

Case Report

An asymptomatic sessile nodule on the scalp: nodular hidradenoma

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Abstract Hidradenoma is a relatively rare tumor of sweat gland origin. The tumors are firm dermal nodules, 5-30 mm in size, and may be attached to the overlying epidermis, which can be either thickened or ulcerated. Growth of the tumor is slow with high incidence of local recurrences after excision. A 25-year-old man presented with an asymptomatic solitary nodule on the scalp. Cutaneous examination revealed single, sessile, skin-coloured, non-tender, firm nodule on the occipital region of the scalp. No regional lymphadenopathy noted. Histopathology showed tumor located in the dermis consisting of lobules separated by fibrovascular septae. Within the lobules, tubular lumina of various sizes, cystic spaces and many proliferating blood vessels are noted. Individual tumor cells are round to polygonal with eosinophilic to clear cytoplasm. On the basis of clinical and histopathological findings, diagnosis of nodular hidradenoma (NH) was made. Nodular hidradenoma is a benign, rare adnexal neoplasm. It usually presents between the fourth and the eighth decade of life, with a peak incidence in the sixth decade. NH is well-circumscribed and is sometimes encapsulated. Malignant transformation is very rare. Surgical removal with wide margins is the treatment of choice. Present case is being reported because of its rarity in this region of scalp and sex at young age.

Key words

Appendageal tumor, nodular hidradenoma, eccrine, lobules.

Introduction

Hidradenoma is a relatively rare tumor of appendageal origin. It is clinically characterized by slow-growing dermal nodule and histologically by the well-circumscribed dermal epithelial lobules composed of polygonal clear cells and small darker cells.¹ We, hereby, describe a case of nodular hidradenoma affecting the unusual region of the scalp in a male patient at young age.

Case Report

A case of 25-year-old man presented with a

solitary nodule on the scalp. It had begun as an asymptomatic papule one year ago; gradually progressed to reach the present size of 1cm diametric nodule. Occasional history of serous discharge from the nodule was noted since three months. On examination, single, sessile, skin-coloured, non-tender, firm nodule was seen on the occipital region of scalp (**Figure 1**). The surface of the nodule was lobulated with a few crusted erosions. His general physical and systemic examination was normal. There was no regional lymphadenopathy.

Excisional biopsy was done and sent for histopathological examination. Light microscopic examination revealed well-circumscribed tumor in the dermis showing connection to epidermis focally. Tumor tissue was arranged in lobules separated by fibrovascular septa. Within the lobules, tubular lumina of various sizes, cystic spaces and many

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Figure 1 Solitary, sessile, skin-coloured, firm nodule on occipital region of the scalp.

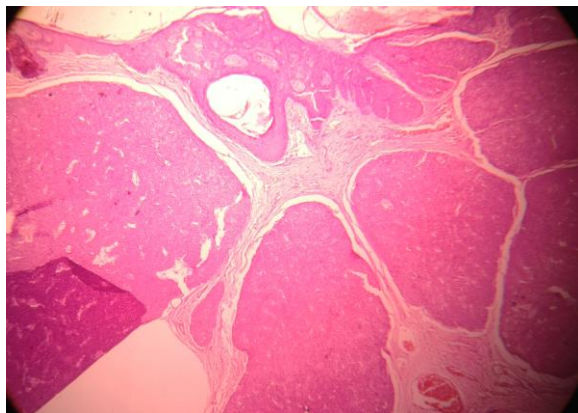


Figure 2 Tumor tissue arranged in lobules separated by fibrovascular septae and a few cystic spaces (H & E, 10x).

proliferating blood vessels were noted (**Figure 2**). Individual tumor cells were round to polygonal with round to oval nuclei, fine chromatin, inconspicuous nucleoli and abundant eosinophilic to clear cytoplasm (**Figure 3**). Mucinous material noted in few cystic spaces.

