Case Report

Trichoblastoma: an unusual visitor to a surgeon

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Abstract

Trichoblastoma is a rare, benign adnexial tumour arising from follicular germinative cells, presenting as a solitary mass of brown/black nodule usually on head or neck in adult males. It is a dermal, epithelial and stromal neoplasm consisting of proliferation of basaloid cells in a stroma resembling perifollicular fibrous structures. A biopsy is essential for diagnosis as it may closely resemble a basal cell carcinoma or rarely undergo malignant transformation. Complete surgical excision is the treatment of choice. We present herewith a rare case of a giant trichoblastoma on thigh along with a a comprehensive review of the whole subject.
Keywords: Trichoblastoma, giant,adnexial, basaloid, excision.

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INTRODUCTION

Trichoblastoma is a benign hair follicle tumour arising from follicular germinative cells. It typically presents as a solitary mass of skin coloured to brownish black nodules on face/ neck of adult males. Although benign it often resembles basal cell carcinoma or may harbour malignant characteristics. Clinical diagnosis is often challenging and may be revealed only after biopsy. We present herewith a very rare case of giant trichoblastoma of thigh, an unusual visitor to a surgeon and take an opportunity to review the literature regarding the same in detail.

CASE REPORT

A 60 year old male patient presented with a slowly growing swelling on right thigh for 2 years. There was no h/o trauma or presence of naevus at the site of swelling or any other major illness. The swelling was 7cm x 4cm x 3cm in size, on posterolateral aspect of thigh. The upper 2/3 of the swelling was brownish black in colour with irregular variegated surface while the lower part of the swelling was ulcerated with pale granulation tissue at depth. It was mobile, not adherent to underlying fascia or muscle, and the surrounding skin was normal. There was scanty serous discharge from the ulcerated area and regional nodes were not enlarged. The routine laboratory tests were within normal limits. A wedge biopsy of the swelling was taken and the histopathological examination revealed a trichoblastoma with no evidence of malignancy. A complete surgical excision was performed with a surrounding margin of 1 cm of skin and underlying tissue and primary closure of the incision was done. The operative specimen sent for histopathological examination revealed the lesion consisting of basaloid cells arranged in reticular fashion with large fenestrations containing follicular stroma, covered with keratinized stratified squamous epithelium thus confirming the diagnosis of trichoblastoma. No features suggestive of atypia/malignancy were seen.

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Figure 1: Trichoblastoma - Clinical photograph

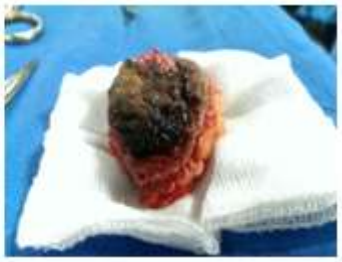

Figure 2: Trichoblastoma: Operative Specimen

DISCUSSION

HISTORICAL

Trichoblastoma was first described by Headigton in 1970 as a well circumscribed tumour of follicular origin[4] Later he subdivided it into 3 types i. e. trichogenic trichoblastoma (epithelial component predominant), trichogenic fibroma (stromal component predominant) and trichogenic myxoma (myxomatous predominance)[5]. The word trichoblastoma was later defined by Ackerman and colleagues as a generic term for benign cutaneous neoplasm with well defined borders having predominance of follicular germinative cells[1], Ackerman later subdivided trichoblastoma into five histologocal patterns – large nodular (including pigmented), small nodular, cribriform, racemiform and retiform – now a well accepted classification[2]. Later several less common forms such as admantinoid, columnar, rippled pattern, subcutaneous and superficial were added as varients[3].

CLINICAL PRESENTATION

Trichoblastoma is a rare, benign slow growing adnexial tumour of rudimentary hair follicles[7]. It presents clinically as a solitary, well circumscribed nodule usually on head and neck with predilection for scalp. The trunk, proximal extrimities, perianal and genital regions also may be affected but is very rare on distal extrimities[11]. Any age group except young children can be affected, with maximum incidence being in 5^{th} – 7^{th} decade[11,9,3]. Women are equally affected as men. The clinical appearance can range from a skin coloured papule to a large nodular lesion and can be multiple. The nodules are generally smaller than 3 cm[11,9] but occasionally may reach 7 to 10 cm, when they are referred to as 'giant' trichoepethelioma, as in our case. Although trichoblastomas are considered as benign neoplasms, there are reports of them presenting as aggressive development[9]. A trichoblastoma can also arise as a secondary neoplasm from another benign lesion, the nevus sebaceous present in children, 20% of whom may develop into neoplastic transformation in adulthood (trichoblastoma or syringocystadenoma papilliferum) with only a small fraction being malignant[7]. Although very rare in children, trichoblastoma has been reported in a child as young as 4 years of age[8].

