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Histopathology

PROLIFERATING TRICHILEMMAL TUMOR: A PITFALL IN DIAGNOSIS

Dr. Deshpande Ketaki Makarand* Post Graduate Student, Department Of Pathology, Jawaharlal Nehru Medical College, Belagavi *Corresponding Author

Dr. Hungund Bhagyashri Professor, Department Of Pathology, Jawaharlal Nehru Medical College, Belagavi

ABSTRACT Proliferating Trichilemmal tumor also known as Proliferating Pilar tumor is a rare tumor which is described as a well circumscribed dermal or subcutaneous neoplasm with squamoid cytologic features and trichilemmal keratinization. This entity was first described by Wilson Jones as a lesion which could simulate squamous cell carcinoma (SCC) and thus is a pitfall in the diagnosis. We hereby report a case of proliferating trichilemmal tumor occurring in a 73 years male presenting as a long- standing scalp lesion. Histopathological examination revealed circumscribed lesion with lobules of squamoid cells with abrupt central keratinization suggestive of Proliferating Trichilemmal tumor. We report this case due to similarity to common malignant lesions of the skin which can be mistaken if not examined carefully.

KEYWORDS : Pilar tumor, squamous cell carcinoma, Trichilemmal tumor

INTRODUCTION-

AN uncommon tumor that develops from the exterior root sheath of the hair follicle and affects women in their sixth decade is called a proliferating trichilemmal tumor. It is believed that proliferating trichilemmal tumor develops from the trichilemmal cyst and can develop into a malignant proliferating trichilemmal tumor if it undergoes malignant transformation.[1] This entity was first described by Wilson-Jones. There are 3 categories of this tumor including benign, locally aggressive and malignant.[2] In elderly females, the scalp is most commonly affected, with the eyelids, neck, and face being less frequently affected. The hallmark histopathological finding is trichilemmal keratinization. Based on data from the literature, we reported a case in this study that had clinicopathological characteristics of a proliferating trichilemmal tumor.

Case Report-

A 73 yrs old male, a known case of hypertensive disease came with complaints of long-standing scalp swelling. There was no family history of similar lesions as well as no history of previous trauma or irritation at the site. Clinical examination showed firm nodular growth over scalp which was not associated with regional lymphadenopathy and without any ulceration. The provisional clinical diagnoses included sebaceous cyst or malignancy like sqaumous cell carcinoma (SCC). The swelling was painless and progressively increased in size. Grossly, skin covered nodular mass, measuring 5.6x3.8x3 cm was received. (Fig. 1 and 2)

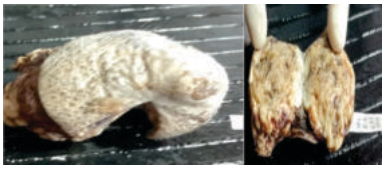

Fig.1 And 2- Gross findings showing skin-covered pearly white nodule with yellow to brown cut surface.

Histopathological examination revealed well circumscribed, proliferating lesion with pushing borders and trichilemmal differentiation. Atypical mitotic figures, necrosis and invasive growth pattern was not seen. Based on these histopathological findings, diagnosis of proliferating trichilemmal tumor, possibly benign was made. (FIG. 3 TO 5) After a surgical excision, the patient has been monitored over the past year, and there hasn't been a recurrence as of yet.

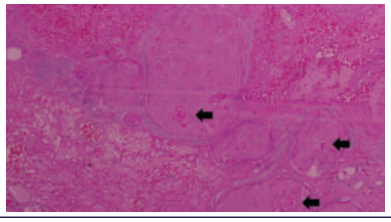

Fig. 3- Nests of squamoid cells separated by fibrous strands and trichilemmal keratinization in centre of tumor islands (arrows)

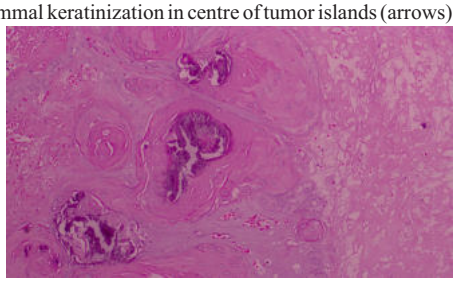

Fig. 4- Higher magnification showing focal calcification in squamoid cell islands

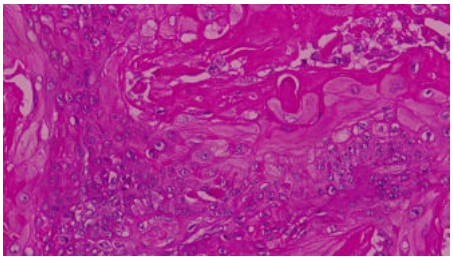

Fig. 5- Tumor cells with indistinct cell borders, abundant pale eosinophilic cytoplasm and round vesicular with few showing prominent nucleoli with minimal atypia.

