

Case Report

An Unusual Case of Nodular Hidradenoma of Breast

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Abstract

Background: Nodular hidradenoma or clear cell hidradenoma is a rare adnexal tumor arising from the eccrine glands.

Case Report: A 60-year old female presented to the surgical out-patient clinic with complaints of breast lump of one year duration. Fine needle aspirate (FNA) of the lump yielded fluidly aspirate mixed with hemorrhage. On Giemsa-stained smears, a possibility of benign cystic lesion was considered. A provisional diagnosis of nodular hidradenoma was made. Additional sections were taken to rule out another component which revealed no other cell type. Periodic Acid Schiff's (PAS) stain showed diastase sensitive positivity in the cytoplasm of tumor cells. The tumor cells were negative for estrogen and progesterone receptor but were positive for smooth muscle antigen, confirming the final diagnosis of nodular hidradenoma.

Conclusion: To conclude, awareness amongst both the clinicians and pathologists for the possibility of diagnosing NH is mandatory and it should always be kept as differential diagnoses in the tumors of nipple and subareolar region to avoid unwarranted mastectomy and lymph node dissection.

Key words: Nodular hidradenoma, adnexal tumor, Differential diagnosis

Introduction

Nodular hidradenoma or clear cell hidradenoma is a rare adnexal tumor arising from the eccrine glands. It is even rarer amongst the skin adnexal tumors known to arise from the breast. As it is presumed to arise from the mammary ducts, it should be included in differential diagnoses of benign breast neoplasms, especially cystic tumors. Failure to identify its morphologic features may lead to a mistaken diagnosis and over treatment. We report an unsuspected case of a breast lump in a 60-year female diagnosed as Nodular Hidradenoma (NH).

Case Report

A 60-year old female presented to the surgical out patient clinic with complaints of breast lump of one year duration. The lump was gradually increasing in size, not associated with pain, trauma, retraction, weight loss or axillary mass. On examination a fluctuant, non tender well circumscribed mass was palpated in the upper outer quadrant of the right breast measuring 5.5×4×3.2cm. Fine Needle Aspirate (FNA) of the lump yielded fluidly aspirate mixed with hemorrhage. On Giemsa stained smears a possibility of benign

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cystic lesion was kept. Since there was a high degree of suspicion considering the age of the patient, size of the mass and hemorrhagic aspirate, a lumpectomy was done to rule out malignancy. Grossly the specimen was a single skin covered well encapsulated globular mass measuring 4.5×4×3.7cm. Cut sections revealed solid and cystic areas, the cysts ranging from 0.1 cm to 1cm in size and containing thin pale white to hemorrhagic fluid. The solid areas were firm yellow white.

Formalin fixed paraffin embedded routine hematoxylin and Eosin sections revealed lobules of tumor tissue separated by thin vascular connective tissue stroma with slit-like spaces extending up to the subcutaneous tissue (Figure 1). The tumor cells were predominantly of two types, most were large clear round cells with small eccentric nuclei and glycogen laden cytoplasm, and the other type of cells had a finely granular faintly eosinophilic cytoplasm with a round to oval nucleus. No pleomorphism, mitosis or necrosis was observed. (Figure 2a) A provisional diagnosis of nodular hidradenoma was made. Additional sections were taken to rule out another component which revealed no other cell type. Periodic Acid Schiff's (PAS) stain showed diastase sensitive positivity in the cytoplasm of tumor cells. The tumor cells were negative for Estrogen and Progesterone Receptor but were positive for Smooth Muscle Antigen confirming the final diagnosis of nodular hidradenoma (Figure 2).

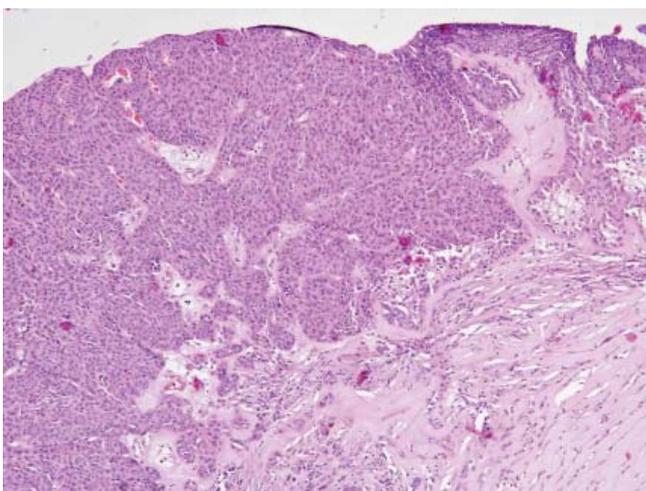


Figure 1. Low power view showing lobules of tumor cells separated by thin vascular connective tissue stroma with slit-like spaces reaching the subcutaneous tissue (H&E×100)

