Case report **Pathology**

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CYTOLOGICAL DIAGNOSIS OF NODULAR HIDRADENOMA-A CASE REPORT

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ABSTRACT

Nodular hidradenoma is a benign adnexal tumor. Its origin is either from eccrine or apocrine structures. Fine needle aspiration cytology (FNAC) of skin lesions is not widely practiced and there is a lack of adequate cytological diagnostic criteria for various skin lesions.Cytomorphological features of nodular hidradenoma are rarely reported in the literature. Most of the cases are misinterpreted on cytology or sometimes remain inconclusive. Skin adnexal tumours are not routinely subjected for FNAC. Hence an awareness of cytological features of these lesions is important to prevent misdiagnosis and over treatment. We present here a case of nodular hidradenoma diagnosed on cytology in a 37 year old female.

KEY WORDS: Fine needle aspiration cytology, Nodular hidradenoma, Skin adnexal tumour.

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INTRODUCTION

Hidradenomas are benign sweat gland neoplasms first described by Meyer in the beginning of the 20th century.[1] They are sporadic with a slight female preponderance. Most develop in adults usually between fourth and the seventh decade, but childhood onset has also been documented.[2] Nodular hidradenomas (NH) have a number of designations in the literature, including clear cell hidradenoma and eccrine acrospiroma.[3] They can occur anywhere in the body but are more common on the trunk, head, and extremities. They manifest as solitary, flesh coloured or red to blue, solid or cystic nodules. Size varies between 1 to 2 cm in diameter, but larger lesions also been reported.[3] Typically, there is a history of slow, progressive growth. Pain may be elicited with pressure. Usually it is covered by intact skin, but sometimes can undergo ulceration with a serous discharge.[4] This feature raises the possibility of malignancy.[4] Fine needle aspiration cytology (FNAC) of skin lesions is not widely practiced and there is a lack of adequate cytological diagnostic criteria for various skin lesions.[4] Cytomorphological features of this entity are rarely reported in the literature. Most of the cases are misinterpreted on cytology or sometimes remain inconclusive.[4,5]The purpose of this article is to describe cytomorphological features of our case of a hidradenoma.

CASE REPORT

A 37 year-old female patient presented with a progressively enlarging nodule in the midline of neck for the past one year. There was no preceding history of trauma involving the area. Physical examination revealed a 1.0 ×1.0 cm, well-circumscribed nodule upon a large base (Fig-1).The lesion was non-tender, firm, rubbery and freely mobile. There was no regional lymphadenopathy. The woman was otherwise in good health. Prior to fine needle aspiration (FNAC), detailed history was taken and physical examination of the lesion was done to assess the size,shape,tenderness,mobility,signs of inflammation and malignancy. Fine needle aspiration was performed with 10ml syringe and 24 gauge needle to obtain cellular aspirates. Multiple smears were prepared on glass slides and fixed as necessary. Wet fixed smears were subjected for hematoxylin – eosin (H and E) and pap stain , where as air dried smears were stained with May-Grunwald–Giemsa (MGG) stain.

On cytology

FNAC smears were highly cellular showing tight clusters of mixture of small round cells with clear cytoplasm and polygonal cells with basophilic cytoplasm(Fig-2,3). Based on these findings cytological diagnosis of nodular hidradenoma was made which was confirmed on histopathology(Fig-4,5,6).

