Melanocytic Matricoma

B. Monteagudo,[a] L. Requena,[b] M.M. Used-Aznar,[c] and M. Cabanillas[a]

[a]Servicio de Dermatología, Complejo Hospitalario Arquitecto Marcide-Novoa Santos, Ferrol, La Coruña, Spain
[b]Servicio de Dermatología, Fundación Jiménez Díaz, Universidad Autónoma, Madrid, Spain
[c]Servicio de Anatomía Patológica, Complejo Hospitalario Arquitecto Marcide-Novoa Santos, Ferrol, La Coruña, Spain

To the Editor

In 1999, Carlson et al[1] described 2 cases of a pigmented matrical neoplasm composed of matrical cells and dendritic melanocytes. The authors named this neoplasm, which was clearly distinct from pilomatricoma, melanocytic matricoma. This tumor mimics a normal anatomic process that takes place in the healthy bulb of an early anagen hair follicle.

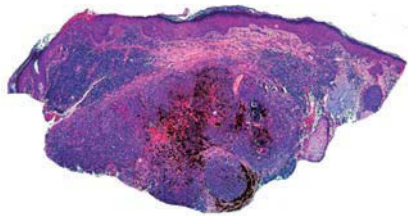

Figure 1. Well circumscribed tumor in the middle and deep dermis. (Hematoxylin–eosin, original magnification ×40).

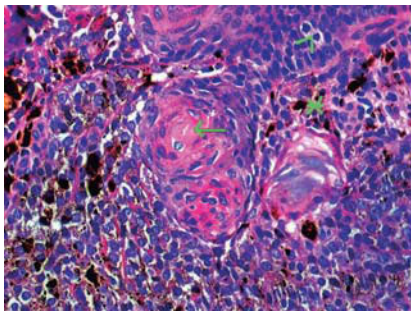

Figure 2. Greater magnification shows a biphasic cell population formed by melanocytes (*) with some mitotic activity (^) and epithelial cells with abrupt transition to shadow cells (arrow). (Hematoxylin–eosin, original magnification ×200).

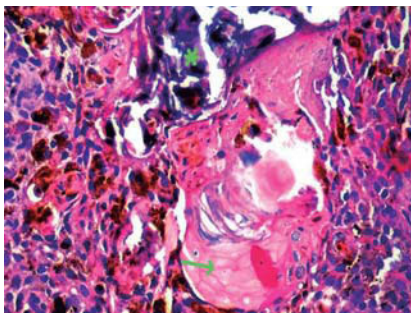

Figure 3. Shadow cells (arrow) and areas of calcification (*). (Hematoxylin–eosin, original magnification ×400).

We present a new case of melanocytic matricoma seen recently in our department. Only 10 such cases have been reported to date.[1-7]

The patient, a 66-year-old man with a history of hypertension, was referred to our department for evaluation of an asymptomatic lesion that had appeared on the bridge of his nose 1 year earlier. According to the patient, the lesion had appeared on normal skin and grown slowly. There was no family history of similar lesions. The patient had undergone cryosurgery in the past to treat facial actinic keratosis.

Physical examination revealed a blackish tumor with a diameter of 2 mm and clearly defined borders on the bridge of the nose. There was no evidence of any other skin lesions.

Histopathology revealed a well circumscribed pigmented tumor in the middle and deep dermis (Figure 1). The tumor was composed of a biphasic cell population formed by melanocytes (several of which were heavily pigmented) with some mitotic activity, and epithelial cells of varying size and eosinophilic cytoplasm with abrupt transition to anucleated shadow cells (Figure 2). Also visible were small areas of calcification (Figure 3).

Immunohistochemical analysis revealed that epithelial components were positive for cytokeratin AE1/AE3 and melanocytic components for human melanoma black-45 (Figure 4).

Our findings are similar to those described in all the case reports of melanocytic matricoma published to date (Table). Clinically, melanocytic matricoma lesions are a blackish color and measure less than 1 cm in diameter; they occur in elderly patients (60-80 years), mostly men, with sun-damaged skin.[1-6] There has been 1 report of melanocytic matricoma on the tail of a dog.[7]

Histopathologic findings include pigmented nodular proliferation in the dermis composed of matrical cells, supramatrical cells, and shadow cells admixed with heavily pigmented dendritic melanocytes. Calcification and granulomatous reactions are uncommon.[1-7]

The small size of the lesions, their well circumscribed borders, and the lack of recurrence all suggest a benign neoplasm rather than a matricoma, despite the presence of variable cytologic atypia and frequent mitoses (characteristic of matrical cell tumors).[3,8]

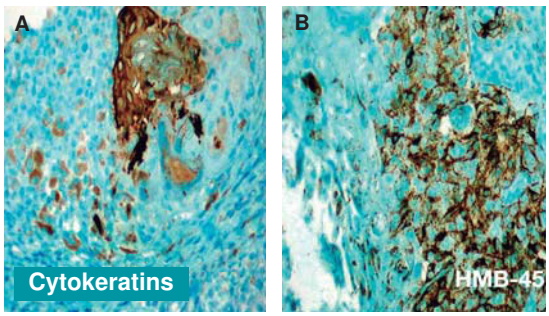

Figure 4. Immunohistochemical features. A, Epithelial components positive for cytokeratin (cytokeratin AE1/AE3, original magnification ×100). B, Melanocytic components positive for human melanoma black-45 (HMB-45). (HMB-45, original magnification ×100).

