

Proliferating Trichilemmal Tumor of the Scalp

Skalpde Prolifere Trikilemmal Tümör

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ABSTRACT

Proliferating trichilemmal tumors (PTT) are rare but usually benign neoplasms of the outer sheath of the roots of hair follicles. These lesions are generally found on the scalp of women as well as other hair-bearing areas of the body such as the back, wrist, vulva, nose, mons pubis, elbow and breast in 10% of patients. There is a histological debate regarding the definition of malignant and benign lesions. Being a rare dermal tumor, in order to minimise the metastatic spread of the proliferating trichilemmal tumor after the diagnosis and initial treatment, an appropriate strategy should be developed, including surgical excision and other additional treatment modalities.

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Key Words: Scalp, proliferating trichilemmal tumor, pilar cyst

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ÖZET

Prolifere trikilemmal tümörler (PTT) kıl folikül köklerinin dış tabakasının nadir ancak çoğunlukla iyi huylu neoplazmlardır. Bu lezyonlar genellikle kadınların skalplerinde rastlanmakla beraber hastaların %10'unda sırt, elbileği, vulva, burun, mons pubis, dirsek ve göğüs gibi yoğun kıl içeren diğer alanlarda da görülebilmektedir. Kötü huylu ve iyi huylu lezyonların tanımlanmasında histolojik olarak halen bir tartışma mevcuttur. Nadir bir dermal tümör olduğundan, proliferate trikilemmal tümörün metastatik yayılımını en aza indirmek için tanı ve ilk tedaviden sonra, cerrahi eksizyon ve diğer ek tedavi yöntemlerini içeren uygun bir strateji geliştirilmelidir. (*Gazi Med J* 2012; 23: 91-3)

Anahtar Sözcükler: Scalp, proliferate trikilemmal tümör, pilar kist

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INTRODUCTION

Proliferating trichilemmal tumors (PTT) are rare but usually benign neoplasms of the outer sheath of roots of hair follicles. These lesions are generally found on the scalp of women in their seventh or eighth decades,

as well as other hair-bearing areas of the body such as the back, wrist, vulva, nose, mons pubis, elbow and breast in 10% of patients (1). Histologically, in addition to being keratinised in a trichilemmal fashion without the granular cell layer of pilar cysts, general keratinocyte proliferation, varying cytological atypia and mitotic activities can also be seen.

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Here, we present a patient who has undergone multiple pilar cyst excisions from the scalp over a 10-year period who subsequently developed a proliferating trichilemmal tumor.

CASE REPORT

A 60-year-old female patient was admitted to our clinic with a pilar cyst in the left occipital region of her scalp in 1998. The cyst was excised under local anaesthesia at that time. Over the next three years, she had multiple pilar cysts in the scalp which were again excised, and the incisions were primarily sutured. Six years later, in 2004, the lesion in the occipital region recurred; two cysts 4x4 cm in size were excised and the defect was closed by a local flap. On her last visit in 2007, she had a non-ulcerated and mobile soft mass on her left occipitotemporal region which was 7 cm in width (Figure 1). By cranial CT, the lesion was 3x6x5 cm, extracalvarially located, heterogenous, hyperdense and had smooth contours. Cranial MRI revealed that the lesion had cystic and necrotic areas centrally, characterised by dense heterogenous contrast material uptake and minimal erosive changes in the parietal and occipital bones under the lesion without extension to the interdigloic space (Figure 2). The lesion could be totally excised with a 1 cm wide intact skin border, and the defect was closed with transpositional flap.

During the follow-up period, the patient was admitted to the hospital with non-specific chest pain. On chest X-ray, a mediastinal widening was observed. There were no parenchymal lesions that might raise suspicion of metastases related to a trichilemmal tumor. She also had mediastinal and supraclavicular lymphadenopathies, from which excisional biopsies were taken. The biopsy results were consistent with a non-caseating granulomatous inflammatory reaction. Sarcoidosis was the most likely diagnosis for the lymphadenopathies, and further diagnostic tests were performed. New pilar cysts have come out in different areas of the scalp, but no recurrence related to the trichilemmal tumor was seen.

Histological examination

The semisolid nodular lesion was white and tan in patches when sliced (Figure 3). After staining with hematoxylin and eosin, island-like limited growth of the tumoural lesion was observed. Keratinisation and necrotic changes were noted in the centre of the islands and giant cells were seen. Cells lining the periphery of the tumoural islands were eosinophilic and clear. Mild to moderate cellular atypia, mildly increased mitotic activity and atypical mitosis (Figure 4) were the other histological characteristics.

DISCUSSION

Proliferating trichilemmal tumors are exophytic or multilobulated nodules that can reach up to 25 cm in diameter when neglected. They are mostly seen in women and located on the scalp. Mehregan and Lee (2) proposed that the origin of proliferating trichilemmal cysts may be a pre-existing lesion due to a trauma, inflammation or both, and real malignant transformation can be determined when there is pre-existing evidence of metastatic disease.