DISCUSSION

Nodular hidradenoma are benign epithelial neoplasms and they proliferate either from eccrine duct or glandular tissue and can have both lymphocytic infiltration or hyalinization of the stroma.[6] These eccrine tumours have clinicopathological resemblance to other lesions like basal cell carcinoma, cutaneous leiomyoma, neurofibroma, malignant melanoma, and subcutaneous metastasis from an internal malignancy.[4] Nodular hidradenomas commonly arise in head, neck, trunk and proximal extremities.They are covered by intact skin or have ulcerative look.[2,3,4,5]They may be solid /cystic /clear cell type and have rare incidence of neoplastic transformation and metastasis. Complete surgical excision is the mode of treatment. Cytology is helpful in diagnosing these tumors and proves to be rapid and less painful method of diagnosing the tumor before surgical resection.[2,4] FNAC is a simple, safe and cost effective method for the diagnosis of NH.[2,3] Smears are usually cellular composed of two types of cells in varying proportion.One type of cells are polygonal with eosinophilic cytoplasm and others have clear cytoplasm. Eosinophilic cells are arranged in large cohesive clusters and three-dimensional papillary-like pattern. Individual cells have round to oval nuclei, small nucleoli and moderate eosinophilic cytoplasm. Sometimes these cells can have the basaloid appearance with scant cytoplasm or appear squamoid.[2,3,5,6] Clear cells form medium-sized, flat clusters.Sometimes arrangement can be in

the form of rounded rosettes and duct-like tubules. Clear cells have round nuclei which is eccentrically placed, fine granular chromatin, small nucleoli and abundant clear cytoplasm. Nuclei can also show features of mild hyperchromasia, atypia and overlapping. Small distinct nucleoli are also seen in a few cells.[2,3,5] The background shows extracellular hyalinised and amorphous stroma. Also histiocytes, fibrocytes, pigment laden macrophages, foam cells and naked nuclei may be seen in the background.[2,3,5,6] In the present case FNAC showed tight clusters of small round to oval cells with clear cytoplasm admixed with polygonal cells having basophilic cytoplasm. Nuclear chromatin of these cells was fine and uniformly distributed and background was haemorrhagic. FNAC can be used as complement to histopathology. Nodular hidradenoma appears as a well-circumscribed but unencapsulated dermal tumour on histopathology. Between the tumour and epidermis,a grenz zone is present.[7] It is solid-cystic and mucinous material or homogeneous eosinophilic material can be seen in cystic areas. Sometimes it may be encapsulated, as in our case(Fig-4). Solid areas are composed of both polygonal cells with eosinophilic cytoplasm and clear cells. Marked nuclear atypia, hyperchromasia and frequent mitosis or atypical mitoses are absent.[4] Several types of cells can be present in variants of nodular hidradenoma.[4] The most common variant being the clear cell type having pale cells with distinct cell borders. Glycogen is present in clear cells which is diastase-resistant and show positivity for periodic acid-Schiff. Prominent ductal differentiation with compactly arranged poroid cells are seen in poroid hidradenoma.[4,6] Mucinous cells are noted in the least common variant and they are large cuboidal to columnar in shape with fine basophilic granular cytoplasm. The proportion of these different types of cells varies markedly in different variants of hidradenoma and show resemblance to metastatic renal cell carcinoma, squamous cell carcinoma or signet-ring adenocarcinoma. Diagnosis of NH is mainly based on histopathological examination as these lesions are rarely subjected to FNAC.[8,9] Hence cytopathologists and dermatopathologists should be aware of this while diagnosing nodular hidradenoma.[2,4,6]

