

 ISSN (O): 2320-5407 ISSN (P): 3107-4928	Journal Homepage: www.journalijar.com INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR) Article DOI:10.21474/IJAR01/24401 DOI URL: http://dx.doi.org/10.21474/IJAR01/24401	
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RESEARCH ARTICLE

CHEST WALL TRICHILEMMAL CARCINOMA: A RARE NEOPLASM IN A RARER LOCATION

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Manuscript Info

Manuscript History

Received: 12 August 2026

Final Accepted: 14 September 2026

Published: October 2026

Abstract

Introduction:-Trichilemmal carcinoma (TC) is a rare tumor that usually occurs on sun-exposed skin, especially on the face, scalp, neck, and back of the hands. The chest wall location of TC is extremely rare and has been reported only once in the literature in a single case report in 2008 by Mannan. Despite the absence of a well-defined consensus on the management of TC, surgical excision with adequate margins seems to be safe in the absence of metastatic lesions. We report the First case in our department which was a successful R0 resection of this rare entity.

Case presentation:-A 49-year-old woman with a medical history of high blood pressure with insomnia and chronic depression under treatment and a low - sodium diet who had for a year presented a painless mass gradually increasing in volume on the chest wall in a parasternal location, There was no history of past trauma, significant lifetime sun exposure, personal or familial skin cancer. On clinical examination, we note a huge mass of the chest wall of parasternal location lateralized to the left side with a very indurated and inflammatory appearance without discharge and a sign of infection. On the chest CT scan, the mass was of tissue density and measured (10.9 x9.5x8.8 cm) without loco- regional invasion. An ultrasound-guided excisional biopsy was performed and the diagnosis of squamous cell carcinoma was made. After a complete extension assessment (18 F-FDG PET/CT and brain MRI) showing no metastasis, the complete excision was decided and subsequently carried out in collaboration with the team of cosmetic surgeons. The final histopathological examination of the specimen was a real surprise revealing a trichilemmal carcinoma. The patient is currently in very good health and does not present any recurrence.

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Discussion:-Trichilemmal carcinoma (TC) is a rare skin malignant tumor with pilar differentiation. TC presents along with other malignant hair follicle tumors and accounts for only 1% of all adnexal carcinomas. The first case reported in the literature was described by Headington in 1976. Most TCs occur in the head and neck area and affect the scalp predominantly. However, rarely, TC of other anatomical sites, such as back, buttocks, chest, elbow, vulva, mons pubis and nose, have been described. Although the malignant biological behaviour of the neoplasm, the known loco-regional aggression and the potential local and distant recurrences, surgical excision with free margins of normal tissue is generally curative and represents the gold standard of treatment. That type of tumors is considered to develop de novo or originate from a pre-existing trichilemmal cyst, which is known as proliferating trichilemmal cyst. Clinically, the tumor occurs in both males and females, but affects women more frequently and it appears as a dermic or subcutis nodule with an exophytic or ulcerated appearance and it varies in size, from less than 1 cm to more than 10 cm. They are usually seen in elderly subjects (commonly between the 4th and 9th decades of life) but can develop at any age. The exact pathogenesis of TC is not yet known, but most patients have a history of significant lifetime sun exposure. Histologically, TC shows marked cytological atypia, cellular pleomorphism, atypical mitoses, dyskeratotic cells, and infiltrative growth pattern. The prognosis of TC is variable, including local aggression, local and distant recurrence potential, mainly depending on the treatment executed. The gold standard for treatment for TC is a wide local excision with a 1-cm margin of normal tissue, although some Authors have been used chemotherapy and radiotherapy to prevent recurrence. We present a case of an unusual site of occurrence of TC which constitutes the 1st case in our department and the 2nd as a thoracic location in English literature to our knowledge.

Conclusion:-TCs are rare adnexal tumors that require a multidisciplinary approach to diagnosis and treatment. Sometimes the morphological features are not easy to correlate with its clinical presentation, and diagnosis can be tricky, especially in unusual site. To create treatment algorithms, there is a need for increased case reports and comparative long-term results of different treatment options.

