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Trichogerminoma: A Neoplasm With Follicular Differentiation and a Characteristic Morphology[☆]



Tricogerminoma: una neoplasia con diferenciación folicular y una morfología característica

To the Editor:

Trichogerminoma was described in 1992,¹ and few cases of this benign neoplasm with follicular differentiation have been reported.²⁻⁶ Among the follicular tumors, trichogerminoma has certain easily recognizable morphological characteristics that warrant mention.

We present the case of a 71-year-old white man with no past history of interest. He was seen for an asymptomatic lesion that had appeared 6 years earlier on his left thigh and had grown rapidly in the previous months, tripling in size. Physical examination revealed a hard whitish nodule measuring 25 mm in diameter. The nodule was not tender and was not adherent to deeper planes (Fig. 1A). Complete surgical excision of the lesion was performed without wide margins. Histology showed a well-defined nodule surrounded by a fibrous pseudocapsule, situated in the deep dermis and hypodermis, with no connection to the epidermis. The nodule was formed of lobules of basaloid cells with peripheral palisading, with no retraction cleft between the cells and the stroma (Fig. 1B). There was abundant stroma with numerous fibroblasts. All sections contained dense round structures with an onion skin appearance or nests of cells with pale cytoplasm and elongated vesicular and sometimes

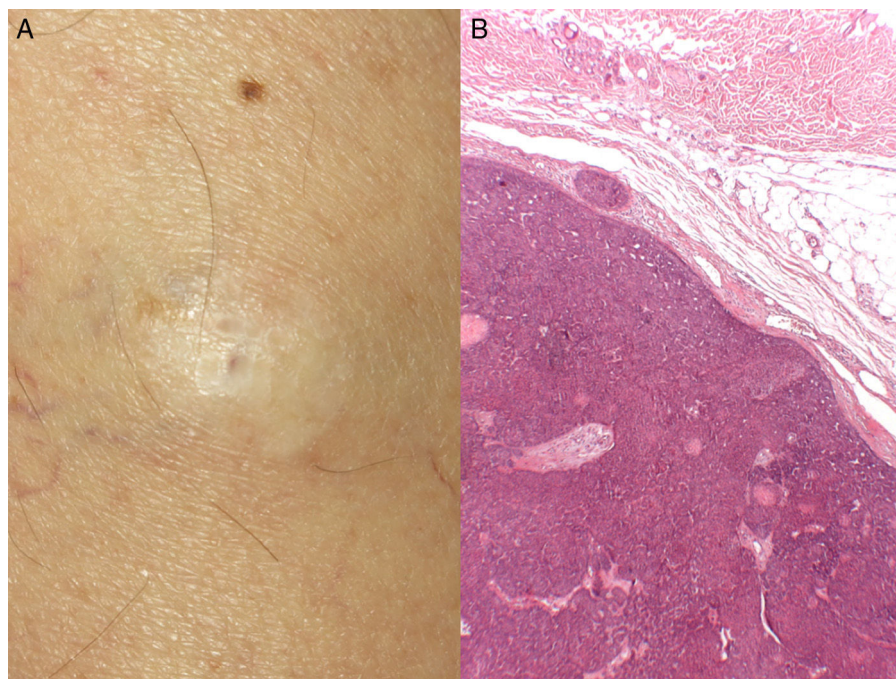


Figure 1 A, Hard, whitish nodule measuring 25 mm in diameter. The nodule, situated in the left thigh, was not adherent to deeper planes. B, Proliferation of basaloid cells with no retraction cleft with the stroma. Hematoxylin and eosin, original magnification $\times 4$.

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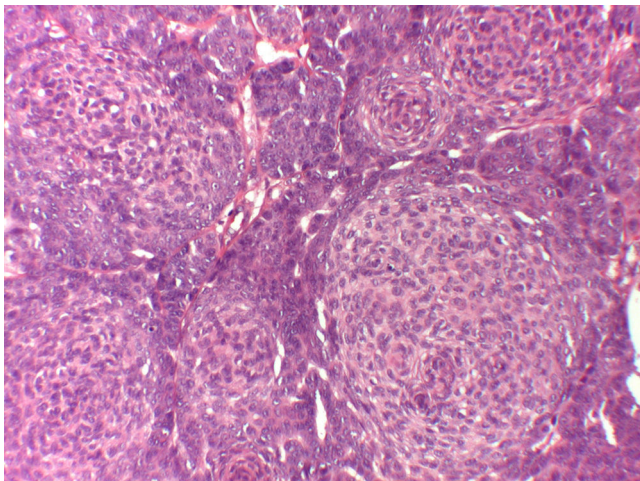


Figure 2 Compact, pale round structures with an onion skin appearance, also defined as cell balls or nests of cells with pale cytoplasm and vesicular nuclei, characteristic of trichogerminoma. Hematoxylin and eosin, original magnification $\times 20$.

pycnotic nuclei (Fig. 2). Few foci of keratinization were observed. No cytologic atypia was seen. Immunohistochemistry was positive for pancytokeratins AE1/AE3, cytokeratin (CK) 5/6, and p63 in both cell types (Fig. 3). These structures in characteristics nests, in the context of a benign basaloid neoplasm with pilar differentiation, supported a diagnosis of trichogerminoma. There has been no recurrence after a year of follow-up.

