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Scrotal Trichofolliculoma: A Rare Case Report

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ABSTRACT

Trichofolliculoma is a rare, benign cutaneous adnexal neoplasm that typically arises from the hair follicles. They are primarily located on the scalp, face, neck, or upper trunk but can also appear on less common sites, such as the scrotum. They clinically present as a solitary or multiple skin coloured dome-shaped papule or an erythematous nodule with enlarged central pores. Here we discuss a case of a 44-year-old male with a scrotal trichofolliculoma, detailing its unusual clinical presentation and characteristic histopathological findings.

Keywords: Trichofolliculoma, scrotum, cutaneous, tumour, rare

INTRODUCTION

Trichofolliculoma or folliculomas are a group of benign, rare adnexal epithelial tumours that originates from hair follicle. Other benign tumours which arise from the hair follicles include trichilemmoma, trichoadenoma, dilated pore of Winer and trichoblastoma[1]. They are most commonly seen on the face, neck and upper trunk but may also be observed in other regions, including the scalp, back, and more rarely in the scrotum. Trichofolliculomas present as a cystic dilation of one or more hair follicles with a centralized opening to the skin surface[1]. Due to their rarity, they can be challenging to diagnose and may be mistaken for epidermoid cysts, basal cell carcinoma or other benign cutaneous tumours. The aim is to discuss its clinical features, differential diagnosis and characteristic histopathological findings.

CASE PRESENTATION

A 44-year-old male presented to the OPD with complaint of multiple painless, progressive nodular growths on scrotal region measuring 5x3x2.5cm with presence of six dilated pores on the skin surface. (Figure 1) The lesion was not associated with erythema, pruritus, tenderness, discharge or any palpable regional lymphadenopathy. The patient reported that the growth was noticed two years back and had increased to the current size in 2.5 months. There was no history of any trauma or previous surgical intervention. The patient had no significant medical, family or drug history. Based on the clinical gross findings, diagnosis of benign appendageal tumour most likely to be hidradenoma or trichoepithelioma were made. Wide local excision was planned for the patient and post-surgery was uneventful with no recurrence in a month.

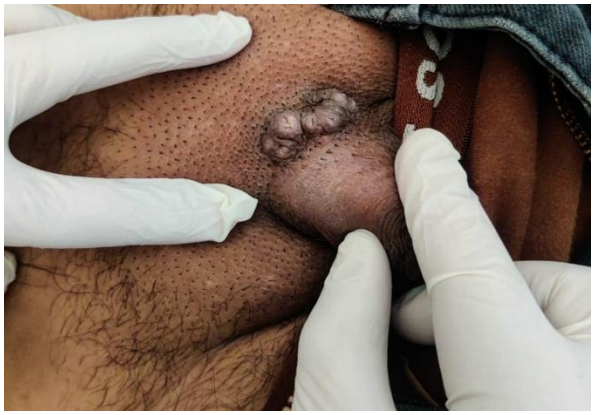
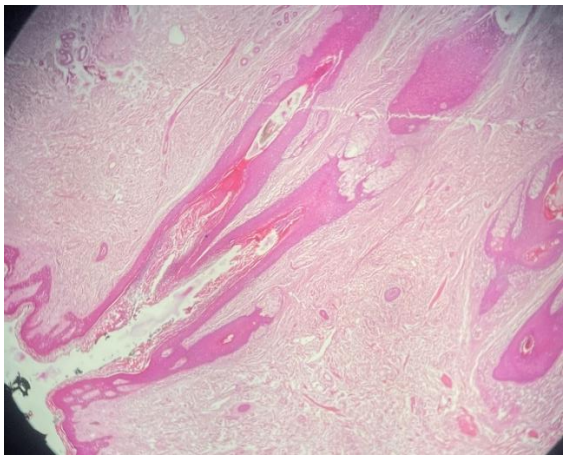


Figure 1: Multiple nodular growths on scrotal region measuring 5x3x2.5cm with presence of six dilated pores on the skin surface.

Microscopic examination revealed a dermal tumour with variable sized keratin filled spaces lined by squamous epithelium. The lumen showed presence of hair shafts which was filled with keratinous material. Many small, well differentiated hair follicles radiating from these cystic spaces were noted. Numerous sebaceous lobules were seen along the horn cysts and some of them were in continuation with the surface epithelium (Figure 2, 3, HE stain; scanner and 40x).



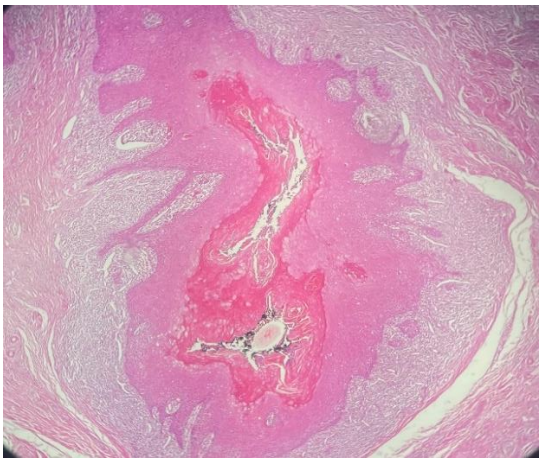
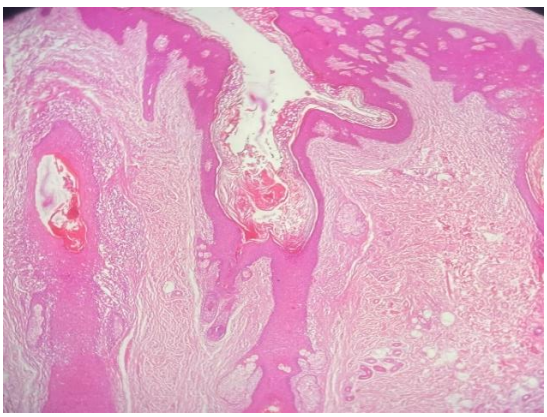


