Precalcaneal congenital fibrolipomatous hamartoma: report of 2 cases

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Abstract Precalcaneal congenital fibrolipomatous hamartoma is a benign condition of infancy that is possibly underdiagnosed because of the lack of reports in the literature. Lesions become evident after the first months of life and may be troublesome to parents and physicians. Patients are frequently referred to the pediatric surgeon for evaluation. We report and discuss 2 typical cases.

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1. Reports of cases

Patient 1 is a 6-month-old girl presented with 2 nodular lesions distributed symmetrically on the medial plantar surface of both heels, present since the first days after birth. The mother refers that the lesions have grown up (Fig. 1). The histology of the lesion showed the presence of mature adipocytes enveloped in collagen fibers and an increased number of blood vessels (Fig. 2).

Patient 2 is a 5-month-old girl presented with 2 symmetrical nodules located on the medial plantar surface of each heel, present since birth. The mother refers gradual growth of the lesions and uneasiness when handling.

The diagnosis of the patients described is compatible with precalcaneal congenital fibrolipomatous hamartoma (PCFH).

2. Discussion

Precalcaneal congenital fibrolipomatous hamartoma, or pedal papules of infancy, was first described by Larralde de Luna et al \cite{1} in 1990 and given the name “pedal papules in the newborn.” These authors reported 4 cases and described the similarity of the condition to adult piezogenic papules. However, the adult-type piezogenic pedal papules are apparent only when individuals stand upright and when fat herniation occurs through a defect in the dermis \cite{2,3}.

Precalcaneal congenital fibrolipomatous hamartoma is clinically characterized by the presence of bilateral, single, symmetric, and flesh-colored nodules located in the middle plantar region of the heel. The lesions typically measure about 1 cm in diameter, are skin colored, are painless, and are nonpruritic. They tend to increase in size parallel to the growth of the child, but frequently regress after 2 to 3 years \cite{3-5}.

The histology of the lesion tends to show the presence of mature adipose tissue enveloped in predominantly collagen-
fibrous sheaths. There may be increased number of blood vessels evenly distributed and with no associated perivascular alterations [6]. The size or number of nerve fibers is normal, and fibrous tissue is not increased [3]. The diagnosis is made clinically: the lesions are usually symmetrical, asymptomatic, and with normal overlying skin; the location is typical and present at birth or appearing a few months latter [5-7]. Biopsies are rarely indicated [3].

The pathogenesis of PCFH is unknown. Larregue et al [8] consider the lesions to represent papules resulting from hamartomatous formations of fat and connective tissue and incomplete regression of fetal tissue. A possible mechanism is herniation of fat through defects in the plantar fascia [7]. However, there is no clear evidence for the presence of a defect in the fascia, and the nodules are not reducible [7]. An underlying genetic mechanism is also discussed; it could be autosomal dominant, or X-linked inheritance, or most unlikely mitochondrial [3,4]. Precalcanal congenital fibrolipomatous hamartoma is sparsely reported in the literature and is probably underestimated [9]. Greenberg and Krafchick [9] have found PCFH in 5.89% of 263 newborns examined and 39.4% of 189 infants examined, suggesting that it is a common disorder in this age group. It is important to establish a differential diagnosis with the juvenile fibromatosis, particularly childhood fibrous hamartoma and plantar aponeurotic fibroma. In addition, adult-type piezogenic papules, nevus lipomatosus, connective-tissue nevus, and focal dermal hypoplasia should also be considered [3,6].

In conclusion, PCFH is a benign condition of infancy, probably underestimated, which can be diagnosed clinically and rarely needs biopsy. It usually does not require treatment, considering its benign nature and the tendency to spontaneously regress. In rare cases where tenderness occurs, surgical excision can be performed [5].

References