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A Rare Case of Lower Back Swelling Diagnosed as Low- Grade Trichoblastic Carcinoma Following Excision: A Case Report

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Abstract Background: Trichoblastic carcinoma is a rare, low-grade malignant tumor arising from hair follicle cells, often presenting in the head and neck region. Diagnosing this tumor can be challenging, especially when it mimics benign lesions such as sebaceous cysts or pilomatricomas. This case report describes an uncommon occurrence of low-grade trichoblastic carcinoma in the lower back, highlighting the diagnostic complexities and management strategies. Case Report: A 51-year-old female with multiple comorbidities, including HIV and HPV 18 and 39 positivity, presented with a chronic lower back swelling and mild pain that had been present for several months. Ultrasound imaging initially suggested a benign lesion such as a sebaceous cyst or pilomatricoma. After excision, histopathological examination revealed a low-grade trichoblastic carcinoma, characterized by basaloid cells, horn cysts, and sebaceous differentiation. The patient underwent a second wide excision due to positive surgical margins, and subsequent pathology confirmed complete tumor removal with no residual malignancy. Discussion: Trichoblastic carcinoma can present as a painless or mildly painful nodule, and its diagnosis is often delayed or misdiagnosed due to its benign clinical appearance. Histopathological analysis remains essential for accurate diagnosis. Although generally low-grade, this carcinoma can show local aggression and recurrence, particularly with positive surgical margins. The role of HPV in the development of skin cancers, especially in immunocompromised individuals, warrants further investigation. Conclusion: Trichoblastic carcinoma should be considered in the differential diagnosis of persistent cutaneous masses, especially those that do not resolve or show growth. Histopathological examination is crucial for diagnosis, and achieving clear surgical margins is essential to prevent recurrence. Regular follow-up is recommended, particularly in patients with HPV positivity.

Keywords: *Trichoblastic carcinoma, Lower back swelling, Malignant tumor, Histopathology, Excision HPV 18 and 39, Diagnosis, Skin cancer, Surgical margins, Immunocompromised patient*

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1. Introduction

Trichoblastomas are rare dermal neoplasms typically found on the scalp and face. A lower back swelling diagnosed as a low-grade trichoblastic carcinoma following excision is a rare entity. Back masses are less commonly diagnosed as malignant [1].

2. Case Report

A 51-year-old female with a medical history of HIV, non-toxic multinodular goiter, osteoporosis, pre-diabetes, mixed hyperlipidemia, vitamin D deficiency, and HPV 18 and 39 positivity, presented to the emergency department with complaints of mild to moderate chronic lower back pain that had worsened over the last three days. The patient received analgesia and was scheduled for an appointment at the General Surgery clinic. During the clinic visit, she mentioned having a lower back swelling that had been present for several months, accompanied by mild pain. The swelling had remained stable in size, with no discharge, bleeding, or itching, and no history of trauma or fever. Manipulation of the mass aggravated the swelling.

Ultrasound imaging revealed a well-defined, oval lesion measuring approximately 1.78 x 2.84 x 2.34 cm (Figure 1),

with a mixed echotexture, hyperechoic areas (Figure 2), and fluid-like regions, suggesting a benign etiology such as a sebaceous cyst with secondary infection or a pilomatricoma. A laboratory workup showed mild leukopenia (WBC 3.8 x 10^9/L), but otherwise, the results were unremarkable. Initially suspected to be a lipoma, the patient was scheduled for excision of the mass.

During excision, a grayish-white, nodular mass measuring 2.5 x 2 x 2 cm was removed and sent for histopathological examination. The results revealed a dermal nodular lesion with basaloid cells, horn cysts, peripheral nuclear palisading, and melanin pigment, consistent with a diagnosis of low-grade trichoblastic carcinoma. The histopathology image is provided as (Figure 3,4). Immunohistochemical staining showed positivity for BER, Ep4, and BCL2, while it was negative for EMA and inconclusive for CK 20. Given the positive margins, conservative re-excision was recommended.

The patient was referred to the plastic surgery clinic, where a wide local excision was performed. The specimen, measuring 5 x 2.5 cm with underlying tissues measuring 5 x 2.8 x 1.7 cm, was carefully excised with marked margins. Histopathological analysis of the second excision confirmed no residual tumor, with clear resection margins and evidence of dermal chronic active inflammation, foreign body reaction, and fat necrosis, but no malignancy. The patient was referred to oncology for follow-up and monitoring, as no further surgical intervention was required.

3. Discussion

Trichoblastic carcinoma is a rare neoplasm thought to arise from malignant degeneration of benign follicular tumors [2]. It is classified as a low-grade carcinoma, typically occurring in the dermis or subcutaneous tissue. While it is most commonly found in the head and neck region, it can occur in other areas, as demonstrated in this case. Although these tumors are infrequent, they should be considered in the differential diagnosis of chronic or persistent cutaneous masses, particularly those that do not resolve or exhibit signs of growth. Clinically, trichoblastic carcinoma may present as a painless or mildly painful nodule, as seen in this case, where it manifested as a swelling on the lower back with mild pain over several months, which intensified over the last three days.