Introduction:-

Proliferating trichilemmal tumor (PTT), also known as proliferating trichilemmal cyst or pilar tumor is an uncommon but usually benign skin appendageal tumor with distinctive morphologic features. Ninety percent of the cases occur on the scalp, though there are infrequent reports of its occurrence at various other sites such as the forehead, nose, back, chest, abdomen, buttocks, elbow, wrist, mons pubis and vulva. (1,2) The lesion assumes importance because of its close morphologic resemblance to squamous cell carcinoma. Here we report a case of proliferating trichilemmal tumor occurring on the chest wall of a 49-year-old woman and discuss the differentiating features between the two entities.

Case presentation:-

A 49-year-old woman with a medical history of high blood pressure with insomnia and chronic depression under treatment and a low-sodium diet who had for a year presented a painless parasternal mass gradually increasing in volume. There was no history of past trauma, significant lifetime sun exposure, personal or familial skin cancer. On clinical examination, we note a huge parasternal mass left sided with a very indurated and inflammatory appearance without discharge and a sign of infection. On the chest CT scan, the mass was of tissue density and measured (10.9 x 9.5 x 8.8 cm) without loco-regional invasion. An ultrasound-guided excisional biopsy was performed and the diagnosis of squamous cell carcinoma was made. After a complete extension assessment (18 F-FDG PET/CT and brain MRI) showing no metastasis, the complete excision was decided and subsequently carried out in collaboration with the team of cosmetic surgeons. The final histopathological examination of the specimen was a real surprise revealing a trichilemmal carcinoma. The patient is currently in very good health and does not present any recurrence.

Discussion:-

Proliferating trichilemmal tumor, also known as pilar tumor or proliferating trichilemmal cyst, is an uncommon but usually benign lesion, which may be misdiagnosed as squamous cell carcinoma as both bear close histologic similarities. (1) In almost ninety percent of the cases the tumor is confined to the scalp, though they have also been found in various other locations such as the forehead, nose, back, chest, abdomen, buttocks, elbow, wrist, mons pubis, and vulva. (2,3) Most patients are women (84%) in the age group of 27 to 83 years. (2) Typically, it appears as a slowly enlarging, painful subcutaneous scalp nodule with a tendency to bleed, and produce purulent discharge. Clinically, those are often mistaken for sebaceous cyst, pilar cyst, and even dermatofibroma. (2) Ulcerated lesions often masquerade as squamous cell carcinoma. The tumor may occur in association with one or even several trichilemmal cysts of the scalp. There is also evidence suggesting that a PTT may develop from an ordinary

trichilemmal cyst.(2, 4) These tumors originate from the outer sheath of the hair follicle .(3) Grossly, the tumors are sharply demarcated and lobulated, ranging from 0.4 to 10 cm in diameter. However, a tumor as large as 25 cm is also reported.(5) Cut surface reveals solid and cystic areas, sometimes with honeycomb configuration.(2) The tumor exhibits distinctive histologic appearance characterized by sharply circumscribed convoluted lobules of squamous epithelium. Characteristically, the epithelium in the center of the lobules abruptly changes into eosinophilic amorphous keratin without formation of granular layer.(3, 5,6) Foci of calcification, although generally small, are often present in the areas of amorphous keratin. The morphologic resemblance of PTT with well-differentiated squamous cell carcinoma often poses diagnostic challenge to the histopathologists. The tumor cells in an otherwise classical PTT may show focal areas of nuclear atypia as well as individual cell keratinization, which at first glance suggest a squamous cell carcinoma.

The presence of abrupt keratinization, minimal pleomorphism, low mitotic activity, sharp circumscription, foci indistinguishable from a trichilemmal cyst, calcification, and absence of a premalignant lesion such as actinic keratosis help to differentiate proliferating trichilemmal tumor from squamous cell carcinoma.(2,6,7) In rare instances, PTT can undergo malignant transformation, indicated by rapid enlargement of the nodule. Histologically, malignant proliferating trichilemmal tumors show severe nuclear atypia, marked cellular pleomorphism with atypical mitoses, dyskeratotic cells, and infiltrating margins.(3, 8) A combination of various features such as non-scalp location, recent rapid growth, size greater than 5 cm, infiltrative growth, and significant cytologic atypia with mitotic activity favors diagnosis of malignant PTT. Mutations of p53 gene have been reported, although others failed to detect over-expression of p53 protein.(7,8) Lymph node and distant metastases have been reported in malignant proliferating trichilemmal tumors.(9, 10) Chest wall tumors are a heterogeneous group of lesions that provide an interesting diagnostic and therapeutic challenge for surgeons.