FIGURE 1
GROSS PHOTOGRAPH SHOWING A SOLITARY NODULE IN THE NECK

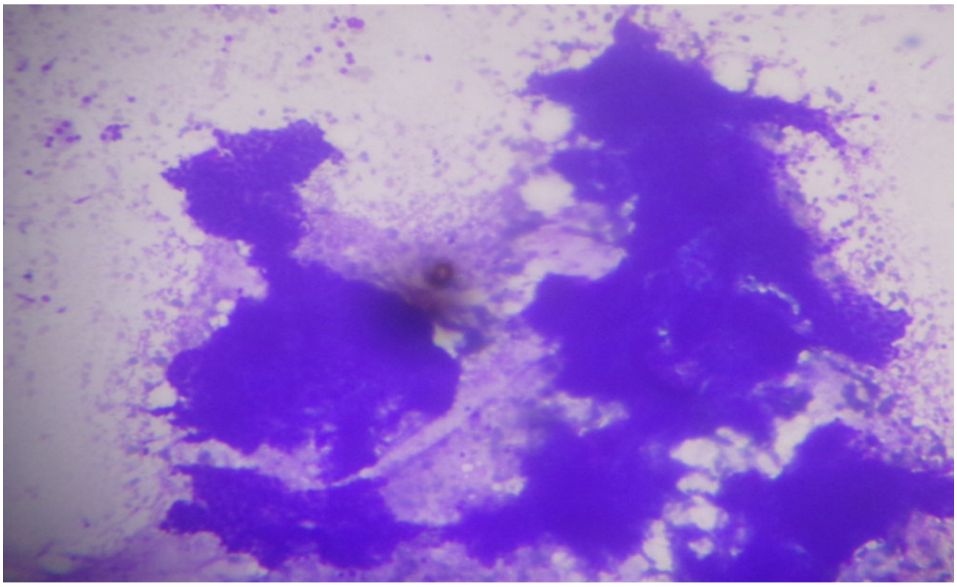

FIGURE 2
MICROPHOTOGRAPH SHOWING HIGH CELLULARITY AND TIGHT CLUSTERS OF CELLS (MGG STAIN. x200)

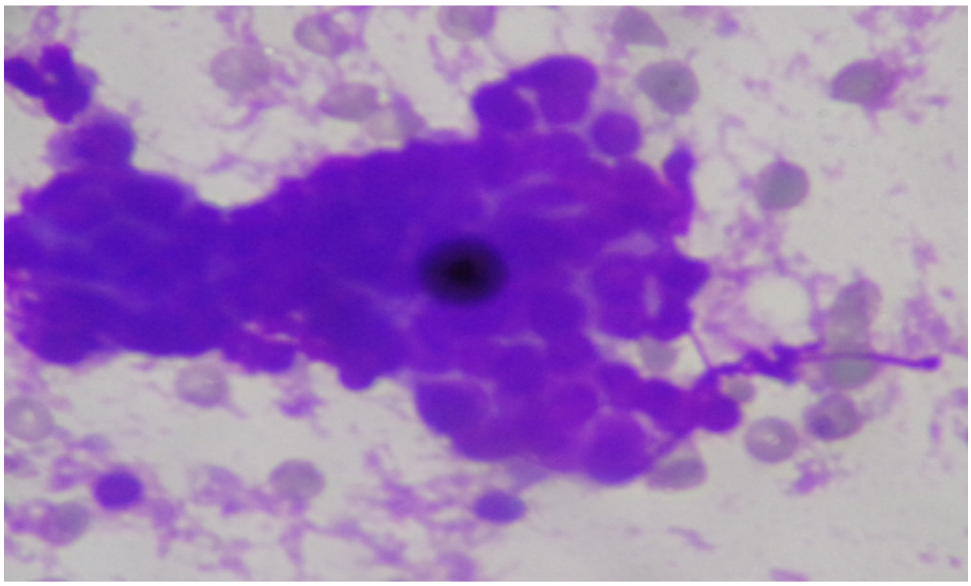

FIGURE 3
MICROPHOTOGRAPH SHOWING COHESIVE CLUSTER OF CELLS (MGG STAIN .x400)

