusting on the central posterior neck. The mass was flesh colored to pink, and no lymphadenopathy was noted on physical examination.

WHAT'S YOUR DIAGNOSIS?

- a. keloid
- b. metastatic renal cell carcinoma
- c. nodular hidradenoma
- d. nodular melanoma
- e. verruca vulgaris

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The authors report no conflict of interest.

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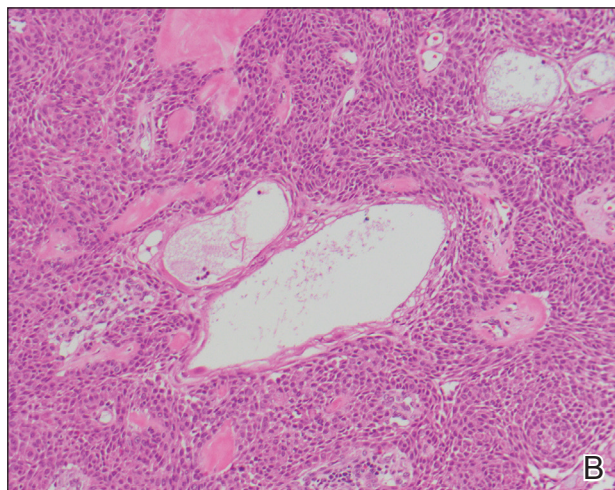
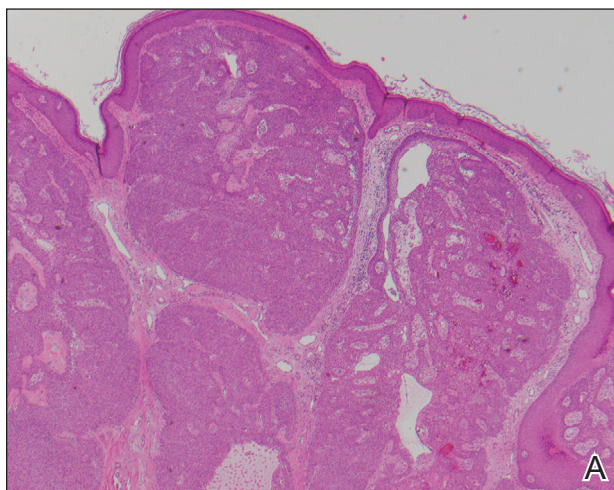
THE DIAGNOSIS: Nodular Hidradenoma

A biopsy of the nodule showed a large, fungating, well-circumscribed, multilobulated neoplasm composed of primarily monotonous eosinophilic cells in a background of keloidal stroma (Figure). There was a minority population of small, monotonous, clear cells within the lobules, and no glandular structures were noted. Neither cytological nor architectural atypia were evident. MART-1/Melan-A and S-100 stains were negative, consistent with a diagnosis of benign nodular hidradenoma.

Nodular hidradenoma (also known as acrospiroma, solid-cystic hidradenoma, clear cell hidradenoma, and eccrine sweat gland adenoma) is a benign adnexal tumor of the apocrine or eccrine glands.^{1,2} Nodular hidradenoma can arise at any cutaneous site but most commonly arises on the head and anterior portion of the trunk and rarely on the extremities.² It presents as a solitary nodular, cystic, or pedunculated mass that can reach up to several centimeters in diameter.^{2,3} Nodular hidradenoma more commonly affects women compared to men with a ratio of 1.7 to 1 and commonly presents between the third and fifth decades of life, with an average age at presentation of 37.2 years.^{2,4} There can be associated skin changes, including smoothening, thickening, ulceration, and bluish discoloration. Dermoscopy commonly shows a pinkish homogenous area that extends throughout the entire lesion. This homogenous area less commonly can be bluish, brownish, or pink-blue. Most nodular hidradenomas also can exhibit vascularization, with arborizing telangiectases, polymorphous atypical vessels, and linear irregular vessels being most common; however, this is not specific

to nodular hidradenoma.³ Occasionally, tumors can drain serous or hemorrhagic fluid. Nodular hidradenoma commonly is a slow-growing tumor.⁵ Rapid increase in tumor size can be indicative of malignant transformation, hemorrhage into the tumor, or trauma to the area.²