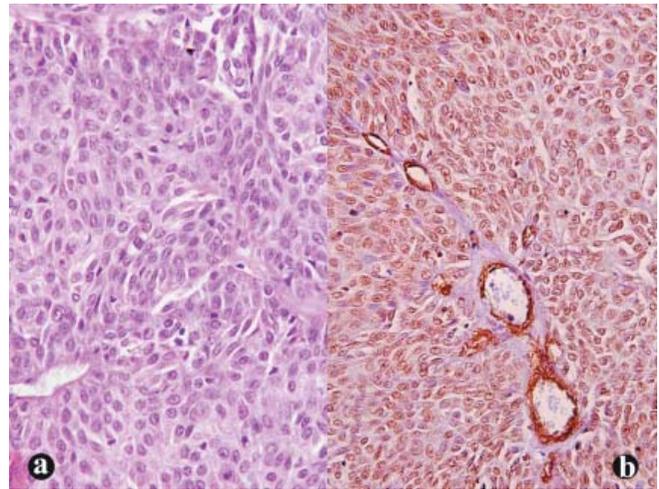


Figure 2. a-Round cells with small eccentric nuclei and clear cytoplasm along with cells having finely granular, faintly eosinophilic cytoplasm with round to oval nucleus. No pleomorphism or mitosis (H&E×400). b-Tumor cells positive for Smooth Muscle Antigen along with internal control.(LSAB ×400)

Discussion

Nodular Hidradenoma (NH) is also known as clear cell hidradenoma, solid-cystic hidradenoma or eccrine acrospiroma. (1) It occurs as a slowly growing nodular, solid or cystic, protruding cutaneous mass. Some tumors discharge serous material, others might ulcerate. These lesion have been reported anywhere on the body like axillae, face, arms, thighs, trunk, scalp and pubic region. Most commonly they are seen in the age group of 20 to 50 years. (2)

Only nine cases of Nodular Hidradenoma of the breast have been reported in English literature so far. (3, 4, 5) They may present as a subareolar breast lump of long standing duration, with nipple discharge or rarely with ulceration of the overlying skin.(5) Cystic lesions have been reported.(3) Morphologically they are identical with their counterpart occurring in the skin.(3,4,5). Other benign skin adnexal tumors known to arise from the breast include eccrine spiradenoma, syringomatous squamous tumor, papillary syringocystadenoma and cylindroma. Conservative treatment in the form of complete surgical excision is the treatment of choice for such neoplasms. (5)

Histological picture of NH is typical as had been observed in the present case, characterized by two cells types with a zone of transition between eosinophilic cells and clear cells along with slit like spaces lined by low cuboidal. In some cases, groups of keratinizing epithelial cells or epithelial pearls have

been reported.(1,2) Characteristic architecture along with cytological features of the cells in the absence of any significant mitosis point towards the benign adnexal nature of the tumor. PAS positive diastase resistant material is typically seen in the clear cells. (3) Immunohistochemical staining should characteristically be negative for ER and PR, co expression of S-100 and Smooth Muscle Actin (SMA) has been reported in nodular hidradenoma. (6) Our case was PAS positive and had expression of SMA but was only weakly positive for S100. Gross Cystic Disease Fluid (GCDF) would be a very useful marker to exclude breast epithelial tumor, but was not done due to unavailability at the time of diagnosis of this case.

Rarely a malignant form of CCH can exists in which case possibilities of metastases of renal cell carcinoma and clear cell variety of infiltrating duct carcinoma or squamous cell carcinoma should be ruled out by careful morphologic evaluation and immunohistochemistry.(7)

To conclude, awareness amongst both the clinician and pathologist for the possibility of diagnosing NH is mandatory and it should always be kept as differential diagnoses in the tumors of nipple and subareolar region

to avoid unwarranted mastectomy and lymph node dissection.

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