Sau et al.,¹ in their series of 14 cases, coined the term trichogerminoma in reference to tumor differentiation

towards the germinal epithelium of the hair. The neoplasm they described was formed of lobules of basaloid cells and was characterized by agglomerations of densely packed cells in the form of round nests or cell balls, simulating hair bulbs. The lobules presented peripheral palisading, and there was a variable quantity of stroma between the lobules, with no cleft between the lobules and the epithelium, and no stroma between the nests. These images have previously been published in 2 figures in the study by Grouls et al.,⁷ with a diagnosis of trichoblastic fibroma.

Trichogerminoma is a tumor of middle-aged individuals (median age, 50 years) and is more common in men. It presents as solitary nodules, with no superficial changes other than telangiectasias.² This tumor typically arises on the face and, less frequently, on the scalp, trunk and limbs.¹⁻⁵ It is a slow-growing tumor with a benign behavior, and does not recur after complete surgical excision. However, we should draw attention to a case reported by Sau et al.,¹ in which areas of undifferentiated carcinoma were detected at the time of diagnosis and subsequently metastasized, leading to the death of the patient.

Immunohistochemically the basaloid lobules are positive for cytokeratin markers, including AE1/AE3, CK5/6, and CK5/8,²⁻⁴ which could reflect differentiation towards the outer root sheath.⁸ The pale round structures characteristic of trichogerminoma show little or no immunoreactivity to the aforementioned cytokeratin markers; Kazakov³ considered this likely to be artifactual, as the cells could be in apoptosis and contain less cytoplasm, though other authors consider this to be another characteristic finding to differentiate these lesions from trichoblastoma. Chen et al.,⁵

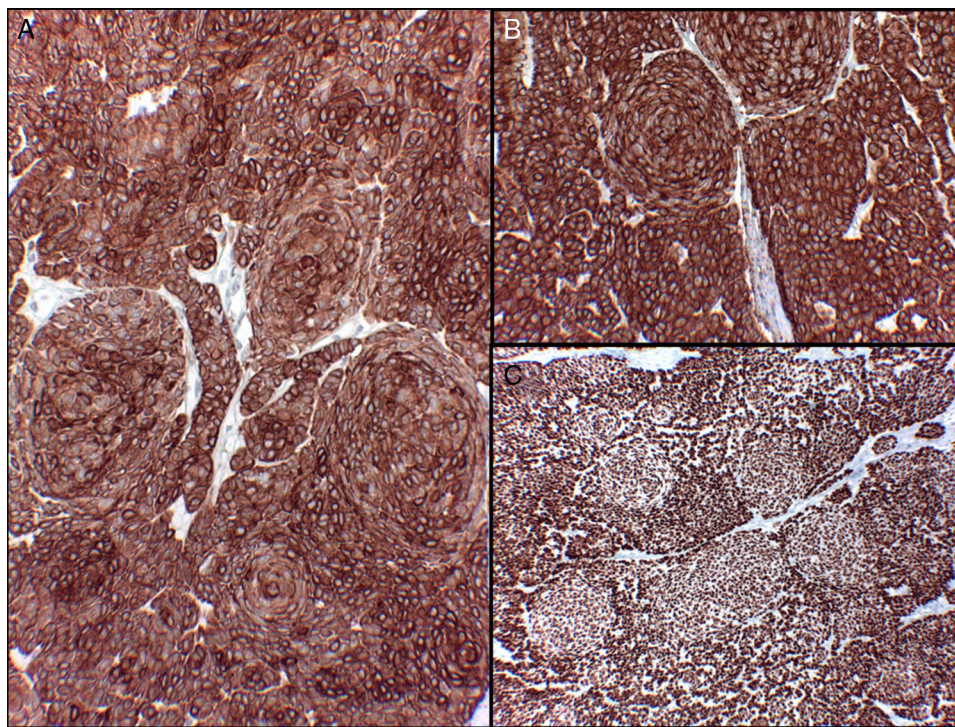


Figure 3 Positive immunohistochemistry with no differences between the 2 cell types. A, Stain for pancytokeratins AE1/AE2. B, Stain for cytokeratin 5/6. C, Stain for p63.

however, found less difference in CK5/6 positivity between the 2 areas, and this, together with our case, would support Kazakov's hypothesis. The pattern of immunoreactivity to another epithelial marker, p63 (of the p53 family, localized to the nucleus⁹ and expressed in cells derived from the matrix and from the outer root sheath in tumors with follicular differentiation¹⁰), also does not differ between the 2 zones,⁴ as observed in our case.