Trichoblastic carcinoma can be misdiagnosed as a benign lesion, particularly when the clinical presentation does not raise suspicion of malignancy. In this case, the lesion was initially thought to be a sebaceous cyst or pilomatricoma based on ultrasound findings, highlighting the diagnostic challenges associated with these tumors. Ultrasound may reveal mixed echo patterns and fluid-filled regions, which are often interpreted as benign cystic lesions or lipomas. However, Surgical biopsy to analyze histopathological and immunohistochemical differences is the gold standard for diagnosing and differentiating trichoblastoma from basal cell carcinoma [3]. In this case, the lesion was identified as a low-grade trichoblastic carcinoma, characterized by basaloid cells, peripheral nuclear palisading, and horn cysts with sebaceous differentiation.

Histopathologically, trichoblastic carcinoma can exhibit various features, such as calcification, foreign body giant cell reactions, and cholesterol clefts, as observed in this case. These characteristics help distinguish the carcinoma from other cutaneous neoplasms, such as basal cell carcinoma, which may also show palisading of basaloid cells but lacks the cystic components and sebaceous differentiation seen in trichoblastic carcinoma. However, from a histopathological standpoint, TB/TBC and BCC can share many similarities including islands of peripherally palisading basaloid epithelial cells, follicular papillae, and germinative cells [4].

Immunohistochemistry plays a critical role in confirming the diagnosis, with the tumor cells in this case being positive for BER, Ep4, and BCL2—markers often expressed in trichoblastic carcinoma.

Although trichoblastic carcinoma is generally considered low-grade, it can exhibit local aggression and recurrence, particularly when surgical margins are positive. In this case, the initial excision showed positive margins, necessitating a second, wider resection to ensure complete removal of the tumor. The importance of achieving clear surgical margins cannot be overstated, as incomplete excision may lead to recurrence or metastasis, as reported in other cases of trichoblastic carcinoma .A multidisciplinary approach involving dermatologists, surgeons, and oncologists is often required for optimal treatment and follow-up.

The role of HPV in the development of skin cancers is an area of ongoing research, particularly concerning HPV types 18 and 39, which have been linked to various malignancies, including cervical and ano-genital cancers. Numerous studies have shown evidence supporting an etiologic relationship between skin cancers and human papillomavirus (HPV) infection, especially between beta HPV and squamous cell carcinoma (SCC) [5]. While the direct relationship between HPV infection and trichoblastic carcinoma is not well-established, there is evidence suggesting that HPV infections may contribute to the development of cutaneous tumors, particularly in immunocompromised patients.

The patient's history of HPV types 18 and 39 positivity may be relevant in understanding the potential for HPV-related carcinogenesis in this case, although further research is needed to clarify this relationship.

4. Conclusion

Trichoblastic carcinoma is a rare, low-grade malignant tumor that can mimic benign lesions, making an accurate diagnosis challenging. This case underscores the importance of considering a broad differential diagnosis, including malignant tumors, when evaluating persistent or unusual cutaneous masses. Histopathological examination remains the gold standard for diagnosis, and the features of trichoblastic carcinoma—such as basaloid cells, peripheral nuclear palisading, and sebaceous differentiation—are key to its identification. Although it is typically low-grade, careful surgical management, including achieving clear margins, is crucial to prevent recurrence. Additionally, while the role of HPV in trichoblastic carcinoma remains unclear, its potential contribution to carcinogenesis warrants

further exploration. Ongoing follow-up and tumor excision and monitor for recurrence. multidisciplinary care are essential to ensure complete