They make up less than 5% of thoracic malignancies and vary widely in pathology as they arise from all anatomic structures of the chest wall. In general, treatment is wide local excision, the margins for malignant disease are necessarily wider, and adjuvant radiation is typically given for those with positive margins. Chemotherapy is rarely effective. Local control is the most important prognostic factor. Disease-free survival for malignant disease is limited by positive margins; therefore full oncologic resection with 4-cm margins should be attempted. For small lesions, the resection and reconstruction is usually straightforward. For more advanced disease or those lesions that require significant functional loss, preoperative planning using a multidisciplinary approach, incorporating thoracic surgery, plastic surgery, neurosurgery, radiation medicine, oncology, and physical medicine and rehabilitation, may be essential. Surgical excision with wide margins is the treatment of choice for both benign and malignant PTT. However, both forms are known to recur even after adequate resection. Chemotherapy and radiotherapy have also been used for malignant tumors. (11)

Conclusion:-

TCs are rare adnexal tumors that require a multidisciplinary approach to diagnosis and treatment. Sometimes the morphological features are not easy to correlate with its clinical presentation, and diagnosis can be tricky, especially in unusual site. To create treatment algorithms, there is a need for increased data and comparative long-term results of different treatment options of this entity.

Figure legends:-

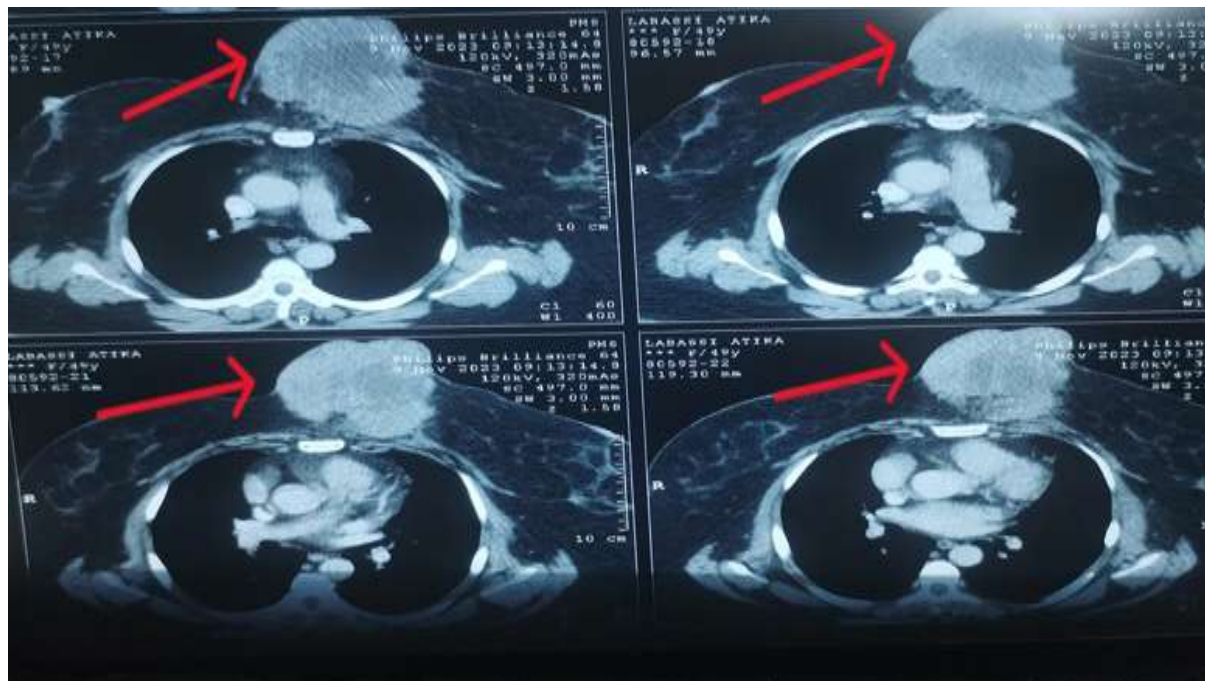


Figure 1. Chest CT Scan: Parasternal mass lateralized to the left side of tissue density and measured (10.9 x 9.5 x 8.8 cm) without loco-regional invasion