There is a histological debate in the definition of malignant and benign lesions. The classical form with regular margins and without cytological atypia is accepted as benign, whereas a complex structure and frequent dyskeratotic cells can indicate a malignant tumor, especially squamous cell carcinoma. Infiltrative growth and remark-



Figure 1. Patient with large, non-ulcerated and mobile mass

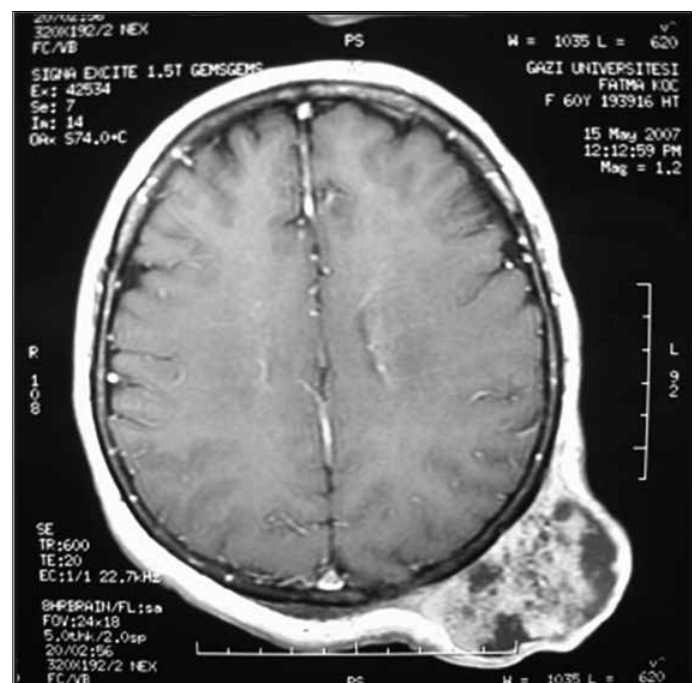


Figure 2. Cranial MRI of the patient revealing the extent of the lesion

able cytological atypia are among the malignant components. Differential diagnosis of the malignant PTT includes squamous cell carcinoma and trichilemmal carcinoma. Scalp location, trichilemmal-type keratinisation, ordinary trichilemmal cysts, calcification, an eosinophilic hyaline membrane surrounding tumor lobules, palisading of cells at the periphery of tumor lobules, and the lack of a precursor epidermal lesion such as an actinic keratosis or Bowen's disease favour the diagnosis of PTT over SCC. Trichilemmal carcinoma has to be distinguished from the malignant form of PTT, as it has not been reported to have metastatic potential (3). In our case, the histopathological findings indicated increased mitotic activity and atypical mitosis, but clinically no malignant transformation or metastases were detected in the follow-up period.



Figure 3. Nodular pattern of the lesion

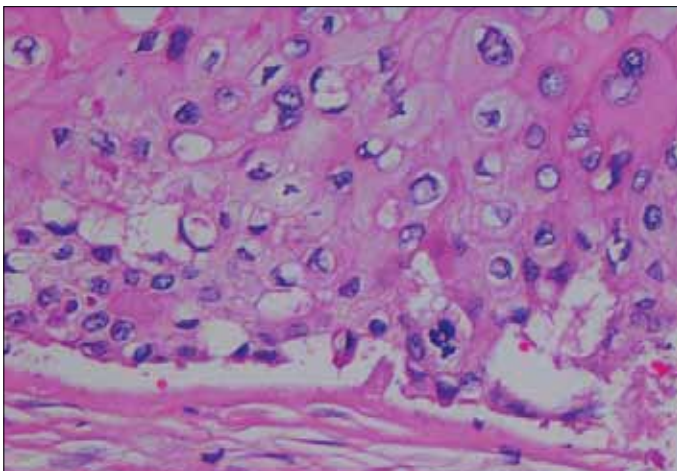


Figure 4. Histological characteristics of the lesion

In T1-weighted images of PTT, an isointense appearance in large areas of the lesion is one of the characteristic findings in MR imaging and is helpful in distinguishing PTT from the other subcutaneous tumors, including epidermoid cysts, dermoid cysts, hemangioma, lipoma, fibrous tumors or hemangioendothelioma. In T2-weighted images, a homogenous, hyperintense signal and no enhancement after contrast medium injection are seen in trichilemmal tumors. Although PTT and malignant PTT may show heterogenous, mixed signals in T2-weighted images, significant enhancement of walls of variable thickness and mural nodes for solid lobules and cystic cavities, a large size (more than 5 cm), rapid enlargement as well as irregular margins and invasion to nearby structures nearby may indicate a malignant PTT (4).

CONCLUSION

Being a rare dermal tumor, in order to minimise the metastatic spread of the proliferating trichilemmal tumor after the diagnosis and initial treatment, an appropriate strategy should be developed, including surgical excision and other additional treatment modalities.

Conflict of Interest

No conflict of interest is declared by the authors.

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