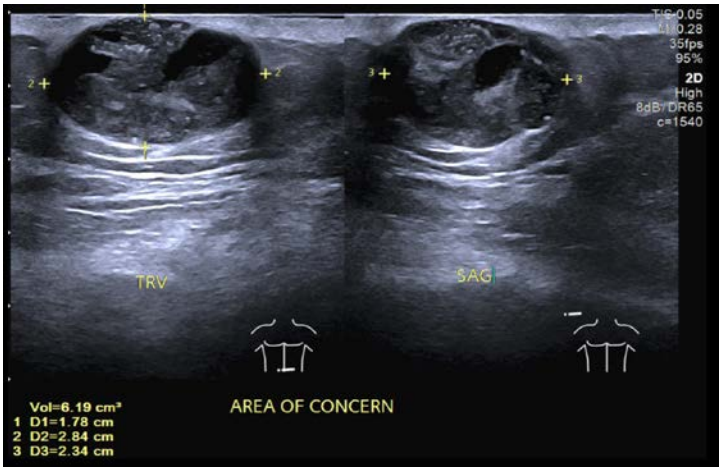

Figure 1. 1.78x2.84x2.34 cm y ultrasound

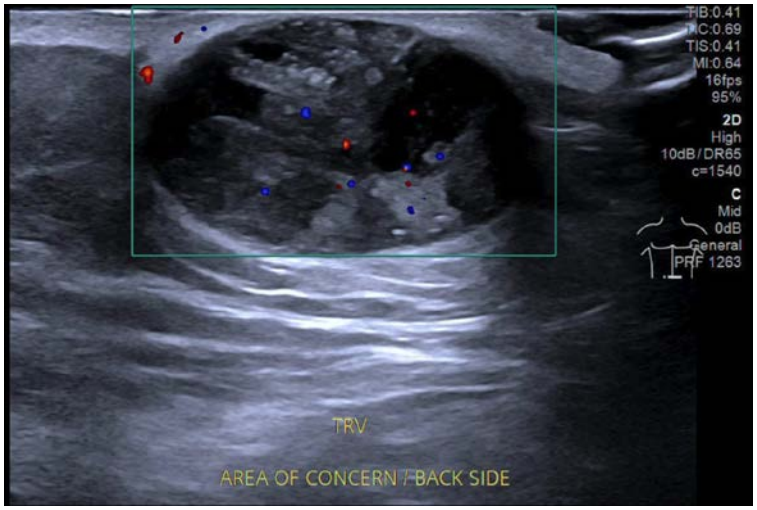

Figure 2. echotexture, hyperechoic area by ultrasound

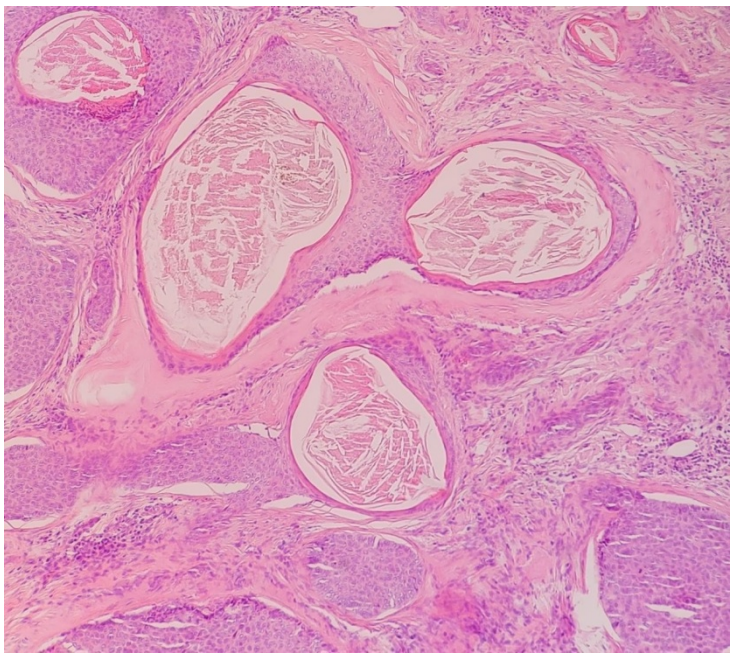

Figure 3. x 4 magnification. Prominent keratin horn cysts

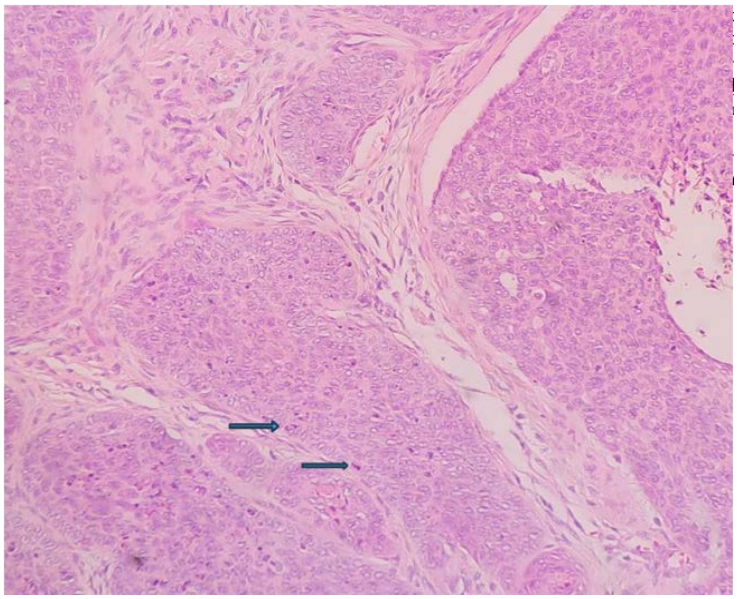

Figure 4. x 40 magnification. Prominent mitosis with apoptosis (blue arrows) along with peripheral palisading

Updated Abstract

Skin lumps are common in general practice, but it is uncommon to find a trichoblastic carcinoma in a lump excised from the back, as trichoblastic carcinoma is more commonly found in fascial or scalp lumps. We are reporting a case of a 51-year-old HIV-positive female who had a lump on her back, which was diagnosed as trichoblastic carcinoma after excision.

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