DISCUSSION

Proliferating trichilemmal tumor is more prevalent in women and in age group of 4thto 8th decade with malignant counterpart accounting for 0.1% skin tumors. These tumors if presented with unusual clinical appearances including exophytic or multi-lobular or ulceration can be confused with other malignant tumors including SCC. Radiological findings are often inconclusive and indicate tumor with solid and cystic components.[3]

Pilar tumors are more common in locations where there is an overabundance of hair growth than on the hairless scalp.[4] Morphological characteristics, such as growth rate, invasion, and metastasis, as well as anaplasia and cellular atypia and CD34 marker expression (trichilemmal differentiation) can be used to distinguish between malignant and benign tumors.

Metastatic malignant proliferating trichilemmal tumor is rare with very few reported cases.[5] Although transformation to squamous cell carcinoma is rare, there have been documented instances of squamous cell carcinoma (SCC) formation in the literature.[6] SCC is a close differential diagnosis for proliferating trichilemmal tumor and distinct demarcation from surrounding stroma rules out SCC.[7] Trichilemmal

keratinization is a crucial microscopic finding to differentiate from SCCs.[8] However, immunohistochemical examination can be needed to confirm the diagnosis. A panel of CD34, Ki-67, and P53 immunohistochemicals may be helpful for differentiating diagnoses and identifying morphological characteristics.

Rarely, this tumor can be confused with pilomatrix carcinoma which presents as tender swelling with microscopy showing nests of basaloid cells instead of squamoid cells, often associated with atypical mitoses and necrosis.

Ye et al. divided these tumors in 3 groups- 'benign' with no stromal invasion, 'low grade malignant with mild to moderate nuclear atypia and 'high grade malignant' with marked invasion and high-grade nuclear anaplasia.[2] Histological and clinical outcome can be independent.

Malignant counterpart of proliferating trichilemmal tumor requires routine follow-up and a broad local excision with a 1 cm margin of healthy tissue.[10]

CONCLUSION

It is important to differentiate between proliferating trichilemmal tumor from its close differential diagnoses like SCC and histopathology is often gold standard.

REFERENCES-

1. Satyaprakash AK, Sheehan DJ, Sangüeza OP. Proliferating trichilemmal tumors: a review of the literature. Dermatol Surg. 2007 Sep;33(9):1102-8.
2. Ye J, Nappi O, Swanson PE, Patterson JW, Wick MR. Proliferating pilar tumors: A clinicopathologic study of 76 cases with a proposal for definition of benign and malignant variants. Am J Clin Pathol. 2004;122:566–74.
3. Kim HJ, Kim TS, Lee KH, et al. Proliferating trichilemmal tumors: CT and MR imaging findings in two cases, one with malignant transformation. AJNR Am J Neuroradiol. 2001;22(1):180–183.
4. Saida T, Oohara K, Hori Y, Tsuhiya S. Development of a malignant proliferating trichilemmal cyst in a patient with multiple trichilemmal cysts. Dermatologica. 1983;166:203–8.
5. Seff I, Berkowitz S. Carcinomatous degeneration of sebaceous cysts. Surg Gynecol Obstet. 1916;33:469–73.
6. Di Pace B, Verdura V, Concilio M, et al. A rare case of squamous cell carcinoma of a proliferating trichilemmal tumour. Ann Ital Chir. 2019;88:263–267.
7. Mathis ED, Honningford JB, Rodriguez HE, et al. Malignant proliferating trichilemmal tumor. Am J Clin Oncol. 2001;24(4):351–353.
8. A. K. Satyaprakash, D. J. Sheehan, and O. P. Sangueza, "Pro- ¨ liferating trichilemmal tumors: a review of the literature," Dermatologic Surgery, vol. 33, no. 9, pp. 1102–1108, 2007.
9. CemalAlper Kemaloğlu, Melikgazi Öztürk, Beyza Aydın, Özlem Canöz & Orhun Eğilmez (2022) Malignant proliferating trichilemmal tumor of the scalp: report of 4 cases and a short review of the literature, Case Reports in Plastic Surgery and Hand Surgery, 9:1, 158-164.
10. Reis JP, Tellechea O, Cunha MF, Baptista AP. Trichilemmal carcinoma: review of 8 cases. J Cutan Pathol 1993;20(2):44-49.