Figure 2: Section shows a dermal tumour with variable sized keratin filled spaces lined by squamous epithelium. The lumen showed presence of hair shafts which was filled with keratinous material. (HE stain, scanner view)

Figure 3: Section shows well differentiated hair follicles radiating cystic spaces. (HE stain, 40x)



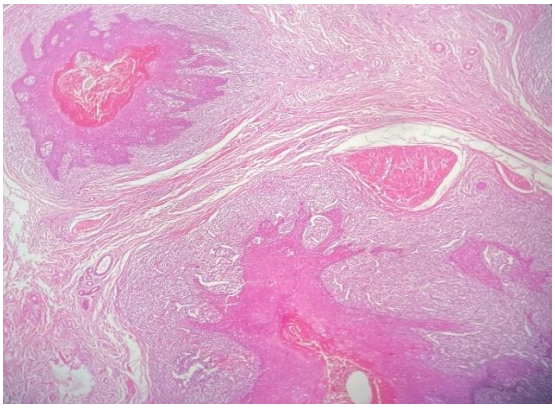


Figure 4: Section shows a dermal tumour with variable sized keratin filled spaces lined by squamous epithelium. Numerous sebaceous lobules were seen along the horn cysts (HE stain, 20x)

Figure 5: Section shows moderate to dense perifollicular lymphohistiocytic infiltration. (HE stain, 40x)

The overlying epidermis showed hyperkeratosis, parakeratosis, spongiosis, irregular acanthosis, civatte bodies and numerous dilated pores with hair shaft. Moderate to dense lymphohistiocytic and plasmacytic infiltration was noted around the cystic spaces and along the dermo-epidermal junction (Figure 3, 4, HE stain ;20x and 40x). There were no signs of mitotic activity, cellular atypia or invasion into the underlying surrounding tissues. All the margins including deep resected margins were found to be free of tumour. The overall features were consistent with benign trichofolliculoma.

DISCUSSION

Trichofolliculoma was first described in 1944 [2] as a rare benign follicular tumour which presents as a single or multiple skin coloured dome-shaped papule or nodule with central pores[3]. The etiopathogenesis remains unknown but it is believed to arise due to failed differentiation of hair follicles or chronic irritation[4]. These lesions are single or multiple in number and present as skin-coloured nodules or papules predominantly over the face. Other sites such as the ear canal, intranasal area, eyelid, genital area, lips, and vulva have also been reported[5,6]. Most of the cases are sporadic but familial cases have also been noted. These cases are seen in adults and have no gender predisposition[4]. Scrotal trichofolliculoma can clinically resemble epidermoid cyst, basal cell carcinoma, keratoacanthoma, molluscum contagiosum, trichoepithelioma or lipoma and a definitive diagnosis can be challenging without histopathological examination. These lesions undergo changes and are seen in three stages: early, fully developed and late stages[5].

The dermoscopy examination shows vellus hair with peripheral radial dark brown projections resembling a crown “firework pattern” which represent the nests of cells radiating from the follicular epithelium[7]. Few cases may also present as well-defined, yellowish macules with a central white hair plug described as "troll hair" sign surrounded by dilated capillaries on dermascopy[8].

Characteristic histopathological findings show squamous epithelium lined cystically dilated keratin filled hair follicle and have an epidermal connection[3]. Rupture of these cystic spaces can induce a granulomatous reaction in the surrounding dermis[9]. Sebaceous differentiation may be seen within the follicles or the rudimentary structures. These histopathological features tend to differentiate trichofolliculomas from other hair follicular tumours. Sebaceous trichofolliculoma and folliculosebaceous cystic hamartoma are two variants of trichofolliculoma that may represent an evolutionary stage of the lesion[10,11]. On microscopy, differential diagnosis includes trichoepithelioma, the dilated pore of Winer, pilar sheath acanthoma and basal cell carcinoma. Trichoepithelioma shows nests of basaloid cells with peripheral palisading and keratinous cysts in the dermis. Basal cell carcinoma consists of basaloid nests with peripheral palisading formations, cellular atypia and artefactual clefting.

Trichofolliculoma has well-differentiated hair follicles compared to pilar sheath acanthoma, in which underdeveloped hair follicles are seen. Outer root sheath, inner root sheath and trichohialin granules are not seen in pillar sheath acanthoma but are importantly seen in secondary follicles of trichofolliculoma[12]. These lesions are predominantly benign with very rare chances of recurrence but perineural invasion as well as recurrence after excision has been reported in literature[13.]

The treatment of trichofolliculoma is generally complete surgical excision, as the lesions are benign and non-invasive. The prognosis for patients with trichofolliculoma is excellent. Scrotal involvement does not appear to influence the prognosis negatively, and no malignant transformation has been reported. However, patients should be followed up regularly to monitor for potential recurrence of the lesion.

CONCLUSION

This case highlights the importance of considering rare diagnoses such as trichofolliculoma in the differential diagnosis of scrotal skin lesions. While scrotal trichofolliculoma are uncommon but they should be included in the differential diagnosis of firm, non-tender, scrotal nodules. Surgical excision is the treatment of choice with an excellent prognosis following complete removal.

Declaration by Authors

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