

Isolated Plantar Collagenoma

Marcello Menta S. Nico¹, Neuza Y. Sakai Valente¹ and Kelly Abreu Machado²

¹Hospital das Clínicas, University of São Paulo, Brazil, and ²Faculty of Medicine, Federal University of Pelotas. Rua Álvaro Chaves, 136 Centro, Pelotas/Rio Grande do Sul, BR-96010760, Brazil. E-mail: Kellyamachado@aol.com
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Sir,

Collagenomas, or connective tissue nevus of the collagen type, have been defined as hamartomas of dermal tissue in which the predominant element of connective tissue is the collagen (1). Collagenomas can be hereditary or sporadic. Isolated plantar collagenoma without associated clinical abnormalities is rare (2–5). We report on a case of isolated plantar collagenoma with peculiar features.

CASE REPORT

A 22-year-old woman with no significant previous medical history had a plantar skin lesion since childhood. Clinical examination revealed several skin-colored confluent papules leading to a well-demarcated tumoral plaque of soft consistency and decreased skin creases on its surface (Fig. 1). Lesions were grouped in a linear array and the entire plaque, measuring approximately 2.5 cm, was located on the plantar surface of the medial metatarsal aspect of the left foot. Histopathology of a papule showed apparently normal skin on hematoxylin-eosin-stained sections; the sections stained for elastic tissue revealed the absence of or a marked decrease in the elastic fibers of the reticular dermis. Increased amounts of mucin were also demonstrated in focal areas of the reticular dermis by alcian blue stain.

DISCUSSION

Connective tissue nevi of the skin are hamartomatous lesions consisting predominantly of one of the components of the extracellular matrix - collagen, elastin, or proteoglycans (1). Connective tissue nevi of the collagen type are either inherited, such as the lesions in familial cutaneous collagenoma, or they are present as acquired lesions without familial history. Plantar collagenomas of cerebriform appearance have been described as one of the major skin findings of Proteus syndrome (6). Familial cutaneous collagenoma has an autosomal dominant type of inheritance. Patients with this disorder often show dermal nodules symmetrically distributed over the back and the proximal area of the upper extremities. The shagreen patch in tuberous sclerosis is a mamillated, plaque-type collagenoma usually occurring in the lumbosacral area as a common and highly characteristic component of tuberous sclerosis (7, 8). Proteus syndrome appears sporadically and although some manifestations are already present at birth, the majority of them appear during early childhood (3). Some researchers believe that plantar collagenoma is pathognomonic of this syndrome.

Four cases of isolated plantar collagenoma without associated clinical abnormalities have been reported. These generally begin in childhood (2–5). As Uitto



Fig. 1. Grouped papules on plantar surface.

et al. (2) have shown, collagenoma consists almost exclusively of type I collagen. The defect seems to be a reduced production of collagenase in that location and therefore a decreased local degradation of collagen.

Plantar collagenomas usually show normal (3) or decreased (2, 5) elastic fibers. Dermal mucin was increased in our case and scattered within the perivascular dermis in the case of the plantar collagenoma reported by Bottella-Estrada et al. (3).

These lesions are best treated by surgery. However, our patient refused treatment when informed about the benign nature of her condition.

REFERENCES

1. Uitto J, Santa Cruz DJ, Eisen AZ. Connective tissue nevi of the skin: clinical, genetic and histopathologic classification of hamartomas of the collagen, elastic, and proteoglycan type. *J Am Acad Dermatol* 1980; 3: 441–461.
2. Uitto J, Bauer EA, Santa Cruz DJ, Holtmann B, Eisen AZ. Decreased collagenase production by regional fibroblasts cultured from skin of a patient with connective tissue nevi of the collagen type. *J Invest Dermatol* 1982; 78: 136–140.
3. Botella-Estrada R, Alegre V, Sanmartin O, Ros C, Aliaga A. Isolated plantar cerebriform collagenoma. *Arch Dermatol* 1991; 127: 1589–1590.
4. Martinez W, Arnal F, Capdevila A, Almagro M. Isolated plantar cerebriform collagenoma. *Pediatr Dermatol* 1994; 11: 84–85.
5. Choi JC, Lee MW, Chang SE, Choi JH, Saung KL, Moon KC, Koh JK. Isolated plantar collagenoma. *Br J Dermatol* 2002; 146: 164–165.
6. Samlasca CP, Levin SW, James WD, Benson PM, Walker JC, Perlic PC. Proteus syndrome. *Arch Dermatol* 1989; 125: 1109–1114.
7. Kobayasi T, Wolf JP, Danielsen L. Ultrastructure of shagreen patches. *Acta Derm Venereol* 1973; 53: 275–278.
8. Nickel WR, Reed WB. Tuberous sclerosis: special reference to the microscopic alteration in the cutaneous hamartomas. *Arch Dermatol* 1962; 85: 209–228.