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Case Report

Neck Trichilemmal Tumor Masquerading as Squamous Cell Carcinoma- Diagnostic and surgical Dilemma

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Abstract

The surgical management of trichilemmal tumors plays a pivotal role in their treatment, with the primary goal being the complete removal of the tumor while minimizing the risk of recurrence and optimizing cosmetic results. Ensuring well-defined surgical margins is imperative to prevent any possibility of tumor regrowth. In cases where excision results in a significant defect, procedures like skin grafts or local flaps can be employed to restore both the appearance and functionality of the treated area.

Keywords: headache; dermatologic surgery; cell; neck

Introduction

A trichilemmal tumor, also known as a pilar cyst or isthmus-catagen cyst, is a common benign (non-cancerous) growth that typically occurs on the scalp. These tumors originate from the hair follicles and are derived from cells of the outer root sheath.1 They are usually slow-growing and painless, but they can become noticeable due to their size. Trichilemmal tumors rarely undergo malignant transformation.2 Fine needle aspiration often poses a diagnostic dilemma with squamous cell carcinoma.3 We came across a patient who presented to us with a large swelling over the nape of the neck with aspiration cytology of squamous cell carcinoma. This report dives into the challenges of diagnosing unusual cases that don't fit the usual patterns. It reminds us of the importance of getting the right diagnosis and treating the right condition.

Case report:

A 44-year-old gentleman presented to the clinic with complaints of swelling at the nape of the neck for the past 2 years, which was initially a small nodule and progressed gradually to an approximate size of 6 cm. The lesion was associated with bilateral neck swelling. The lesion was not associated with any pain, headache or discharge/bleeding from the swelling site. The patient did not have any co-morbidities; the patient was an active smoker (2packs per day for 20 years) and an active alcoholic (150ml per day for 20 years). On examination, the patient had 6 x 7 cm swelling over the nape of the neck, which was extending superiorly up to the superior nuchal line and inferiorly 5 cm below the inferior nuchal line. The overlying skin showed blackish discoloration and was adherent to the lesion. The lesion was non-tender and had a normal temperature on palpation. On palpating the neck, the patient had bilateral palpable lymph nodes in the posterior triangle of the neck. Computer tomography of the head and neck showed well-defined isodense lesion with tiny specks of calcifications seen in the subcutaneous plane in the occipital region scalp 3.4x4.2x4.6 cm, with overlying skin stretched. A thin intervening fat plane is seen with the muscles. The lesion is abutting the bone superiorly. Bilateral posterior triangle lymphadenopathy is seen.

PET CT: ill-defined heterogeneously enhancing subcutaneous soft tissue mass noted in the suboccipital region of size (3.5x4.5x3.0 cm) of SUV max 33.0. In midline, the lesion closely abuts the posterior cervical muscles, and the lesion reaches up to the skin. FDG avid sub-centimetric bilateral cervical lymph nodes were noted (SUV max 9.7). FNAC performed from the primary lesion was suggestive of Squamous cell carcinoma. FNAC from the lymph node was suggestive of reactive lymphadenopathy. The patient underwent Wide local excision with bilateral neck dissection and reconstruction of the defect in the occipital region with trapezius flap as part of the surgical excision. The final histopathology report was suggestive of a proliferating trichilemmal tumor, and the lymph node was negative for malignancy.

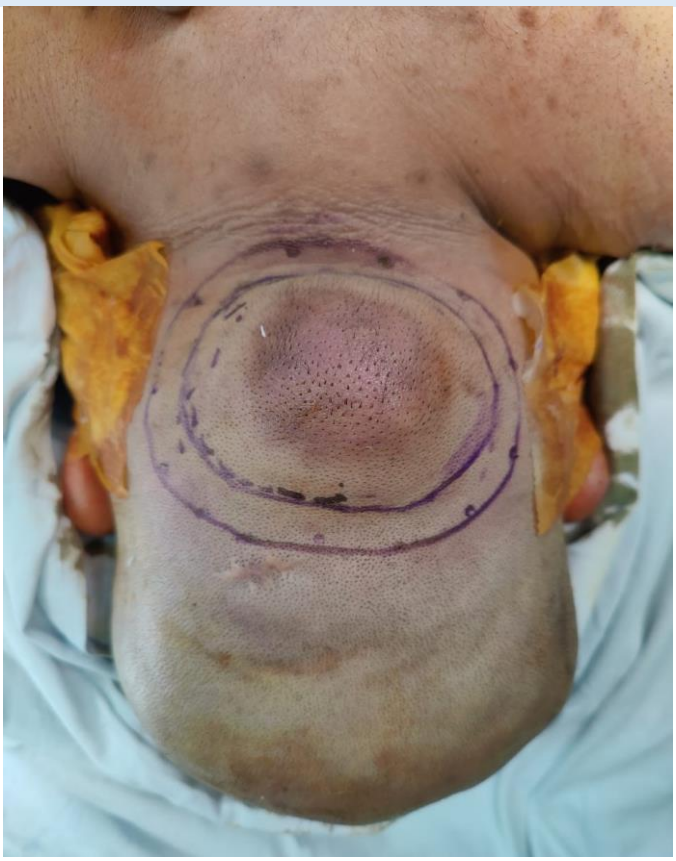

Figure 1: Shows a large 6cm x7cm swelling at nape of neck with overlying discoloured skin. 1.5 cm skin margin was marked around the tumor for wide local excision.

