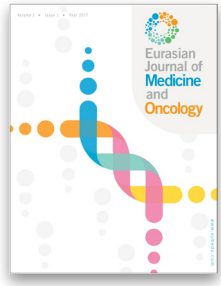
EJMO

DOI: 10.14744/ejmo.2017.42714
EJMO 2018;2(1):43-45



Case Report

Proliferating Trichilemmal Tumor of the Scalp

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Abstract

A proliferating trichilemmal tumor is an uncommon, benign, and well-circumscribed hair follicle tumor. It is also called proliferating pilar cyst of the scalp. The tumor has an unclear pathogenesis, but it is often derived from a pre-existing trichilemmal or pilar cyst and is more common in women. The tumor has a slow-growing nature and capacity to be malignant. A 55-year-old female was admitted to Kars Harakani Hospital Neurosurgery Department with a scalp lesion that was growing for 1 month and was infected. Although scalp lesions are frequently encountered in daily neurosurgical practice, proliferating trichilemmal cysts are quite a rare entity, and neurosurgeons should be aware of trichilemmal tumors during differential diagnosis.

Keywords: Pilar tumor, proliferating trichilemmal cyst, scalp

Cite This Article: *Yakar F, Imre P, Deniz G, Celtikci E. Proliferating Trichilemmal Tumor of the Scalp. EJMO. 2018; 2(1): 43-45*

Proliferating trichilemmal tumor (PTT) is a solid cystic benign tumor that is usually derived from the sheath of a hair follicle. It is also known as proliferating trichilemmal cyst or pilar tumor.[1] PTT mostly occurs in the scalp of women aged >50 years. The lesion is frequently disconcerted with squamous cell carcinoma.[2] The tumor usually originates from a pre-existing pilar cyst.[3] Although malignant transformation has been reported in the literature, it is referred to as a benign lesion.[2, 4] The aim of our study was to present a patient with PTT to increase awareness on the differential diagnosis of scalp lesions.

Case Report

A 55-year-old female presented to our clinic with a painless and infected 5×3-cm scalp lesion. The lesion was present for 15 years and rapidly grew in the last month following infection. She had no neurologic deficit. On physical examination, a palpable, mobile, and ulcerated lesion was found on the left frontoparietal area. The lesion had a bad odor. Computed tomography revealed a solid, expansive lesion with calcifications and minimal thickness of the bone (Fig. 1a, b), and magnetic resonance imaging (MRI) showed a heterogenous lesion without parenchymal invasion (Fig. 1c, d). The lesion was completely resected and revealed a 5×3×3.5 cm grayish white and well-encapsulated cystic mass. On microscopic examination of hematoxylin & eosin (H&E)-stained sections, intercalated squamous epithelium islets were observed in the dermis, surrounded with a smooth boundary in the surrounding tissue, with a multilocular cystic appearance, abundant amorphous keratin, local calcification, foreign body giant cell reaction, and trichilemmal keratinization. Significant cytologic atypia, mitosis, and infiltrative growth pattern of the surrounding tissue were not observed (Fig. 2a-d). Therefore, the lesion was diagnosed as PTT.

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Submitted Date: August 17, 2017 **Accepted Date:** October 27, 2017 **Available Online Date:** December 13, 2017