The differential diagnosis should include basaloid cell tumors with follicular differentiation. For many authors, these tumors form a spectrum.^{2,3} They present common elements and are classified according to which element predominates. Trichoblastoma, mentioned above, is characterized by lobules of basaloid cells with no connection with the epidermis, with peripheral palisading, and no retraction clefts. It forms structures similar to hair bulbs and dermal papillae, with no areas of pale cells with an onion skin appearance. The feature that differentiates trichoblastoma from trichoepithelioma is the predominance of the formation of corneal cysts. Trichilemmoma is connected to the epidermis and is characterized by clear cells with peripheral palisading. Finally, basal cell carcinoma is differentiated by its retraction cleft between the epithelium and the stroma and by its connection to the epidermis.

Despite the nonspecific clinical manifestations of this benign neoplasm, presenting as a deep solitary nodule with no epidermal involvement, its histology is characteristic and enables us to differentiate it from trichoblastoma, either as a different entity or as a variant. In the case we have presented, we draw attention to the stability of the lesion over a number of years, followed by rapid growth over a period of months, with no histologic evidence of malignancy.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

1. Sau P, Lupton GP, Graham JH. Trichogerminoma. Report of 14 cases. *J Cutan Pathol.* 1992;19:357–65.
2. Kazakov DV, Kutzner H, Rütten A, Dummer R, Burg G, Kempf W. Trichogerminoma: A rare cutaneous adnexal tumor with differentiation toward the hair germ epithelium. *Dermatology.* 2002;205:405–8.
3. Tellechea O, Reis JP. Trichogerminoma. *Am J Dermatopathol.* 2009;31:480–3.
4. Kim M, Choi M, Hong JS, Lee JH, Cho S. A case of trichogerminoma. *Ann Dermatol.* 2010;22:431–4.
5. Chen LL, Hu JT, Li Y. Trichogerminoma a rare cutaneous follicular neoplasm with indolent clinical course: Report of two cases and review of literature. *Diagn Pathol.* 2013;8:210.
6. Pozo L, Diaz-Cano SJ. Trichogerminoma: Further evidence to support a specific follicular neoplasm. *Histopathology.* 2005;46:108–10.
7. Grouls V, Hey A. Trichoblastic fibroma (fibromatoid trichoepithelioma). *Pathol Res Pract.* 1988;183:462–8.
8. Moll R, Divo M, Langbein L. The human keratins: Biology and pathology. *Histochem Cell Biol.* 2008;129:705–33.
9. Fuertes L, Santonja C, Kutzner H, Requena L. Immunohistochemistry in dermatopathology: A review of the most commonly used antibodies (part I). *Actas Dermosifiliogr.* 2013;104:99–127.
10. Ivan D, Hafeez Diwan A, Prieto VG. Expression of p63 in primary cutaneous adnexal neoplasms and adenocarcinoma metastatic to the skin. *Mod Pathol.* 2005;18:137–42.

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Initial Assessment of Patients With Contact Eczema[☆]



Valoración inicial del paciente con eczema de contacto

To the Editor:

Eczema is an inflammatory skin reaction that can have different etiologies. It is characterized clinically by pruritus and polymorphous skin lesions that can progress successively through erythema, macules, papules, edema, vesicles or blisters, excoriation, erosions, scabs, flaking, hyperkeratosis, lichenification, and fissures.¹ Histologically it is characterized by spongiosis; other findings include acanthosis, parakeratosis, and a lymphocytic perivascular infiltrate

in the upper dermis that may show epidermotropism and that includes a variable number of eosinophils.²

Contact eczema develops when the skin surface comes into contact with an exogenous substance. Irritant contact eczema (ICE) accounts for 80% of cases and is due to a local toxic effect caused by single or repeated contact with irritant substances. It is limited to the area of exposure in the majority of cases. ICE most commonly affects hands (80%) and face (10%).^{3,4} Allergic contact eczema (ACE) accounts for the remaining 20%. This is a delayed hypersensitivity reaction triggered by contact with a substance to which the patient has previously become sensitized. ACE develops in the area of exposure and occasionally also at distant sites.⁵ The clinical manifestations can be similar in the 2 forms of contact eczema, and a detailed medical history and physical examination are therefore essential in the search for the main risk factors.^{1,3–9}

In the literature, we have found no descriptions of a protocol for the initial clinical evaluation of this type of patient. The German clinical guideline for hand eczema proposes a detailed medical history and meticulous physical

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