



## Case Report

### Proliferating Trichilemmal Tumor

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#### **ABSTRACT**

*The proliferating trichilemmal tumor (PTT) is a lesion with trichilemmal differentiation, more common occurring among elderly women; it affects the scalp with sizes ranging from 2 to 10 cm. Microscopically, it is solid-cystic, well-defined, affecting the dermis and the subcutaneous cellular tissue. It presents trichilemmal and squamous keratinization. Pleomorphism may be present. Ghosts, apocrine and spindle cells can be observed. The differential diagnosis should be performed with malignant trichilemmal tumor and squamous cell carcinoma. Their behaviour is benign and complete resection is recommended. Herein, we report a case of well differentiated low-grade malignant PTT due to its rarity.*

**Keywords:** Proliferating trichilemmal tumor (PTT), Squamous keratinisation.

#### **INTRODUCTION**

The proliferating trichilemmal tumor (PTT) is a solid-cystic lesion showing trichilemmal differentiation present in the isthmus of the hair follicle<sup>1</sup>. It was first described by Wilson Jones as proliferating epidermal cysts in 1966<sup>2</sup>.

The pathogenesis is unknown. In some cases, the human papilloma virus is present<sup>1</sup>. It is unclear whether PTT develops *de novo* or arises from an existing trichilemmal cyst<sup>3</sup>. PTT occur more commonly in elderly women, and 90% are located on the scalp, but can also affect the face, trunk and back<sup>1</sup>.

It is presented as a solitary, nodular and exophytic tumor, and may develop from a nevus sebaceous<sup>1</sup>. Multiple lesions are rare. The size may vary from 2 to 10 cm in its largest diameter, and lesions greater than 24 cm have been described<sup>4</sup>.

Macroscopically the lesions are multinodular. On the cut surface the cysts are filled with keratin with calcification<sup>1,5,6</sup>. Microscopically, it is presented as a solid-cystic well-defined mass that affects the dermis and may extend to the subcutaneous cellular tissue. The neoplastic epithelium presents trichilemmal keratinization, which is characterized by peripheral palisade of basaloid cells and bulky squamous cell with large eosinophilic cytoplasm with abrupt keratinization. Epithelial invaginations into the cystic lumen are observed. Calcification and cholesterol crystals may be abundant. Epithelial cells vary from monotonous without atypia to pleomorphic with mitosis<sup>1,5,6</sup>.

Areas with atypias may be indistinguishable from squamous cell carcinoma. Ghost cells, which are the expression of matrix differentiation, apocrine differentiation and spindle cells, can be

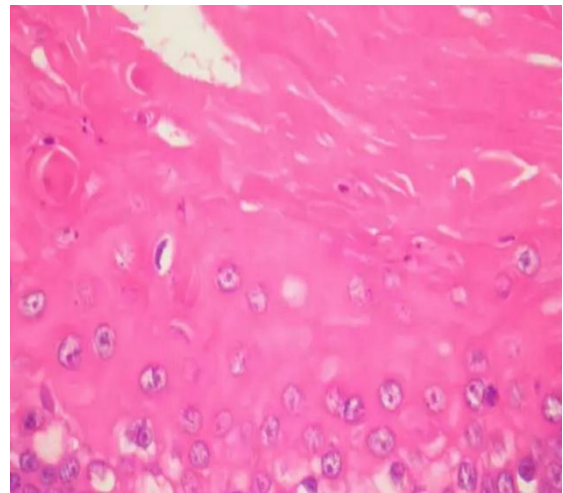
observe<sup>1,5,6</sup>. The differential diagnosis may include malignant proliferating trichilemmal tumor and squamous cell carcinoma, which have severe cytologic atypia and invasion of adjacent tissues<sup>7,8</sup>.

PTT without atypia has a benign behaviour, the complete removal of the lesion is recommended to prevent recurrences<sup>1,5,6</sup>.

### CASE REPORT

The patient was 25 yrs man came to the outpatient department with complaining of a swelling in occipital region of the scalp since 2 yrs, there was no history of trauma and sudden increase in size of the swelling. On examination the swelling was 4\*4 cms size, non tender, soft in consistency and was appears to be arising from subcutaneous part of scalp.

FNAC report was inconclusive so excision biopsy was done to confirm the diagnosis. Histopathology report showed fibro collagenous cyst wall lined by stratified basaloid cells, and the basal layer cells were arranged in palisading pattern with intact thick basement membrane, the basaloid cells at places showed marked dysplastic changes with hyperchromatic nucleus. Increased N:C ratio with nuclear pleomorphism, irregular nuclear border and prominent nuclei the cyst also showed multiple dilated congested blood vessels suggested the diagnosis in favour of Proliferating trichilemmal tumor (PTT).



### DISCUSSION

PTT is a rare tumor arising from the hair follicle epithelium, more common in elderly female patients. There are cases described in young patients<sup>1,5,6</sup>. Ninety percent of cases are located on the scalp and are presented as a slow-growing solitary nodule.

PTT may occur less frequently in other topographies, such as the vulva, trunk, face, lips, buttocks and back<sup>1,5,6</sup>. Clinically and microscopically, PTT can simulate malignancy and the correct diagnosis is essential due to the indolent biological behaviour of these lesions<sup>1</sup>.

In most cases, PTT has a benign biological behaviour, and resection with free surgical margins is the recommended treatment<sup>1</sup>.

This was the treatment of choice for our patient. Our case showed no clinical and/or microscopic aspects related to the more aggressive biological behaviour, but patient's follow-up is indicated for assessment of evolution of the illness.

### CONCLUSION

PTT is an uncommon neoplasm, and the reporting these lesions are important due to the good clinical evolution compared to the malignant macroscopic and microscopic feature.

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