

Fine Needle Aspiration Cytology of Cylindroma of Hand: A Case Report

Dr. Vivek kumar Sharma¹, Dr. Shruti Sharma², Dr. Devika Sahu³

^{1,2}Dr RPGMC Kangra at Tanda (H.P)

³Andhra Medical College, Visakhapatnam

Abstract

In this case report, we have diagnosed a rare case of dermal cylindroma by fine needle aspiration cytology in a young female patient. Further confirmation of diagnosis was done by histopathological examination. On cytological examination, FNA smears revealed clusters of small round to oval cells having round to oval nuclei and scant cytoplasm. Dark magenta coloured globular material was also seen. These globules were occasionally surrounded by basal type of cells. Subsequently histopathological examination revealed tumor cells in nests arranged in a jigsaw fashion. Abundant basement membrane like material was also seen between the tumor cells. FNA may prove helpful in the preliminary diagnosis of cylindroma.

Introduction

Cylindroma is a rare, benign adnexal tumor that primarily arises from the sweat glands. These tumors are most commonly found on the scalp and face, presenting as small, firm, and often painless nodule.¹ Fine-needle aspiration (FNA) has emerged as a valuable diagnostic tool for evaluating skin lesions, including cylindromas. The minimally invasive nature of FNA allows for the rapid collection of cellular material, which can then be examined cytologically.² The purpose of this research article is to explore the diagnostic utility of FNA in the evaluation of cylindromas, highlighting its advantages and potential role in clinical practice.³

Case Report

A 23-year-old young female presented to Zonal hospital Dharamshala with a history of painless nodular swelling in dorsum of right hand, approximately 2cm in size and slow growing. The overlying skin was fixed to the swelling, there was mild erythema. No ulceration was seen and swelling was not fixed to deeper structures.

Diagnostic Assessment

FNA was performed using a 10 ml syringe. Aspirate obtained was stained using Giemsa stain. On microscopic examination the smears were cellular revealing clusters and singly scattered small round to oval cells having hyperchromatic nuclei, inconspicuous nucleoli and scant cytoplasm. The background displayed deposits of basement membrane-like material, characterized by dark magenta-colored, pinkish globular structures. These globules were occasionally encircled by basal-type cells. Additionally, occasional cells with elongated nuclei were observed. A diagnosis of a benign adnexal tumor, likely cylindroma, was suggested. The patient underwent an excision biopsy. On gross examination, the specimen was a well-circumscribed, 2 cm diameter, grey-white swelling covered with skin.

Histopathological analysis revealed a highly cellular, well-defined tumor. The tumor cells were arranged in sheets and clusters, resembling a jigsaw puzzle. Abundant basement membrane-like material was deposited between the tumor cells. The tumor cells were small, round to oval with hyperchromatic nuclei, inconspicuous nucleoli, and scant cytoplasm. There was no evidence of nuclear atypia, increased mitotic activity, necrosis, or invasion into surrounding structures. Based on these features, a diagnosis of cylindroma was made.



Figure1. Nodular swelling on dorsum of hand

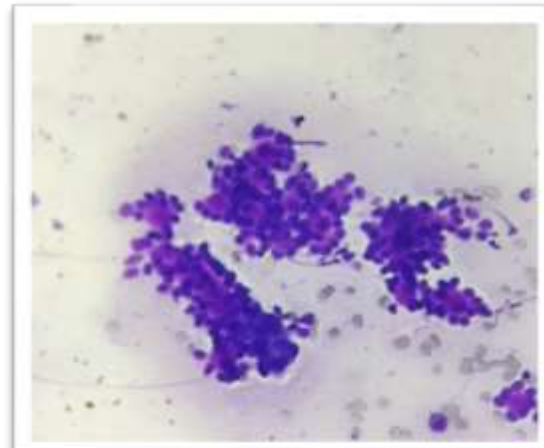


Figure2 Giemsa stain 400X. Pinkish basement membrane like material surrounded by round cells

