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Fine Needle Aspiration Cytology Of Nodular Hidradenoma: Report Of 2 Cases

First Author: Dr Vivek kumar Sharma, Dr RPGMC Kangra at Tanda (H.P)

Second Author: Dr Devika Sahu, Andhra Medical College, Visakhapatanam

Abstract

Nodular hidradenoma (NH) is a rare benign adnexal tumor originating from sweat glands. Fine needle aspiration (FNA) cytology is a valuable diagnostic tool for evaluating such lesions. This abstract presents the cytomorphological findings of nodular hidradenoma in two cases. FNA cytology is a useful diagnostic tool for nodular hidradenoma, providing characteristic cytomorphological features that aid in differentiating it from other adnexal tumors and malignancies. The findings in these two cases highlight the importance of recognizing the typical cytological features of nodular hidradenoma for accurate diagnosis and management.

Key words: Nodular hidradenoma (NH), Fine needle aspiration (FNA)

Introduction

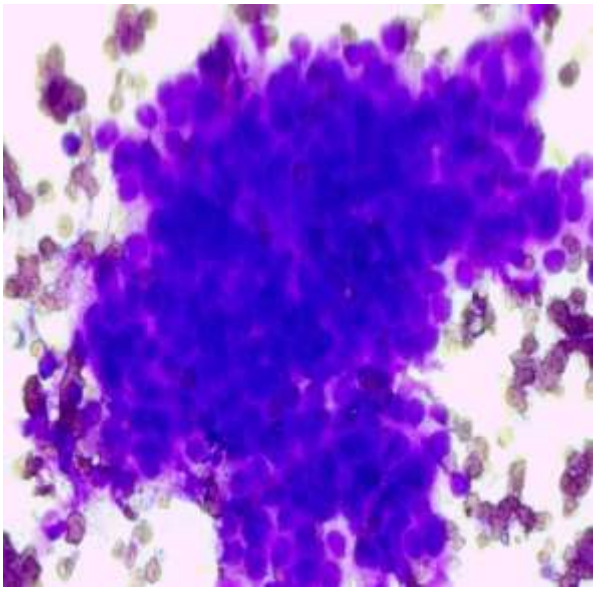
Nodular hidradenoma is a rare benign adnexal tumor that originates from the sweat glands. It typically presents as a solitary, slow-growing nodule that can occur in various anatomical locations, including the scalp, gluteal region, and breast.[1,2] Despite its benign nature, accurate diagnosis is crucial to differentiate it from other adnexal tumors and potential malignancies. Fine needle aspiration (FNA) cytology is a minimally invasive diagnostic technique that plays a significant role in the evaluation of nodular hidradenoma. FNA allows for the collection of cellular material from the tumor, which can then be examined under a microscope to identify characteristic cytomorphological features. These features include high cellularity, cohesive clusters of polygonal cells, and the presence of eosinophilic hyaline material and duct-like structures. The use of FNA in diagnosing nodular hidradenoma offers several advantages, including rapid results, minimal discomfort for the patient, and the ability to guide further clinical management.[3,4]

Case Presentation

Two patients resented to our institution, 1 male and 1 female. Male, 58 years of age, presented with a painless slow growing swelling in left gluteal region for a period of 1 year. Swelling was fixed to overlying skin, mobile and was not fixed to deeper structures. Female, 44 years of age presented with a swelling in left breast, mobile non tender, slow growing. Both the swellings measured 2 to 3 cm in diameter.

Diagnostic Assessment

FNA was performed using 20 ml syringe. Needling was done using 23-gauge needle. The samples obtained were stained with Giemsa stain. Cytological examination revealed cellular smears showing tumor cells arranged in cohesive clusters. The cells were polygonal in shape having round to oval nuclei and inconspicuous nuclei. A few clear cells were also seen in both these cases. Based on these finding a diagnosis of benign adnexal neoplasm was kept in both the cases. Patients then underwent excision biopsy. Gross examination revealed a soft cystic mass in both the cases. On histopathological analysis tumor was well-circumscribed and encapsulated, presenting as a solid-cystic lobulated intradermal mass. The solid areas consisted of two cell types: eosinophilic/polygonal cells and clear cells. The eosinophilic cells were round to polygonal, featuring a rounded to ovoid nucleus, small distinct nucleoli, and faintly eosinophilic cytoplasm. These cells were also observed surrounding hyalinized fibrovascular cores. The clear cells had abundant clear cytoplasm with a small, round to oval, eccentric nucleus. Some duct-like tubular structures, composed of cuboidal cells and filled with eosinophilic hyaline material, were noted. The cystic spaces contained amorphous eosinophilic material. No atypia, invasion, necrosis, or mitoses were observed. A histologic diagnosis of nodular hidradenoma was made.



igure1 Giemsa stain 400X: Round to oval cells with attached stroma are seen in a hemorrhagic background.

