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Photo vignette

A chronic, bleeding, and painful nodule on the chest

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Abstract

An 81-year-old man presented to the dermatology clinic with a painful lesion on his chest. The nodule would occasionally bleed and leak serous fluid for 10 years. Physical examination revealed an unspecified nodule with two superimposed nodules. A deep shave biopsy of the lesion was obtained and expressed a solid-cystic dermal neoplasm that was comprised of an admixture of cell types. Through the presenting clinical and histological features seen, a final diagnosis of nodular hidradenoma was made.

Key words: Hidradenoma-nodular hidradenoma-eccrine acrospiroma-solid-cystic hidradenoma-clear cell hidradenoma-clear cell acrospiroma-chest

Introduction

Nodular hidradenoma should be considered in the differential diagnosis of a solitary nodule in almost any location on the body. Histopathology shows a solid-cystic dermal neoplasm comprised of lobules of epithelial cells separated by fibrovascular connective tissue septa. This case provides a classic clinical image, but has a wide differential diagnosis from clinical image alone, so it is of great importance to reach a correct diagnosis through histopathologic examination.

Case synopsis

An 81-year-old man presented to the dermatology clinic with a 10-year history of a non-pruritic, bleeding, and painful lesion occasionally leaking serous fluid on his right chest. On physical examination, the patient had a 1 cm hyperpigmented violaceous shiny nodule on the right chest with two superimposed serous nodules (Figure 1).



Figure 1. A 1-cm hyperpigmented violaceous shiny nodule with two superimposed serous nodules on the right chest.

Histopathologic examination of a deep shave biopsy from the right chest revealed a solid-cystic dermal neoplasm comprised of lobules of epithelial cells separated by fibrovascular connective tissue septa. The stroma within the tumor lobules was densely eosinophilic and hyalinized. The lobule contained an admixture of cell types, including polyhedral eosinophilic, clear, and mucous cells. Mucous cells formed small glands containing basophilic granular secretions. Some lobules contained cystic spaces with eosinophilic secretions (Figure 2A, B). A diagnosis of nodular hidradenoma was made based on these characteristic histologic features.