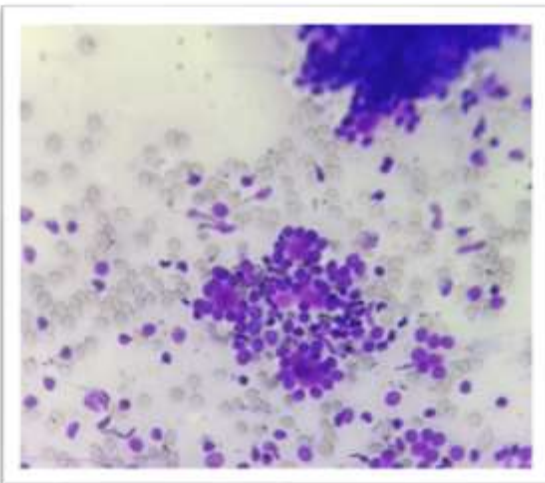


Figure3 Giemsa stain 100X. Few singly scattered cells in addition to pinkish basement membrane like material.

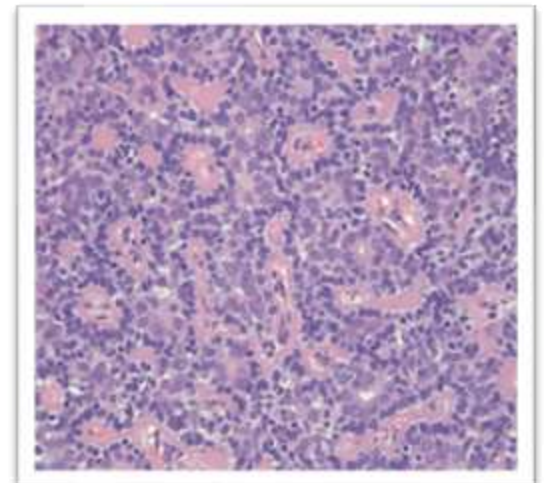


Figure4 H&E 400X. Acellular basement membrane like material along with round cells.

Discussion

Dermal cylindromas are predominantly observed in middle-aged and elderly females, with a higher incidence in the head and neck region, particularly the scalp. Most cases are sporadic, presenting as solitary lesions. However, familial cases often present with multiple lesions. Clinically, cylindromas appear as

single or multiple, dome-shaped, smooth nodules on the scalp, face, and occasionally on the trunk and extremities. Multiple nodules on the scalp can create a characteristic “turban tumor” appearance.⁴

In this case, the presence of round pinkish acellular material surrounded by monomorphic cells and discrete monomorphic round cells suggests features of cylindroma. Cytologically, it is challenging to distinguish between cylindroma and adenoid cystic carcinoma.⁴

Eccrine spiradenoma can also present with ball-like clusters of cells and pinkish globular structures. However, cytology smears of eccrine spiradenoma show myoepithelial cells and lymphocytes, with rosette-like structures also noted in FNAC.⁴

In chondroid syringoma, fibrillary chondromyxoid substances are observed, with cells embedded within this material. The epithelial cells are arranged in flat sheets, and the cells are small and round with oval nuclei and fine chromatin. Typical hyaline-like globules are not seen in these cases.⁴

Conclusion

This report presents a rare case of cylindroma on the dorsum of hand. The characteristic cytological features observed in FNAC, along with the subcutaneous location of the tumor can aid in diagnosing such rare cases.

References

1. Bondeson L, et al. “Cylindroma and its differential diagnosis.” *Journal of Cutaneous Pathology*. 1987;14(5):292-298.
2. Pal S, Bose K, Sikder M, Chowdhury M. Fine needle aspiration cytology of cylindroma of scalp: A case report. *Diagn Cytopathol*. 2016 Dec;44(12):1082-1084.
3. Amita K, Pournami SV, Rashmi R, Kusuma KN, Priyadarshini P. Recurrent Cylindroma of the Scalp: A Cytomorphological Evaluation at Fine Needle Aspiration Cytology. *Cureus*. 2022 May 19;14(5):e25152.
4. Gupta P, Dey P, Bal A. Fine needle aspiration cytology of dermal cylindroma. *J Cytol*. 2014 Oct-Dec;31(4):213-4.