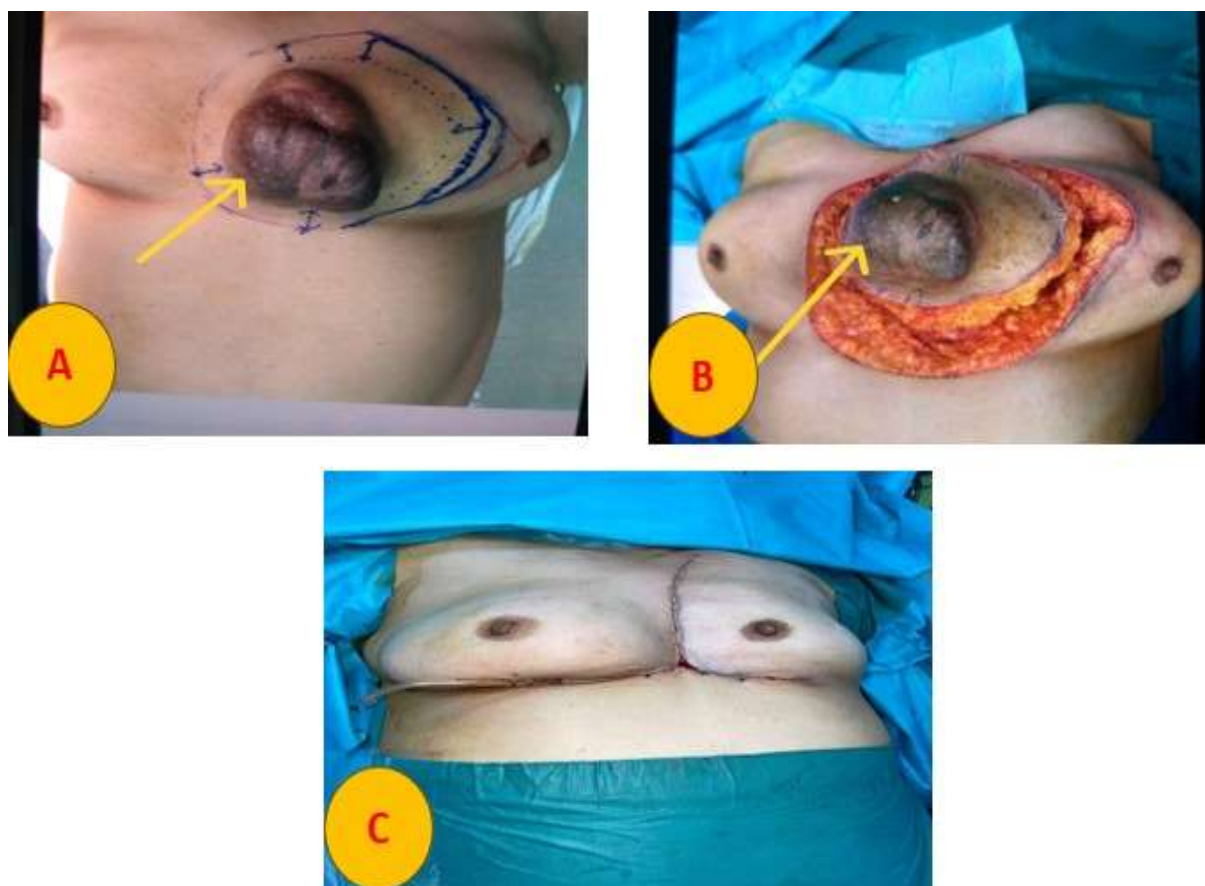


Figure 2. Per operative images:

- A. Localization of the tumor
- B. Adherence to R0 safety margins
- C. End of the intervention