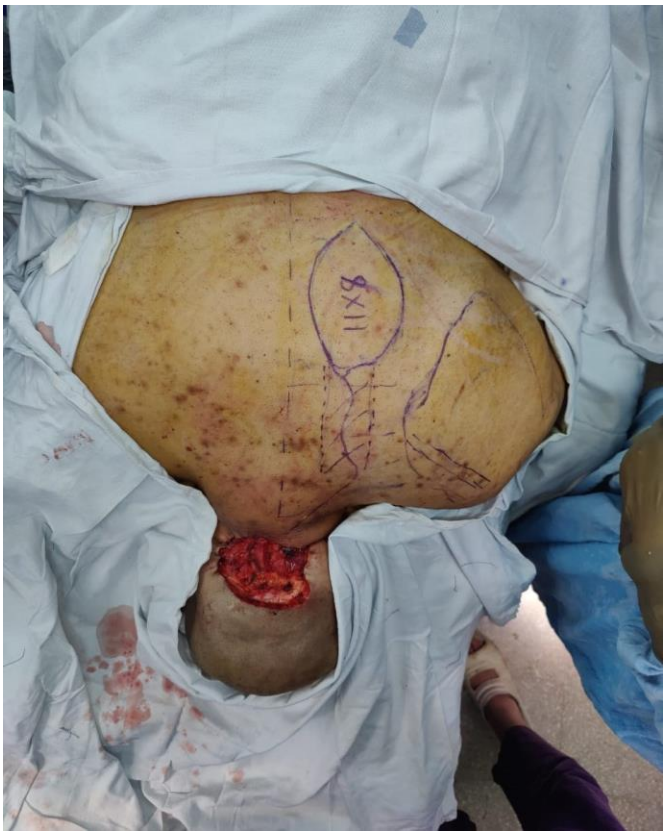

Figure 2 a: Shows a large skull defect of size 10cm x 8cms and was reconstructed with Trapezius myocutaneous flap as marked out in the back of the patient.

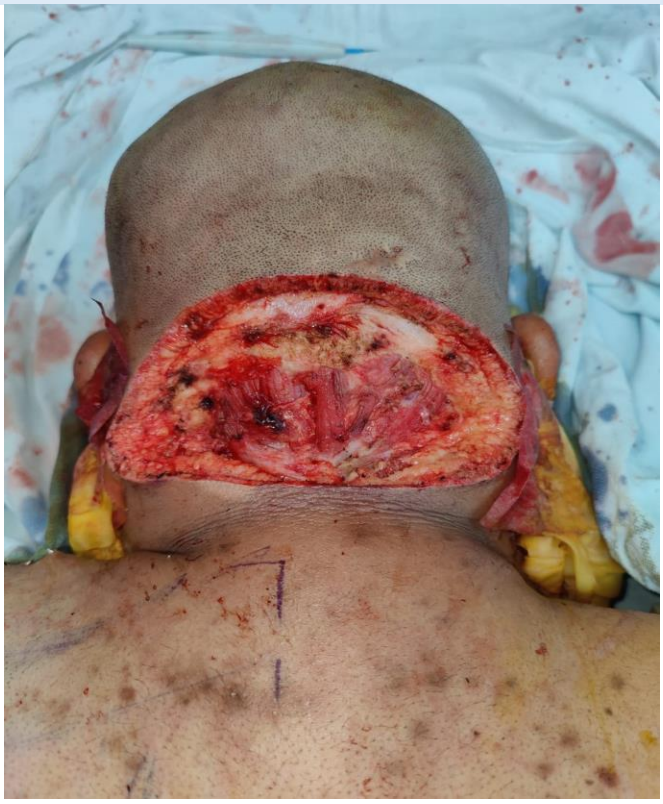

Figure 2b: Shows a large skull defect of size 10cm x 8cms after tumor excision.

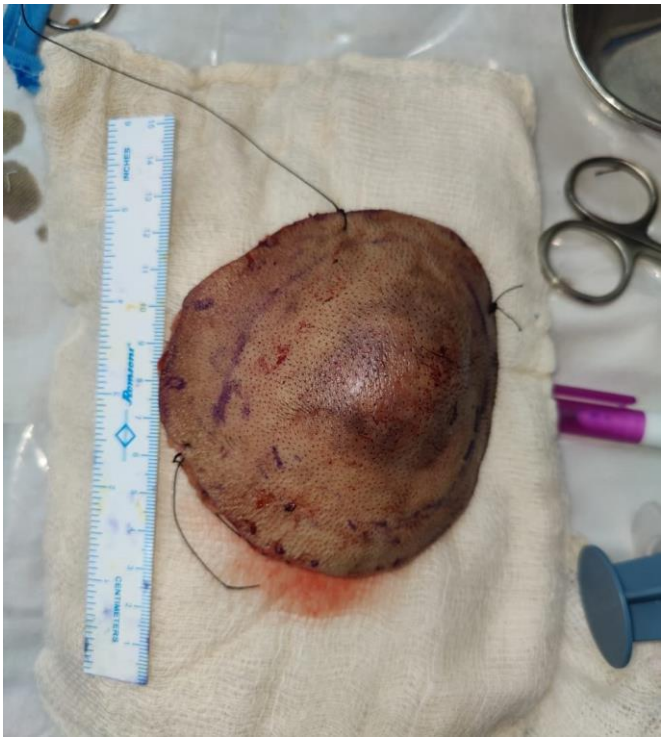

Figure 2c: Shows the tumour specimen after resection.