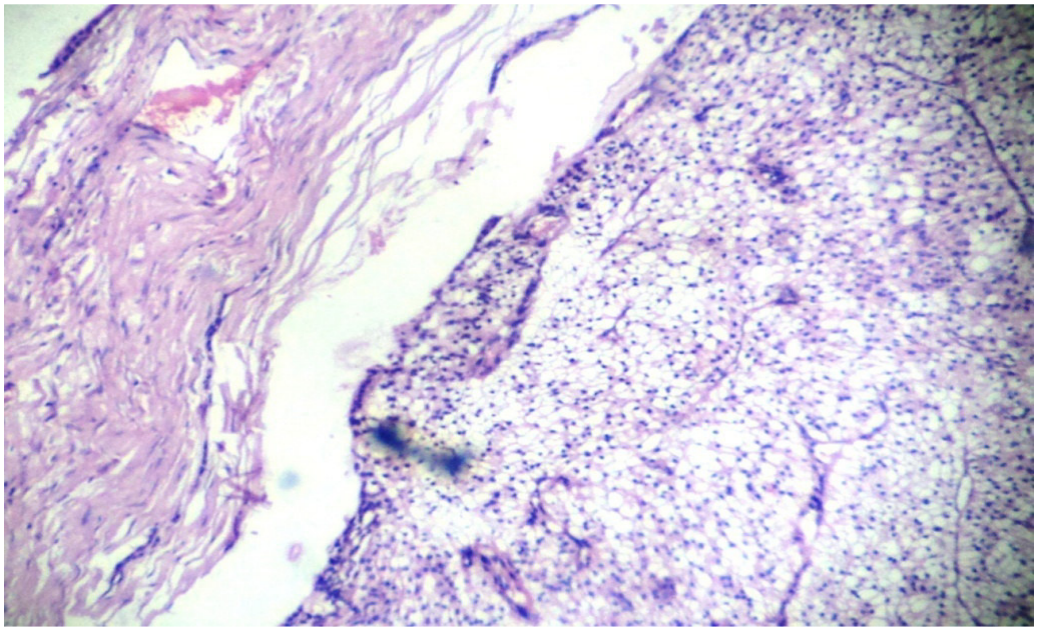

FIGURE 4
MICROPHOTOGRAPH SHOWING ENCAPSULATED TUMOR HAVING BOTH EOSINOPHILIC CELLS AND CLEAR CELLS (H & E STAIN. x100)

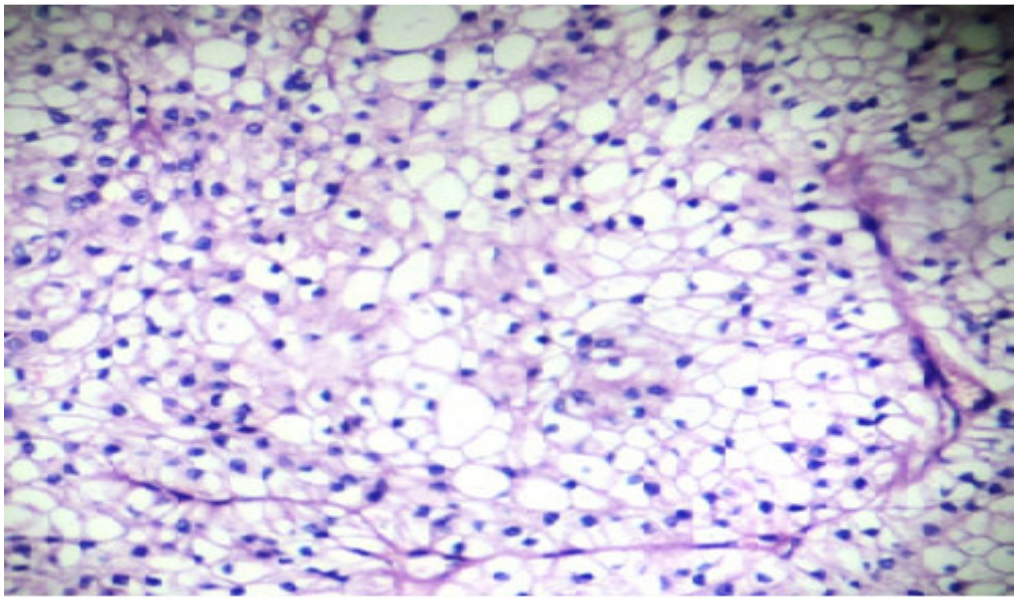

FIGURE 5
MICROPHOTOGRAPH SHOWING TWO POPULATIONS OF CELLS (H & E STAIN. x200)