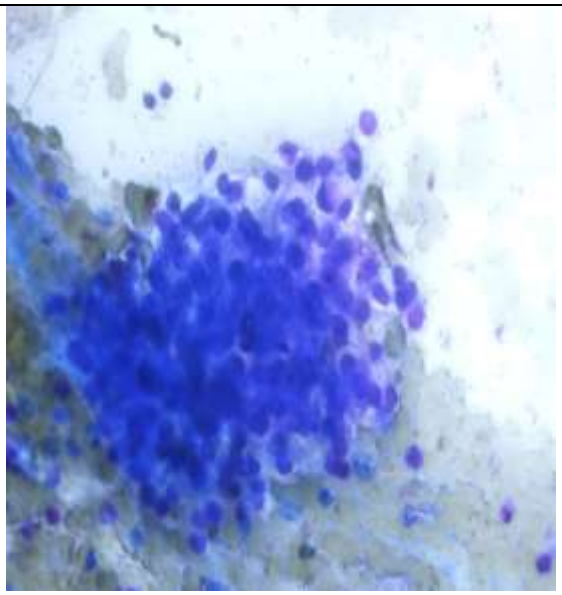


Figure 2 Giemsa stain 400X: Round to oval cells in clusters having occasional clear cells at periphery.

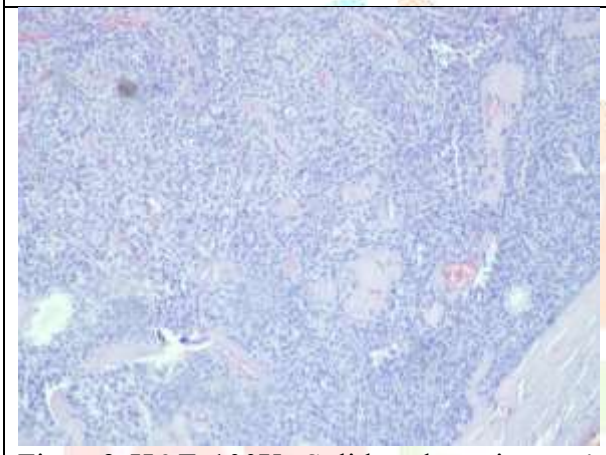


Figure3 H&E 100X: Solid and cystic area's revealing clear cells and eosinophilic cells

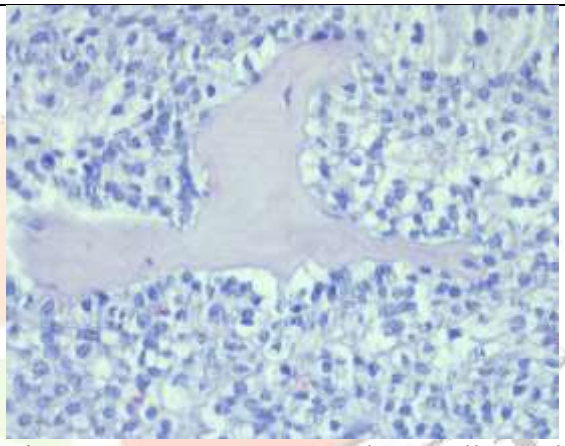


Figure 4 H&E 400X: Clear cells and hyalinised stroma are seen.

Discussion

Fine Needle Aspiration (FNA) is a valuable diagnostic tool for evaluating nodular hidradenoma, a rare benign adnexal tumor originating from sweat glands.[4] The cytological features observed in FNA smears can provide critical insights into the nature of the lesion, aiding in accurate diagnosis and management. Nodular hidradenoma typically presents as a well-circumscribed, encapsulated lesion with both solid and cystic components. The FNA smears often reveal a biphasic cellular pattern, consisting of eosinophilic/polygonal cells and clear cells. The eosinophilic cells are round to polygonal with a rounded to ovoid nucleus, small distinct nucleoli, and faintly eosinophilic cytoplasm. These cells may surround hyalinized fibrovascular cores. Clear cells, on the other hand, exhibit abundant clear cytoplasm with a small, round to oval, eccentric nucleus. Accurate diagnosis of nodular hidradenoma through FNA is crucial for appropriate clinical management. Given its benign nature, complete surgical excision is typically curative, and the prognosis is excellent. However, misdiagnosis can lead to unnecessary aggressive treatments or inadequate management. Therefore, correlating cytological findings with clinical and radiological features is vital to avoid diagnostic pitfalls.[5]

Conclusion

FNA is a useful, minimally invasive technique for diagnosing nodular hidradenoma. Recognizing the characteristic cytological features and being aware of potential diagnostic challenges can significantly enhance diagnostic accuracy. This, in turn, ensures appropriate patient management and favorable outcomes.

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