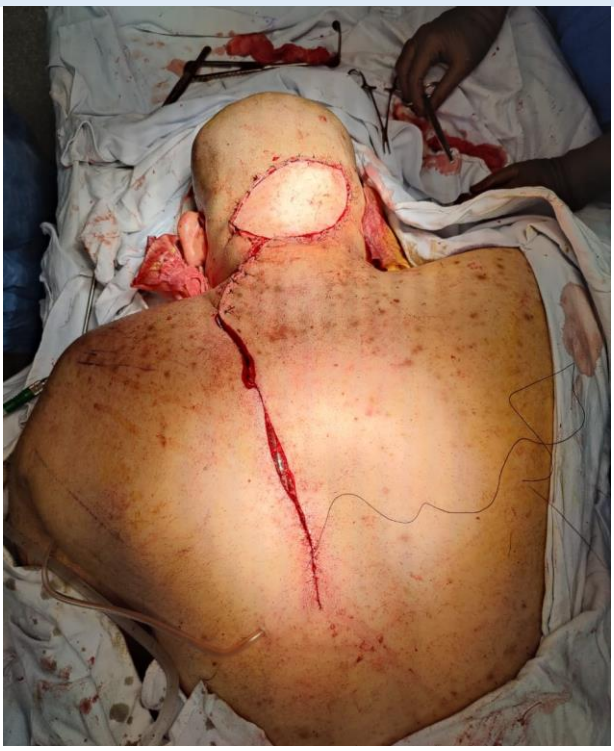

Figure 3: Figure showing reconstruction of the scalp defect with Trapezius myocutaneous flap.

Discussion:

Trichilemmal tumors typically appear as slowly developing, well-defined nodules, primarily on the scalp, although they can occur elsewhere in the body. Their clinical presentation often mimics other skin growths, posing diagnostic challenges for healthcare providers. These tumors can present as solitary or multiple nodules and, on occasion, may exhibit rapid growth or ulceration, further complicating their clinical assessment.[4] In our case, despite the lesion's significant size, the patient did not have pain, headaches, or any signs of discharge or bleeding, which initially suggested a benign nature. Fine needle aspiration cytology indicated a diagnosis of squamous cell carcinoma, which contradicted the clinical findings. CT scans, or MRI scans, remain the standard imaging modalities to assess the extent and depth of the tumor, especially if it is large or suspected to have invaded nearby structures. To resolve this discrepancy, a PET-CT scan was performed, revealing increased metabolic activity and suggesting a malignant tumour.[5] Consequently, the patient was treated as having a cutaneous malignancy. Histopathologically, trichilemmal tumors, also known as proliferating trichilemmal tumors, present a diverse array of features, ranging from well-differentiated benign lesions to potentially malignant forms like trichilemmal carcinoma. These tumors typically arise from the outer root sheath of the hair follicle and can exhibit varying degrees of cellular atypia, proliferation, and differentiation upon microscopic examination. Within this spectrum, distinguishing between benign and malignant entities is imperative for effective clinical management. Benign trichilemmal tumors often display orderly differentiation and minimal cellular atypia, whereas trichilemmal carcinoma manifests with marked cytological atypia, mitotic activity, and invasive growth patterns. Accurate diagnosis hinges on a comprehensive evaluation of histological characteristics, including architectural patterns, cytological features, and stromal reactions. Additionally, ancillary techniques such as immunohistochemistry and molecular analysis may complement traditional histopathology, aiding in the precise classification of these tumors and informing therapeutic strategies.[6] Thus, a multidisciplinary approach, integrating clinical, histopathological, and ancillary findings, is indispensable in navigating the diagnostic and therapeutic challenges posed by trichilemmal neoplasms. The surgical management of trichilemmal tumors plays a pivotal role in their treatment, with the primary goal being the complete removal of the tumor while minimizing the risk of recurrence and optimizing cosmetic results. Ensuring well-defined surgical margins is imperative to prevent any possibility of tumor regrowth. In cases where excision results in a significant defect, procedures like skin grafts or local flaps can be employed to restore both the appearance and functionality of the treated area. In our specific case report, the patient underwent an extensive surgical procedure that included a wide local excision of the lesion, bilateral neck dissection, and reconstruction using a trapezius flap. It's worth noting that the patient received a more extensive treatment than would have been necessarily had the correct diagnosis been established initially. This underscores the importance of accurate diagnosis in determining the appropriate surgical approach and preventing unnecessary procedures.

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