Histologically, nodular hidradenoma consists of a circumscribed, nonencapsulated, multilobular tumor commonly found in the dermis and sometimes extending into the subcutaneous tissue. There usually is no epidermal attachment, and the overlying epidermis largely is normal. The tumor consists of large multilobulated areas of epithelial cells, tubular lamina, and large cystic areas filled with homogenous eosinophilic material.¹ It notably is composed of 2 epithelial cell types: (1) fusiform cells with elongated vesicular nuclei and basophilic cytoplasm, and (2) large polygonal cells with round eccentric nuclei and eosinophilic, periodic acid-Schiff-positive cytoplasm that washes away during fixation, giving the appearance of clear cells.⁵ Both types of cells are small, monotonous, and void of mitosis or dyskeratosis. Although there can be ducts with apocrine secretion present within the lobulated tumor, they are not consistently found. Due to the varying features that are neither mandatory nor consistent to arrive at this diagnosis, some dermatopathologists view the term *hidradenoma* as a catch-all term that includes several different types of benign sweat gland tumors. Some authors divide the terminology into *apocrine hidradenoma* and *eccrine hidradenoma* based on whether the tumor is composed of solely clear mucinous cells, or poroid and cuticular cells, respectively.



Nodular hidradenoma. A, A large, multilobulated, well-circumscribed tumor without a true capsule (H&E, original magnification $\times 4$). B, Keloidal stromal collagen and bland eosinophilic cells (H&E, original magnification $\times 20$).

Although nodular hidradenoma classically is a benign tumor, total surgical excision is recommended due to the rare risk for malignant transformation. Rarely, long-standing hidradenomas can metastasize to lymph nodes, bone, or viscera; in these instances, metastatic hidradenoma has a 5-year survival rate of 30%. Recurrence may occur in tumors that are inadequately excised, and the rate of recurrence is estimated to be approximately 10% of surgically excised tumors.⁵ However, utilization of Mohs micrographic surgery for excision of nodular hidradenoma is associated with a reduced recurrence rate.⁶

Keloids present as painful, sometimes pruritic, raised scars that extend beyond the boundary of the initial injury, commonly arising on the shoulder, upper arm, and chest. Histopathology reveals nodules of thick hyalinized collagen bundles, keloidal collagen with mucinous ground substance, and few fibroblasts.⁷

Metastatic renal cell carcinoma to the skin most commonly presents on the face and scalp as a nodular, rapidly growing, round to oval lesion that is flesh colored to reddish purple in a patient with history of renal cell carcinoma.⁸ Histopathology shows clusters of atypical, nucleated clear cells surrounded by chicken wire vasculature.^{8,9}

Verruca vulgaris is caused by human papillomavirus and most commonly occurs on the hands and feet. It presents as a pink to white, sessile lesion with a verrucous surface and exophytic growths. Histopathology shows acanthosis; hypergranulosis; exophytic projections with a fibrovascular core; inward cupping of the rete ridges; and koilocytes, which are cells with an eccentric, raisinlike nucleus and vacuolated cytoplasm in the granular layer of the epidermis.¹⁰

Similar to nodular hidradenoma, nodular melanoma most commonly presents on the head and neck as a symmetric, elevated, amelanotic nodule, but in contrast to nodular hidradenoma, it typically is confined to a smaller

diameter.¹¹ Histologically, it is characterized by sheets of atypical, commonly epithelioid melanocytes with a lack of maturation and brisk mitotic activity extending through the epidermis and dermis with lateral extension limited to less than 3 rete ridges.¹²

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