Table. Published Case Reports of Melanocytic Matricoma

Patient	*Age, y*	*Sex*	*Dermatologic History*	*Diameter, cm*	*Color*	*Site of Lesion*
1[1]	66	M	Basal cell carcinoma	0.8	Black	Left chest region
2[1]	80	M	Sun damage	0.5	Purple	Forearm
3[2]	62	F	Sun damage	0.6	Hyperpigmented	Bridge of nose
4[3]	78	M	Basal cell carcinoma	0.4	Black-purple	Left preauricular area
5[4]	69	M	Sun damage	0.5	Black-brownish	Right cheek
6[5]	66	F			Hyperpigmented	Right shoulder
7[6]	70	M	Basal cell carcinoma	1.5	Black	Back of right hand
8[6]	82	M	AK, SCC, and BCC	0.5	Black-purple	Right preauricular area
9[6]	76	M			Brown-purple	Top part of back
10[7] (dog)	2	M		2	Black	Tail
11[a]	66	M	Actinic keratosis	0.2	Black	Bridge of nose

Abbreviations: AK, actinic keratosis; BCC, basal cell carcinoma; F, female; M, male; and SCC, squamous cell carcinoma.
[a]Present case.

It is known that hair follicles in anagen (growth phase) contain matrical and supramatrical cells as well as pigmented melanocytes that give hair its color. Mitotic activity is also common. Because melanocytes are more prominent in the early anagen phase, melanocytic matricoma is suggestive of early-stage follicular differentiation during anagen; this contrasts with pilomatricoma, which is characterized by late-stage differentiation.[3-6]

Clinical differential diagnosis should include pigmented basal cell carcinoma, malignant melanoma, and hemangioma. Histopathological differential diagnosis, in contrast, should include matrical carcinoma with prominent melanocytic hyperplasia, malignant melanoma, matricoma, trichoblastoma, basal cell carcinoma with matrical differentiation, and pigmented pilomatricoma.[4,6]

Ever since melanocytic matricoma was first described by Carlson et al,[1] there has been some discussion about whether there is sufficient clinical and pathologic evidence to support the hypothesis that it is a separate entity from matricoma.[9-13]

It has been suggested that matrical carcinoma with prominent melanocytic hyperplasia might in fact be a malignant form of melanocytic matricoma; this variant of carcinoma is a poorly defined, multinodular tumor that penetrates deeper layers and contains mitotically active cells and areas of necrosis.[8]

Pilomatricoma occurs in young people as a cystic neoplasm, is firm to the touch, and is located in the deep dermis or subcutaneous tissues; it is often accompanied by calcification and granulomatous reactions.[14-16] Pigmented pilomatricoma does not have prominent melanocytic hyperplasia, contrasting with the marked proliferation of pigmented dendritic melanocytes in melanocytic matricoma.[16-19] The difference between these 2 entities has been likened to that between pigmented seborrheic keratosis and melanoacanthoma.[3,6]

References

1. Carlson JA, Healy K, Slominski A, Mihm MC Jr. Melanocytic matricoma: a report of two cases of a new entity. Am J Dermatopathol. 1999;21: 344-9.
2. Rizzardi C, Brollo A, Colonna A, Brutto RL, Melato M. A tumor with composite pilo-folliculosebaceous differentiation harboring a recently described new entity-melanocytic matricoma. Am J Dermatopathol. 2002;24: 493-7.
3. Williams CM, Bozner P, Oliveri CV, Horenstein MG. Melanocytic matricoma: case confirmation of a recently described entity. J Cutan Pathol. 2003; 30:275-8.
4. Horenstein MG, Kahn AG. Pathologic quiz case: a 69-year-old man with a brown-black facial papule. Melanocytic matricoma. Arch Pathol Lab Med. 2004;128:e163-4.
5. Peralta Soler A, Burchette JL, Bellet JS, Olson JA Jr. Cell adhesion protein expression in melanocytic matricoma. J Cutan Pathol. 2007;34:456-60.
6. Islam MN, Bhattacharyya I, Proper SA, Glanz SM, Vega JM, Hassanein AM. Melanocytic matricoma: a distinctive clinicopathologic entity. Dermatol Surg. 2007;33:857-63.
7. Saito S, Suzuki K, Shibuya H, Yamaguchi T, Sato T. Melanocytic matricoma in a dog. Vet Pathol. 2005;42: 499-502.