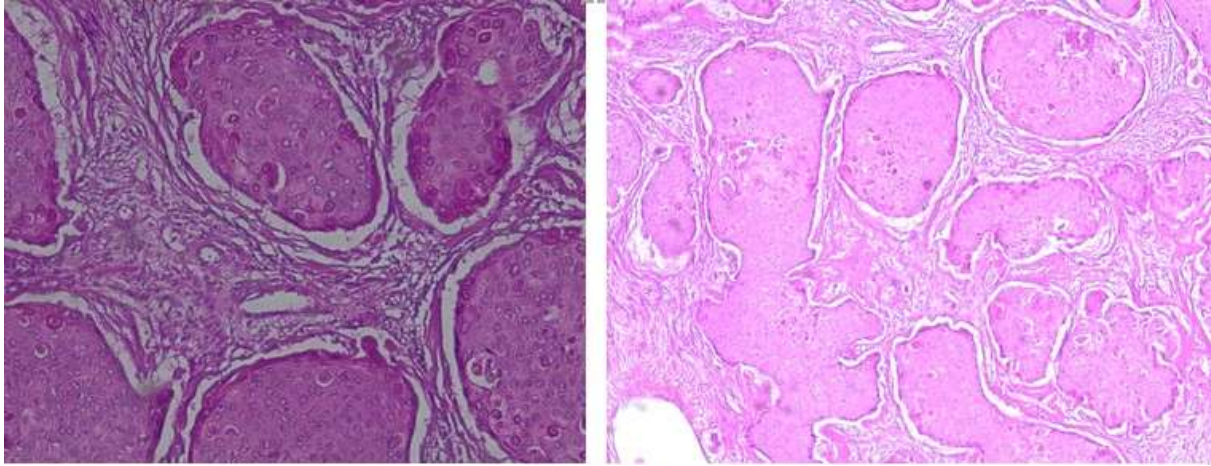


Figure 3. Histopathology: Well-circumscribed, lobular proliferation of squamous epithelium centered in the dermis and extending into the subcutis.

Provenance and peer review:-

Not commissioned, externally peer-reviewed.

Conflicts of interest:-

The authors disclose no conflicts.

Sources of funding:-

The authors disclose no sources of funding for research.

Ethical approval:-

N/A

Consent:-

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution:-

S. HAFIDI: study design, data collection, data analysis, and writing.

H. BENMESSAOUD: study design, data analysis.

N. ID EL HAJ: study design, data analysis.

M.KARKOURI: study design, data collection, and analysis.

S.BOUBIA, M.KARKOURI, M.RIDAI: data analysis and reviewers.

Research registration:-

N/A

Guarantor:-

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References:-

1. Janitz J, Wiedersberg H. Trichilemmal pilar tumors. *Cancer* 1980; 45:1594–1597.
2. Brownstein MH, Arluk DJ. Proliferating trichilemmal cyst: a simulant of squamous cell carcinoma. *Cancer* 1981; 48:1207–14.
3. Markal N, Kurtay A, Velidedeoglu H, et al. Malignant transformation of a giant proliferating trichilemmal tumor of the scalp: patient report and literature review. *Ann Plast Surg* 1998; 41:314–16.

4. Leppard BJ, Sanderson KV. The natural history of trichilemmal cysts. *Br J Dermatol* 1976; 94:379–90.
5. Headington JT. Tumors of the hair follicle: a review. *Am J Pathol* 1976;85: 480- 505.
6. Amaral AP, Nascimento AG, Goellner JR. Proliferating pilar (trichilemmal) cyst: report of two cases, one with carcinoma transformation and one with distant metastases. *Arch Pathol Lab Med* 1984;108:808–10.
7. Park BS, Yang SG, Cho KH. Malignant proliferating trichilemmal tumor showing distant metastases. *Am J Dermatopathol* 1997; 19:536–39.
8. Weiss J, Heine M, Grimm M, et al. Malignant proliferating trichilemmal cyst. *J Am Acad Dermatol* 1995; 32:870–3.
9. Folpe AL, Reizenauer AK, Mentzel T, et al. Proliferating trichilemmal tumors: clinicopathologic evaluation is a guide to biologic behavior. *J Cutan Pathol* 2003; 30:492-8.
10. Takata M, Rehman I, Rees JL. A trichilemmal carcinoma arising from a proliferating trichilemmal cyst: the loss of the wild-type p53 is a critical event in malignant transformation. *Hum Pathol* 1998; 29:193-5.
11. Ryan MB, McMurtrey MJ, Roth JA. Current management of chest-wall tumors. *Surg Clin North Am* 1989;69:1061–1080