Discussion

Hidradenoma is a rare benign adnexal neoplasm that differentiates towards eccrine and apocrine apparatus.¹ It is also known as nodular hidradenoma, nodulocystic hidradenoma and acrospiroma. It can occur at all ages with female preponderance. There is no site predilection.² It

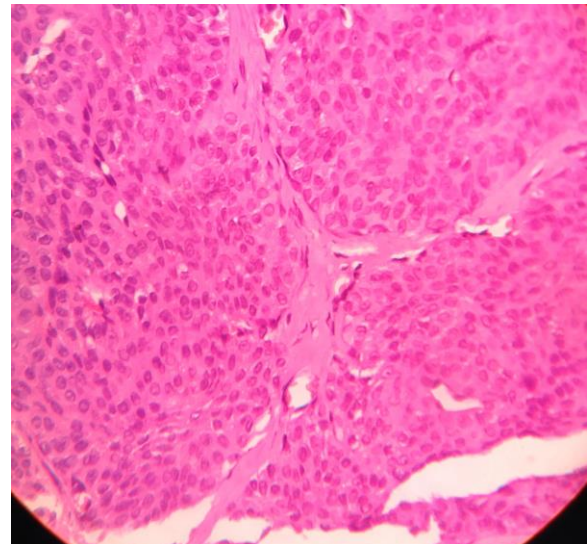


Figure 3 Tumor is composed of polyhedral cells and dark smaller cells with eosinophilic to clear cytoplasm (H & E, 40x).

is subdivided into two types: apocrine (clear cell hidradenoma) and eccrine (poroid) differentiation.³ Clear cell hidradenoma is the most common type. Clinically it presents as a slow growing, asymptomatic, solitary, freely mobile and firm dermal nodule. The lesions may be flesh-colored, red, blue or brown in colour. Hidradenoma may be solid or cystic in varying proportions. It usually presents between the fourth and the eighth decade of life, with a peak incidence in the sixth decade. Women are more often affected than men.³ Though the lesions can occur on any anatomical site they are most likely to be found on the scalp, face, anterior trunk and proximal limbs. Uncommonly they are pedunculated or ulcerated.⁴ Local recurrences are common but malignant transformation is very rare.²

Histopathologically, it is characterized by well-circumscribed, encapsulated nodular, solid, or solid-cystic lesion in the dermis. It may be connected to the epidermis and the dermal epithelial lobules may extend into the subcutaneous fat. It is composed of two cell types - polygonal cells, whose glycogen content (periodic acid-Schiff-positive, diastase-resistant

material, but no lipid) may give the cytoplasm a clear appearance; and elongated, darker and smaller cells, which may occur at the periphery. Occasionally there may be foci of squamoid differentiation with horn pearls, representing intraepidermal ductal cells. There are variable proportions of each cell type in different tumors, but clear cells predominate in less than one-third.² Tubular lumina of varying sizes are often present within the lobulated masses. Cuboidal or columnar cells are seen lining duct-like spaces and clefts.⁴

Other cellular variants include oncocytic, epidermoid and pigmented variants with melanocytes and melanin pigment in the cells and macrophages.² Histologic features of poor circumscription, large size, solid sheet-like growth pattern, necrosis, and vascular and lymphatic invasion, pleomorphism, and high mitotic rate are suggestive of malignant nodular hidradenoma or hidradenocarcinoma.

Cytological features of nodular hidradenoma are a variable admixture of two types of cells: eosinophilic/ polygonal and clear cells. Mild hyperchromasia, anisonucleosis and overlapping of nuclei with small distinct nucleoli are seen in clear cells, which form medium-sized small clusters. Rounded rosette-like formations and duct-like tubular structures are other features with extracellular hyaline material and amorphous material.⁵

Dermoscopic features include whitish, red and purple areas unlike those of hemangiomas with linear and hairpin like vessels at the periphery.⁶

Differential diagnosis includes hemangioma, glomus tumor, cutaneous lymphoma, dermatofibrosarcoma protuberans, leiomyoma, follicular cyst, trichilemmoma and metastatic renal cell carcinoma, squamous cell carcinoma or signet-ring adenocarcinoma.^{1,7} Clinical

differentiation is difficult; but characteristic histological features of nodular hidradenoma help in differentiating it from the above conditions.

Presence of small, slit-like vascular lumina and plump endothelial cells help in differentiating it from hemangioma and presence of laminated keratin with degenerated hair shafts from the follicular cyst.⁸ Trichilemmoma shows peripheral palisading of tumor (clear) cells with the absence of cystic spaces and tubular structures.⁹

Surgical removal with wide margins is recommended for this tumor as there is a high rate of local recurrence and silent malignant transformation.¹⁰ So, follow-up of the patients is essential.

This case is being reported for its unusual region of scalp involvement in a male patient at young age.

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