

Trichofolliculoma of the Scalp: A Rare Case Report

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Abstract

Case Report

Introduction: Trichofolliculoma (TF) is a rare, benign adnexal neoplasm originating from hair follicle germinative cells. Despite its characteristic clinicopathologic features, TF is frequently misdiagnosed due to its mimicry of other follicular lesions. **Case Report:** A 47-year-old female presented with an asymptomatic mass on the scalp. The lesion appeared as a flesh-colored, domeshaped, smooth nodule being the size of 5 mm in diameter, with a smooth surface, and located on the scalp. Shave excision was performed, and the diagnosis of fibrofolliculoma was confirmed finally through histological exam. **Conclusion:** Trichofolliculoma is rare, and generally diagnosed by histopathological exam after excision and biopsy. Awareness of its immunophenotype aids accurate distinction from other follicular neoplasms. Trichofolliculoma should be included in the differential diagnosis when a localized mass lesion arising in the scalp is encountered. Complete surgical excision is curative; recurrence is rare.

Keywords: Trichofolliculoma, Benign adnexal neoplasm, Hair follicle, Scalp, Histopathology, Dermoscopy.

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INTRODUCTION

Trichofolliculoma (TF) was first described by Masaki et al. in 1918 as a “follicular tumour with a tuft of hair” (Masaki *et al.*, 1918). Since then, the literature has reported only a few hundred cases, reflecting its rarity. TF is considered a benign follicular adnexal neoplasm deriving from the germinative cells of the hair follicle with a particular predilection for the skin of the face and scalp.

CASE REPORT

A 47-years-old woman presented with an asymptomatic, pink lesion on the scalp. No similar lesions were found on other parts of the body. Her medical and family histories were unremarkable, and she had experienced no triggering trauma.

Dermatologic examination found a roughly rounded, pink, sessile nodule, measuring 1 cm, with a soft consistency and smooth surface, centered by a

depression from which two terminal hairs emerge, without any signs of inflammation (Figure1).

Dermoscopic examination distinguish pinkish-white areas, bright white structures with some linear and serpiginous vessels (Figure2).

The lesion was removed by shave excision after local anesthesia.

The biopsy was sent for histopathologic examination.

Histological examination revealed a subtly granular squamous epithelium, regularly and discreetly covered by a thin layer of orthokeratotic keratin. The dermis contains a central, dilated cystic follicle surrounded by multiple fully formed primary or terminal hair follicles associated with sebaceous glands. The central cystic follicle shows a connection to the epidermis at the surface. Elsewhere, the dermis is fibrous, punctuated by rare mononuclear inflammatory elements (Figure3).



Figure 1: Clinical image of a roughly rounded, pink, sessile nodule, measuring 1 cm

Pathological examination confirmed the diagnosis of trichofolliculoma. Two weeks after surgery, the patient had no particular complain. During the 3-

month follow-up, no signs of recurrence or new lesions appeared.

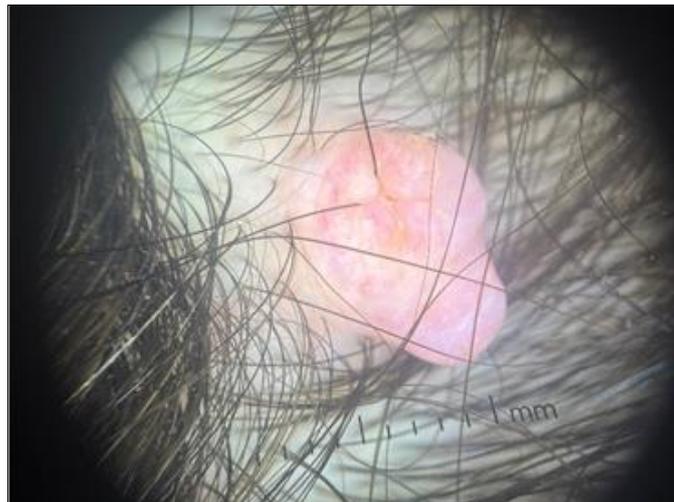


Figure 2: Dermoscopic appearance showing a pinkish white areas with some linear and seipiginous vessels

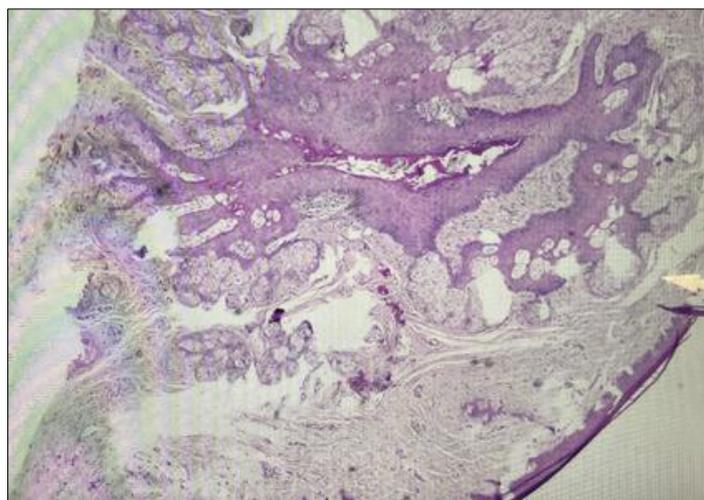


Figure 3: Histopathological photograph showing a central epithelial structure resembling a hair follicle with a central hair shaft surrounded by epithelial cells

DISCUSSION

Trichofolliculoma is a relatively uncommon benign tumor of the hair follicle, characterized by the presence of well-differentiated structures resembling normal hair follicles. It is considered a hamartomatous lesion resulting from a developmental anomaly of the hair follicle. Trichofolliculoma typically presents as a solitary, skin-colored or slightly pigmented nodule, most commonly located on the face or scalp.

Histologically, trichofolliculoma shows a central epithelial structure resembling a hair follicle with a central hair shaft surrounded by epithelial cells, often forming a multilayered epithelial wall. The outer layer typically consists of inner root sheath-like cells, while the inner layer comprises of matrical or supramatrical cells. The fibrous sheath around the lesion further supports the diagnosis of trichofolliculoma.

Immunohistochemical studies have shown positive staining for keratin markers in the epithelial portion of trichofolliculoma, supporting its origin from epithelial-dermal interaction typical of hair follicle development. Differential diagnosis may include trichoepithelioma, trichoadenoma, and trichilemmoma, which can share overlapping histological features with trichofolliculoma.

Treatment of trichofolliculoma usually involves surgical excision, which is curative in most cases. Recurrence is uncommon but has been reported in some cases, emphasizing the importance of long-term follow-up and monitoring. Malignant transformation of trichofolliculoma is extremely rare but has been documented in isolated cases, highlighting the need for histological evaluation to rule out any malignant changes.

CONCLUSION

Trichofolliculoma is a benign tumor of the hair follicle with distinctive histological features. While typically considered a benign lesion, accurate diagnosis

and monitoring are essential to differentiate it from potentially more aggressive cutaneous neoplasms. Further research into the molecular mechanisms underlying trichofolliculoma pathogenesis and progression may provide insights into its etiology and potential therapeutic targets.

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