PATHOLOGICAL ASPECTS

Trichoblastoma is a well circumscribed nodular tumour spanning entire dermis, extending into the subcutaneous tissue. A purely subcutaneous location may also be rarely present[11]. It is a benign dermal epithelial and stromal neoplasm with no epidermal connection, the epithelial component consisting of proliferation of basaloid cells arranged in cords, strands and nests. The stroma resembles perifollicular fibrous sheets and shows focal aggregation to the periphery of basaloid cells resembling papillary mesenchymal body (evidence of trichogenic differenciation in form of abortive hair papillae)[8]. Usually most trichoblastomas develop into primitive hair follicle differenciation. Rare cases may show apocrine or sebaceous differentiation[8]. Other features include keratin cyst formation, prominent fibromyxoid change in stroma, clear cell change in epithelium and foci of calcification[11]. Although very rare, malignant transformation can occur, especially in elderly and very few cases are described[8,12]. Varients of trichoblastoma, such as giant trichoblastoma, admantinoid trichoblastoma, pigmented trichoblastoma, rippled pattern trichoblastoma and nodular desmoplastic trichoblastoma have been reported[12]. Admantoid trichoblastoma is an uncommon benign skin adnexial (follicular) neoplasm with prominently lymphocytic infiltrate and admantinoid appearance[10].

DIFFERENTIAL DIAGNOSIS

1. **Trichoblastoma is commonly mistaken for trichoepethelioma and basal cell carcinoma. Trichoepethelioma:** Trichoblastoma is much larger than trichoepethelioma and situated in deep dermis and subcutaneous tissue, while trichoepethelioma is more superficial[11]. Also, trichoepethelioma is characterized by well formed horn cysts[10].
2. **Basal cell carcinoma:** Distinction between trichoblastoma and basal cell carcinoma is very difficult initially and will need an accurate histopathological examination for the diagnosis. Lack of epidermal origin, more conspicuous fibrocellular stroma with prominent mesenchymal bodies and absence of retraction

artifacts, absence of mucin and presence of structures that mimic follicular papillae and bulb are features that are more in favour of trichoblastoma[9]. However, distinguishing basal cell carcinoma cases with extensive hair follicle differenciation from trichoblastoma is very difficult and often requires immunohistochemical study, which shows CD 34 and CD 10 positive in trichoblastoma stroma and negative in basal cell carcinoma stroma. Another marker is BCL 2 which is distributed on the periphery of trichoblastoma's epithelial blocks and presents a diffused distribution in basal cell carcinoma's epithelial blocks[9].

3. **Pigmented basal cell carcinoma and malignant melanoma:** They may often closely resemble a pigmented trichoblastoma. A pigmented basal cell carcinoma arises from epidermis and grows towards dermis, differenciation towards hair germ is not found and pigmentation is restricted to upper part of of dermis[3]. A pigmented trichoblastoma contains melanin deposits but no significant melanin hyperplasia as in a malignant melanoma[6].

MANAGEMENT

It is important to establish a definitive diagnosis even though trichoblastoma is a benign neoplasm, because of its association with a basal cell carcinoma and the rare chance that it may undergo a malignant change. The diagnosis is established by a small wedge biopsy under local anesthesia and histopathological examination. Complete surgical excision with adequate margin and primary closure of the site is the required treatment of choice[11]. Apart from establishment of proper diagnosis in cases of uncertain diagnosis, excision is also performed for cosmetic reasons, in lesions which occur on functionally important areas, in patients at risk of being lost for follow up and in lesions suspicious of malignancy. Less invasive techniques such as photodynamic therapy, carbon dioxide laser and electrodessication have been performed but the proper safety and efficacy have not been established[7]. MOHS micrographic surgery (MMS) is a good option in lesions on functionally important locations such as eyelids, to preserve as much healthy skin as possible to improve functional and aesthetic results, especially in lesions with aggressive nature[7].

CONCLUSION

Trichoblastoma, a rare benign adnexial tumour arising from follicular germinative cells, may occasionally be an unusual visitor to a general surgeon, who should be well aware of the same. A definitive diagnosis by biopsy must be established before embarking on adequate surgical excision, because of its close resemblance with basal cell carcinoma and its potential, albeit rare, of transformance into malignancy.

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