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Nodular Swelling with Chronic Discharging Sinus on Leg - An Unusual Presentation of Eccrine Acrospiroma with Cytohistopathological Correlation

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Abstract: ***Background: Eccrine acrospiroma also called as nodular hidradenoma and clear cell hidradenoma is a rare sweat gland tumour seen in females involving head, neck and trunk. Although the diagnosis is by histopathological examination FNAC can help in early detection. Case details: We describe a rare clinical presentation of an Eccrine Acrospiroma as a swelling with overlying chronic discharging sinus on the shin of tibia with salient cytohistological features of eccrine acrospiroma in right leg of an elderly female. Conclusion: Eccrine Acrospiroma is an uncommon skin adenexal tumour arising from eccrine or apocrine gland and may present with discharging sinus on lower extremity. The clue to the diagnosis is its superficial location in the skin. FNAC helps in early diagnosis and management by wide excision. However histopathological examination is required for definitive diagnosis. The report emphasizes on complete excision and checking of margins to prevent recurrence of the tumour.***

Keywords: nodular, eccrine, sinus, wide excision, cytohistological correlation

1. Introduction

Eccrine acrospiroma is a rare benign skin adenexal tumour originating from the distal excretory duct of the sweat gland.[1] This is a slow growing solitary, solid or cystic neoplasm most likely found on head, neck and trunk in middle aged females. It is usually covered by intact skin although ulceration and serous discharge may also be seen in some cases.[2] Skin adenexal neoplasms are relatively rare and thus uncommonly encountered in routine pathology practice.

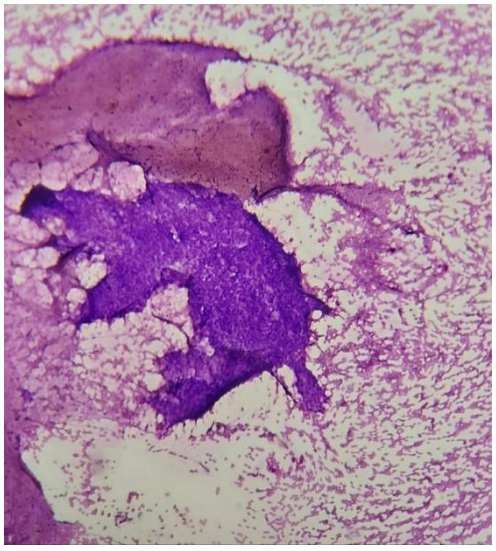
Fine Needle Aspiration Cytology is a safe, simple, quick and cost effective tool in the management of tumours; however there are no definite cytological criteria for the diagnosis of various skin lesions. The cytomorphological features are also overlapping and hence needs histopathological confirmation for the diagnosis of eccrine acropspiroma. Recurrence and malignant transformation have been described in association with this tumour.[3] The tumour requires wide excision as it is well circumscribed but not capsulated.[4-5]

We report an interesting case of eccrine acrospiroma presenting as a hyperpigmented nodule with discharging sinus on the shin of tibia with cytohistopathogical correlation.

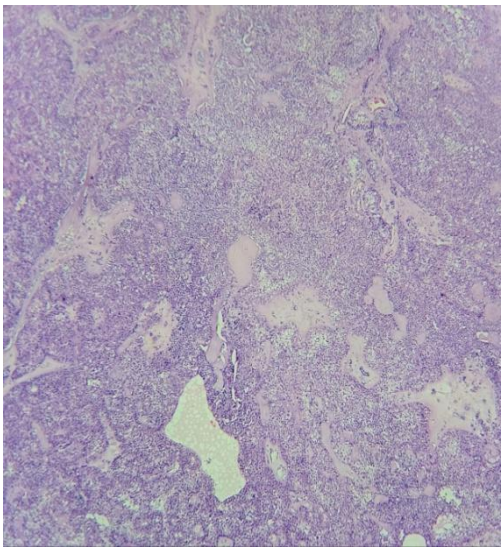
2. Case Summary

A 64 years old female presented with a slow growing , painless, nodular swelling with discharging sinus located on the left leg over the shin of tibia for 2 years.

On physical examination a solitary, non tender, soft to firm, partly cystic nodule measuring 2.5 X 2 cms was seen, with overlying skin showing brownish black pigmentation. There was no regional lymphadenopthy. Clinical diagnosis of melanoma / basal cell carcinoma / dermatofibrosarcoma / sweat gland neoplasm / metastatic tumor was made. FNAC revealed clusters and sheets of basaloid epithelial cells having high N:C ratio, round to oval nuclei with bland chromatin and moderate amount of cytoplasm. Some of the cells showed cytoplasmic vacuolation. Background showed few macrophages with melanin pigment. Cytological diagnosis of skin adenexal neoplasm was given. Wide excision of the tumour was done. Histopathology revealed a well circumscribed tumour arranged in nodular pattern located in the dermis and extending into the subcutaneous fat. The tumour was composed of cells with basophilic cytoplasm and glycogen containing clear cells. Small ductular lumens and focal apocrine change and squamous differentiation were noted. There were areas of cystic degeneration in the tumour. No mitotic activity/ necrosis seen. Histologic pattern was consistent with the diagnosis of eccrine acrospiroma. Follow up of the patient after 1 year showed no signs of recurrence.



