



Skin Adnexal Neoplasms- Cyto-Histopathological Correlation - Study of 18 Cases

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ABSTRACT

Mastery in cytodiagnosis of adnexal tumors is challenging by virtue of the enormous number of individual tumors and their variant forms, the complicated nomenclature and the frequency of differentiation along two or more adnexal lines in the same tumor. The present study is undertaken to assess the application of fine needle aspiration cytology in the diagnosis of skin adnexal tumors.

KEYWORDS : Adnexal neoplasms, Cytodiagnosis

INTRODUCTION

Skin adnexal tumours are a heterogeneous group of tumours with considerable clinical and histopathological overlap.⁽¹⁾

Cutaneous adnexal tumors are troublesome tumors, as described by Cotton D.^(2,3) They pose major diagnostic problems to both surgeons and pathologists. The long list of entities and the vast array of differentiation add further to the confusion.^(4,5) Though subtyping lesions with accuracy is difficult, it becomes important to help in recognizing clinical associations as in sebaceous tumors.⁽⁶⁾ Many a time, it is only an academic exercise and even after reporting it on cytology, one is unsure of the diagnosis. This study was undertaken to evaluate the histologic features of benign and malignant skin adnexal tumors, identify overlaps and confounding features by cyto-histological correlation.

MATERIAL AND METHODS

This is a retrospective study done at Rangaraya Medical College, Kakinada for a period of two years, from January 2014 to December 2015. Fine needle aspiration (FNA) was done for all the swellings presented as intradermal and subcutaneous nodules and correlated with histopathology wherever available. Non neoplastic lesions, cysts and tumors of epidermis were excluded from the study.

RESULTS

Eighteen cases (n=18) of adnexal neoplasms were reported over a two year period. Histopathologic correlation was available for nine (9) of these cases.

Out of 18 cases reported on cytology, majority were reported as benign adnexal neoplasms (14/18). A specific diagnosis of chondroid syringoma, calcinosis cutis and malignant epithelial lesion was offered for one case each. The remaining case was reported as benign cystic lesion, possibly of adnexal origin. Histopathological correlation was available for 9 cases (9/18). Of these 9 cases, 5 of them were reported as benign adnexal neoplasms on cytology. On histopathology they turned out to be 2 cases of chondroid syringoma and 1 case each of pilomatricoma, nodular hidradenoma and eccrine spiradenoma. The case reported as chondroid syringoma was confirmed on histopathology. The malignant lesion of epithelial origin on cytology, turned out to be a hidradenocarcinoma histopathologically. The case of Calcinosis cutis turned out to be a Proliferating trichilemmal tumor on Histopathology. Benign cystic lesion reported on cytology proved to be an atypical hidradenoma on histopathology.

DISCUSSION

Cytology of adnexal neoplasms usually reveals sheets of bland basaloid cells. Few lesions tend to show dual population of uniform cuboi-

dal cells with either small dark nuclei or large pale nucleus, suggesting an eccrine differentiation. Ghost cells and anucleated squames are seen in the tumors of trichilemmal differentiation. Atypia in cells is seen along with frequent mitoses in cases of malignant lesions.

Background of the smears gives a clue towards a specific diagnosis in some cases. Fibrillary chondromyxoidstroma in the background is occasionally seen in chondroid syringoma/mixed tumors of the skin. Foci of keratinisation and dystrophic calcification are usually seen in tumors of trichilemmal differentiation. Fluid aspirates with proteinaceous background may be seen in neoplasms with cystic change. Areas of necrosis may be seen in malignant tumors. Stromal fragments are rarely seen in cytology of adnexal neoplasms.

In the 5 cases reported as benign adnexal neoplasms, in our study, we encountered mostly a dual cell population. 2 of these cases which were found to be chondroid syringomas on histopathology, showed very small foci of extracellular myxoid matrix material, thus preventing us from giving a specific diagnosis. The dual cell population was seen in two other cases of eccrine differentiation.

Pilomatricoma on histopathology showed mostly uniform population of basaloid cells. The lack of ghost cells or keratin material in the cytology smears made us to opine it as a benign adnexal neoplasm.

Cytologically reported case of chondroid syringoma was confirmed on histopathology.[Fig.1]

A discrepancy in diagnosis was noted in other 3 cases which were available for correlation.

One case of malignant nodular hidradenoma (hidradenocarcinoma) was reported on histopathology. This was reported as a malignant epithelial lesion on cytology. Histologically hidradenocarcinomas are malignant from inception but may also arise from benign nodular hidradenoma. The asymmetry and infiltrative growth pattern on histology distinguishes them from the well circumscribed nodular hidradenoma. These features limit the possibility of diagnosing them on cytology.

Atypical hidradenomas show plenty of cystic spaces and cells with nuclear pseudoinclusions and grooves. Aspirates from these cases may yield only fluid, as seen in our case, leading to a false diagnosis of a benign cystic lesion.

The case of calcinosis cutis on cytology turned out to be a Proliferating trichilemmal tumor on histopathology. Failure to aspirate from multiple sites of this lesion, yielded only foci of acellular eosinophilic and calcified material, leading to a false diagnosis.

CONCLUSION

Cytological features of adnexal neoplasms have been reported as case reports often. Comparative studies are fairly limited. Exact subtyping of skin adnexal neoplasms according to their differentiation is neither possible nor essential but cytology does help in identifying some of them despite certain limitations. This study is presented to put-forth the limitations we encountered.

Table-1: Spectrum of adnexal lesions on cytology

S. no	Cytological diagnosis	Number of cases(n=18)
1	Benign adnexal neoplasm	13
2	Benign cystic lesion	1
3	Chondroidsyringoma	1
4	Calcinosis cutis	1
5	Pilomatricoma	1
6	Malignant epithelial lesion	1

Table-2: Cytohistopathologic correlation (n=9)

S.No.	Cytological diagnosis	Histopathological diagnosis
1	Benign adnexal neoplasm	Pilomatricoma
2	Benign adnexal neoplasm	Chondroid syringoma
3	Benign adnexal neoplasm	Chondroid syringoma
4	Benign adnexal neoplasm	Nodular hidradenoma
5	Benign adnexal neoplasm	Eccrinespiradenoma
6	Benign cystic lesion	Atypical Hidradenoma
7	Chondroid syringoma	Chondroid syringoma
8	Calcinosis cutis	Proliferating trichilemmal tumor
9	Malignant epithelial lesion	Hidradenocarcinoma

IMAGES

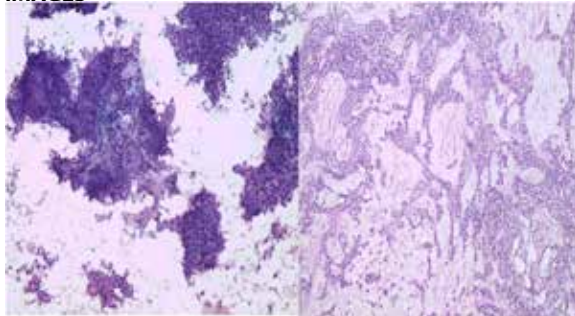


Fig1: Chondroid Syringoma. Cytology: Basaloid cells and cells with eosinophilic matrix material in the background. Biopsy showing cords and sheets of cells with chondroid matrix material in between.

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