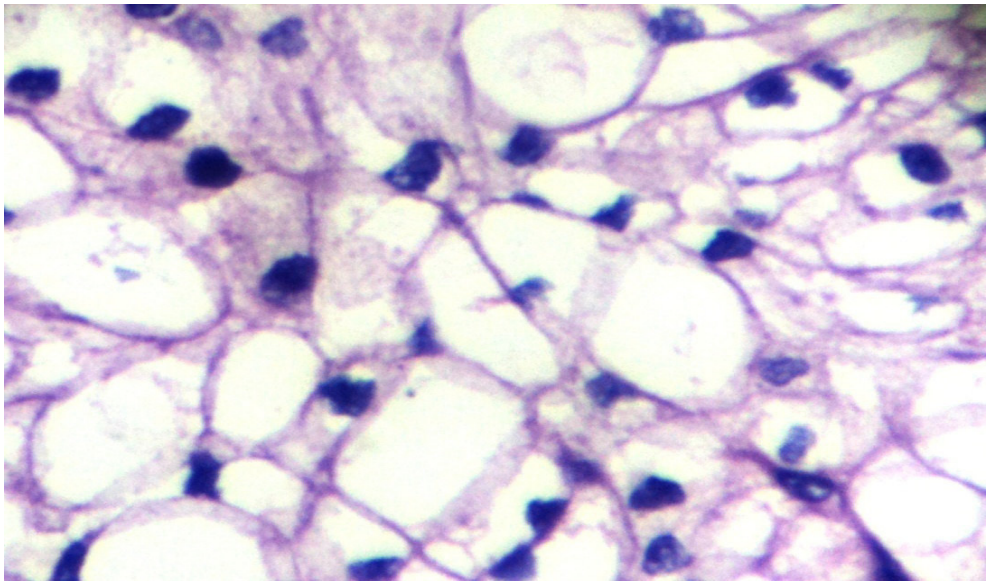

FIGURE 6
MICROPHOTOGRAPH SHOWING TUMOR CELLS WITH ABUNDANT CLEAR CYTOPLASM (H & E STAIN. 40X)

CONCLUSION

Fine needle aspiration can be used as a diagnostic investigation for eccrine skin adnexal tumours. The cytological smears should have adequate cellularity for the specific diagnosis of skin adnexal tumors. On cytology, admixture of eosinophilic and clear cells, and three-dimensional clusters with papillary-like fronds, duct-like tubular structures, rosette-like structures and extracellular hyaline material from a dermal nodule are the key features of nodular hidradenoma.

REFERENCES

1. Yaghoobi R,Kheradmand K.Clear cell hidradenoma in a young boy,IJVDL;73(5):358-59,(2007)
2. Nasit JG, Dhruva G. Nodular hidradenoma of the scalp: A cytomorphological evaluation on fine needle aspiration cytology, IJVDL80(6):560-72(2014).
3. Dhingra KK, Mandal S, Khurana N. An unusual case of hidradenoma of breast.Iranian journal of pathology,2(2):80-82(2007).
4. Novak NP *etal*. Fine needle aspiration cytology of apocrine hidradenoma. Coll Antropol, 34(2):671-74(2010).
5. Devanand B, Vadiraj P. Fine needle aspiration cytology of eccrine skin adnexal tumors. J cytol Histol, 2:1-7(2011).
6. Dubb M,Michelow P.Cytologic features of hidradenoma in fine needle aspiration biopsies.Acta Cytol, 53:179-82(2009).
7. Grampurohit VU,Dinesh US,Rao R.Nodular hidradenoma of male breast:Cytohistological correlation.J Cytol ,28(4):235-37(2011).
8. Punia RS,Handa U,Mohan H.Fine needle aspiration cytology of eccrine acrospiroma. Acta cytol, 45:1083-5(2001).
9. Gottschalk-Sabag S,Glick T.Fine needle aspiration of nodular hidradenoma: A case report.Diagn cytopathol, 15:395-7(1996).