8. Monteagudo C, Fernández-Figueras MT, San Juan J, López D, Carda C. Matrical carcinoma with prominent melanocytic hyperplasia (malignant melanocytic matricoma?). A report of two cases. Am J Dermatopathol. 2003; 25:485-9.
9. Rizzardi C, Melato M. Simply, the point is that pathologists should bear in mind melanocytic matricoma. Am J Dermatopathol. 2003;25:447.
10. Resnik KS. Isn't melanocytic matricoma simply one expected histopathologic expression of matricoma? Am J Dermatopathol. 2003;25:446.
11. Resnik KS. Is melanocytic matricoma a bona fide entity or is it just one type of matricoma? Am J Dermatopathol. 2003;25:166.
12. Rizzardi C, Melato M. Is melanocytic matricoma a bona fide entity or is it just one type of matricoma?: splitting hairs... in hair matrix tumors! Author's reply. Am J Dermatopathol. 2003;25: 166-7.
13. Carlson JA, Slominski A, Mihm MC Jr. What are the clinicopathologic features of matricoma? Am J Dermatopathol. 2003;25:446-7.
14. Monteagudo Sánchez B, Pereiro Ferreirós M. Paciente con varios tumores en los antebrazos. Piel. 2004; 19:51-2.
15. Monteagudo Sánchez B, León Muiños E, Durana C, Cacharrón Carreira JM, de las Heras Sotos C. Pilomatricoma anetodérmico. An Pediatr (Barc). 2006; 64:181-2.
16. Izquierdo MJ, Requena C, Requena L. Pilomatricoma. En: Neoplasias anexiales cutáneas. Madrid: Grupo Aula Médica; 2004. p. 309-17.
17. Spitz D, Fisher D, Friedman RJ, Kopf AW. Pigmented pilomatricoma. A clinical simulator of malignant melanoma. J Dermatol Surg Oncol. 1981;7: 903-6.
18. Zaim MT. Pilomatricoma with melanocytic hiperplasia: an uncommon occurrence and a diagnostic pitfall. Arch Dermatol. 1971;104:117-23.
19. Cazers JS, Okun MR, Pearson H. Pigmented calcifying epithelioma. Review and presentation of a case with unusual features. Arch Dermatol. 1974; 110: 773-4.

Bilateral Congenital Triangular Alopecia Associated With Congenital Heart Disease and Renal and Genital Abnormalities

E. León-Muiños,[a] B. Monteagudo,[b] J. Labandeira,[c] and M. Cabanillas[a]

[a]Servicio de Pediatría and [b]Servicio de Dermatología, Complejo Hospitalario Arquitecto Marcide-Novoa Santos, Ferrol, La Coruña, Spain
[c]Servicio de Dermatología, Complejo Hospitalario Universitario, Facultad de Medicina, Santiago de Compostela, La Coruña, Spain

To the Editor:

Congenital triangular alopecia, also known as temporal triangular alopecia or Brauer nevus, is a nonscarring circumscribed permanent and asymptomatic alopecia that was first described by Sabouraud in 1905. It is usually found on the frontotemporal area and affects only 1 side of the head. Histopathology of the affected area reveals reduced hair follicle size, although hair density remains normal, with no other significant abnormalities.[1] Diagnosis is usually clinical. Other causes of nonscarring circumscribed alopecia must be ruled out, especially alopecia areata, with which it is often confused.[2] In the literature, there are reports of different conditions that coexist in patients with congenital triangular alopecia. We present the association between bilateral congenital triangular alopecia and a multiple malformation syndrome.

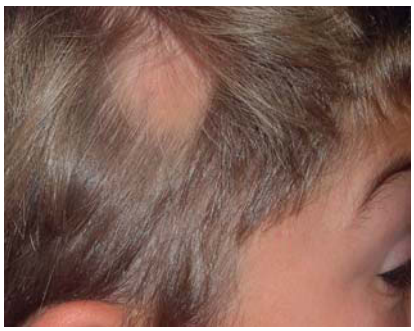

Figure 1. Oval alopecia plaque on the right temporal region.

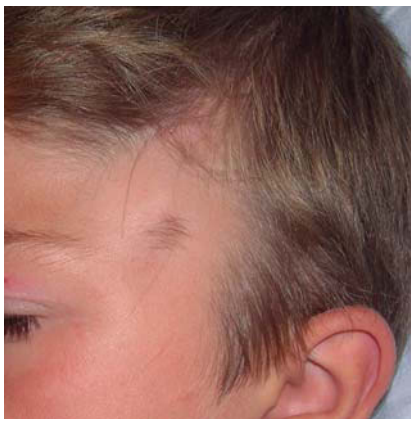

Figure 2. Congenital triangular alopecia on the left frontotemporal region reaching the hairline.

The patient was a 7-year-old boy with a history of congenital heart disease involving a perimembranous ventricular septal defect and an atrial septal defect with no hemodynamic consequences. He also had a history of left hydronephrosis, subcoronal hypospadias, Wormian bones, and recurrent bronchiolitis. The patient was referred because of the presence on the scalp of 2 areas with finer, lighter-colored hair, which his parents remembered as being there since birth. There had never been total hair loss in the area, and the patient