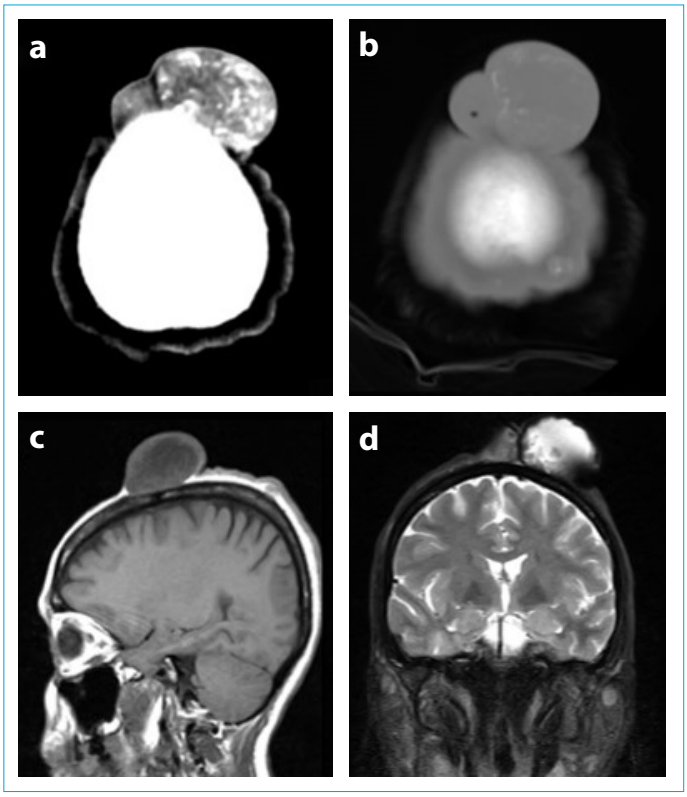

Figure 1. (a) Computed tomography showed a heterogenous lesion with calcifications, **(b)** and minimal thickness of the bone. **(c)** Sagittal and **(d)** coronal MRI revealed no parenchymal invasion.

Discussion

PTT was first clarified by Jones in 1966 using the term proliferating epidermoid cyst.[5] PTT is a cutaneous neoplasm that is mostly located on the scalp of elderly woman.[6] It is not certain that PTT develops de novo or arises from a pre-existing cyst.[7] The effects of trauma or inflammation was considered to be the cause of the presence of a pre-existing pilar cyst.[6] The human papilloma virus was presented in some cases.[8] Inflammation history was observed in our case.

The scalp is the most common site of PTT (90%), but it can also be located on the face, trunk, and back.[2, 8, 9] Its usual presentation is a solitary, nodular, and exophytic tumor that may have originated from a nevus sebaceous.[8, 9] Alopecia and ulceration may also be observed.[8]

Macroscopically, PTT has a multi-nodular image. On the cut surface, the cysts contain keratin and calcification. Microscopically, it influences the dermis and can extend to the subcutaneous tissue. The epithelium has neoplastic characteristic and includes trichilemmal keratinization. Calcification and cholesterol crystals can be found. The epithelium may have atypia and pleomorphic with mitosis. Atypical areas may be indistinctive from squamous cell carcinoma.[8] Aggressive behavior criteria are location other than the scalp, fast growing and infiltrative characteristic, larger than 5 cm, and presence of atypia and mitotic activity.[6] There was no aggressive behavior in our case.

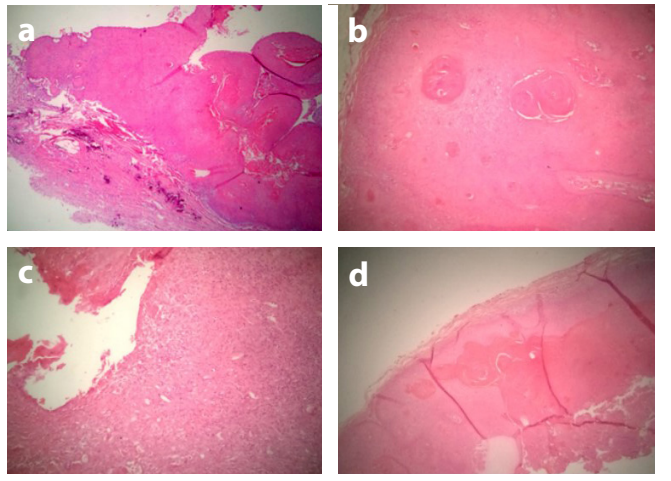

Figure 2. (a) Associated thickened squamous epithelium showing trichilemmal keratinization (H&E, ×40), **(b)** scattered squamous epithelium islands (H&E, ×100), **(c)** foreign body giant cell reaction showing area (H&E, ×100), and **(d)** trichilemmal cyst in focal areas (H&E, ×100).

Differential diagnosis of scalp lesions includes lipoma, pleomorphic adenoma, schwannoma, metastatic or reactive lymphadenopathy, paraganglioma, angioma, carotid artery aneurysm, and branchial cleft cyst.[10, 12] PTT is an uncommon diagnosis in daily neurosurgery practice.

In literature, the suggested treatment is resection with free surgical margins because of benign biological behavior of PTT in most cases.[6]

Conclusion

Scalp lesions are common pathologies in daily surgical practice. Although the most common scalp lesions are lipomas, it is important to keep in mind rare lesions such as PTTs.

Disclosures

Informed Consent: Written informed consent was obtained from the patient who participated in this study.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

Authorship contributions: Concept – F.Y.; Design – P.I.; Supervision – F.Y.; Materials – E.C.; Data collection &/or processing – F.Y.; Analysis and/or interpretation – G.D.; Literature search – F.Y.; Writing – F.Y.; Critical review – F.Y.

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