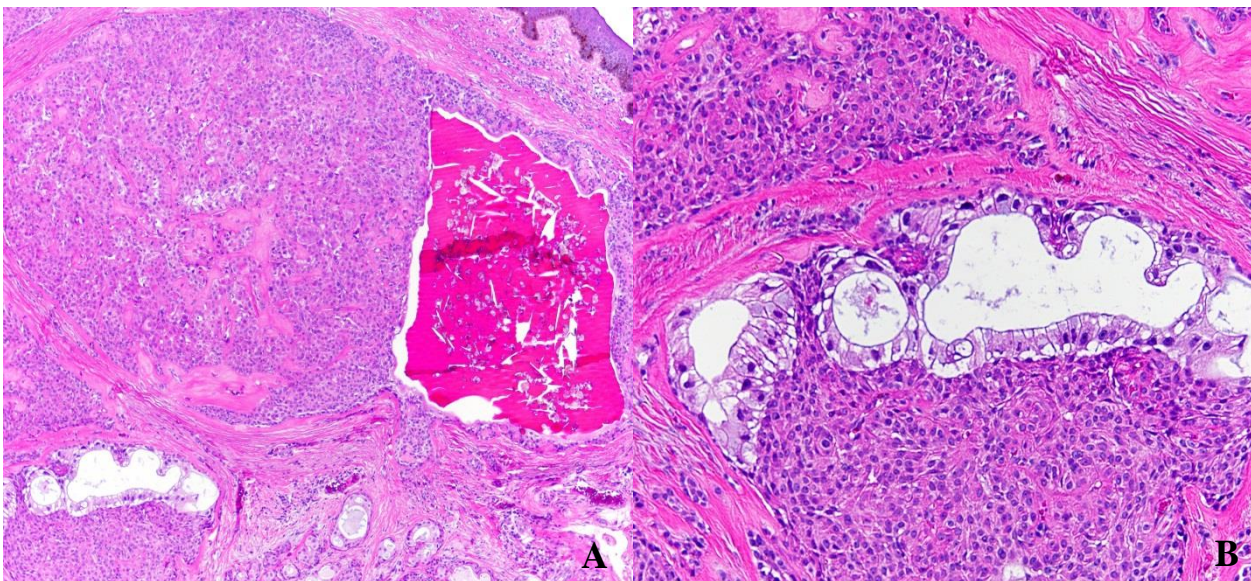


Figure 2. (A) A solid-cystic dermal neoplasm and (B) comprised of lobules of epithelial cells separated by fibrovascular connective tissue septa and an eosinophilic and hyalinized stroma within the tumor lobules. (H&E; original magnification [A] x 200, [B] x 400)

Discussion

Hidradenoma is a rare benign tumor of eccrine origin though evidence of apocrine differentiation is frequently seen [1,2]. Hidradenomas normally present in adulthood and occur more in females with a male-to-female ratio of 1:1.7 [1]. The incidence of hidradenoma is difficult to evaluate due to the vast array of different names given in reported cases. It is classified into sub-types known as nodular hidradenoma, eccrine acrospiroma, solid-cystic hidradenoma, clear cell hidradenoma, and clear cell acrospiroma. Additionally, hidradenoma falls under the more general classification of poroid neoplasms [3]. Nodular hidradenomas commonly present as an isolated, flesh-colored nodule, can have a pedunculated or cystic appearance, and tend to grow slowly [1]. These tumors have the ability to present as a blue, red, or brown pigmented lesion and may ulcerate. Nodular hidradenomas can occur anywhere on the body including the scalp, face, axilla, arms, thighs, and pubic area. However, the head is the most common location [4].

Clinical differential diagnosis includes basal cell carcinoma, squamous cell carcinoma, amelanotic melanoma, metastatic tumors, fibroma, dermatofibroma, dermatofibrosarcoma protuberans, pyogenic granuloma, hemangioma, and other cutaneous adnexal tumors. Histopathologically, nodular hidradenomas consists of a dermal circumscribed nodule encased by a collagenous pseudocapsule that may penetrate into the deeper subcutaneous tissue [1]. Furthermore, a mixed solid and cystic tumor restricted to the dermis is seen [5]. Typically, there are multiple lobules of polyhedral epithelial cells that have a basophilic cytoplasm and may contain cystic spaces with eosinophilic debris, as seen in the presenting case [1].

The histopathologic differential diagnosis for hidradenoma includes, but is not limited to, glomus tumor, papillary digital carcinoma, malignant eccrine acrospiroma, eccrine poroma, eccrine spiradenoma, as well as other basaloid or clear cell neoplasms. Immunohistochemistry helps differentiate a glomus tumor from a hidradenoma since vimentin is normally only positive in a glomus tumor and cytokeratin CAM 5.2, cytokeratin A, E1, E3, and epithelial membrane antigen are all usually positive in hidradenoma [1,5]. A basic distinction with papillary digital carcinoma is its common solid papillary projection and lack of atypia on histology, and acral distribution which is rare for hidradenoma. Eccrine poromas tend to occur on the sole of the foot as a common location, and usually do not express cytokeratin 7 [6]. Eccrine spiradenomas have been shown to lack phosphorylase and hydrolytic enzyme activity, which are normally found in hidradenomas [7].

Treatment of nodular hidradenomas, if desired, is usually conservative excision; however, they tend to have a local recurrence rate of roughly 10% [8]. The rate of malignant development into hidradenocarcinoma is difficult to assess given the diverse nomenclature used in current literature and most malignant hidradenocarcinomas arise de novo. Hidradenocarcinoma has a recurrence rate up to 50% and frequently metastasizes to bone, visceral organs, and lymph nodes in up to 60% of reported cases [9].

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