Photomicrograph 1: Pap satined cytosmear showing cluster of basaloid cells with scanty cytoplasm admixed with oval to polygonal cells and hyaline material in the background.



Photomicrograph 2: Hematoxylin and eosin stained section shows nests and nodules of epithelial cells, cystic spaces containing pale eosinophilic fliud and hyaline stromal material.

3. Discussion

Eccrine acrospiroma also known as nodular hidradenoma / solid cystic hidradenoma / eccrine sweat gland adenoma / clear cell myoepithelioma was first decribed by Liu as clear cell papillary carcinoma of the skin in 1949.[6-7]

It is seen usually in the fourth decade of life and is twice as common in females as in males. It is commonly located on the face, scalp, trunk.[8]

Clinically eccrine acrospiroma presents as a slow growing, solitary, solid nodular lesion with occasional cystic component ranging in size from 5mm to 3 cms. Our patient was an elderly woman who presented with a slow growing nodular swelling on the shin of tibia of right leg which is an uncommon site for the development of eccrine acrospiroma. Also the patient complained of chronic discharge from the nodule and was seen to have discharging sinus with pigmentation of overlying skin raising a clinical suspicion of malignant tumour.

Cases of eccrine acrospiroma reported on cytology are fewer in literature. Cytological features are less well known and cases may be misdiagnosed or remain un-diagnosed on cytology. Cytosmears are usually cellular and reveal clusters, groups and singly lying cells. A biphasic cytologic pattern is observed showing eosinophilic polygonal cells and clear cells. Eosinophilic cells have round to oval nucleus, small nucleoli and moderate amount of faintly eosinophilic cytoplasm. The clear cells have round eccentric nuclei, finely granular chromatin, small nucleoli and abundant clear cytoplasm. Few of the cells appear basaloid with scanty cytoplasm while some cells may have squamoid appearance. The background shows hyaline / collagenous material, foamy cells and pigmented macrophages.[9-11] Cytology of our case showed eosinophilic as well as basaloid cells with fewer clear cells and some pigment containing cells.

Due to variability of cells seen on cytosmears diagnosis of eccrine acrospiroma can be challenging. It needs to be differentiated from other skin adenexal tumours like adenoid cystic carcinoma, cutaneous cylindroma and eccrine spiradenoma as well as from other skin tumours like squamous cell carcinoma, basal cell carcinoma, metastatic signet ring cell carcinoma. The knowledge of cytological features of eccrine acropsiroma is essential for accurate diagnosis. As the tumour can recur, early and accurate cytodiagnosis can aid in proper management in the form of wide local excision.

Histologically the tumour is often well circumscribed but unencapsulated and is composed of solid and cystic component with variably sized nests and nodules of epithelial cells in the dermis. Solid component has two types of cells polyhedral with basophilic cytoplasm and glycogen containing clear cells with eccentric round nucleus. Cystic areas contain pale eosinophilic fluid. Also seen are tubular lumina lined by cuboidal or columnar secretory cells. Fibrovascular, collagenous or hyalinised stroma is seen. Focal areas of squamous differentiation, mucinous change, sebaceous differentiation and apocrine differentiation can be seen.[7] Malignant lesions are characterised by the presence of atypia, pleomorphism, mitosis, necrosis and infiltrative growth pattern. [12] Our case showed both solid and cystic component and eosinophilic as well as clear cells with collagenous stroma and areas of apocrine and squamous differentiation.

The tumour cells express AE1/AE3; EMA and CEA.[13] However immunohistochemical analysis is not required as most cases can be easily diagnosed by H&E section.

AE1/AE3- anti-cytokeratin monoclonal antibodies; EMA- Epithelial Membrane Antigen; CEA- Carcinoembryonic Antigen.

4. Conclusion

Eccrine acrospiroma is an uncommon skin adenexal tumour arising from eccrine or apocrine gland and may present with discharging sinus on lower extremity. The clue to the diagnosis is its superficial location in the skin. FNAC helps in early diagnosis and management by wide excision.

However histopathological examination is required for definitive diagnosis. The report emphasizes on complete excision and checking of margins to prevent recurrence of the tumour.[4-5]

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