ORIGINAL ARTICLE

Subungual Fibrokeratoma. A two-case report

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ABSTRACT

Subungual fibrokeratoma is a benign fibroepithelial tumor and topographic variant of acquired digital fibrokeratomas. It is identified as a digitiform or filiform neoformation located on the fingers and, less frequently, on the toes; being predominant on middle-aged male adults. Although its etiology is unknown, trauma to the lesion may be considered as a contributing factor. Definitive diagnosis is histopathological, and complete surgical excision is the first-line treatment. Two subungual digital fibrokeratoma cases are described.

INTRODUCTION

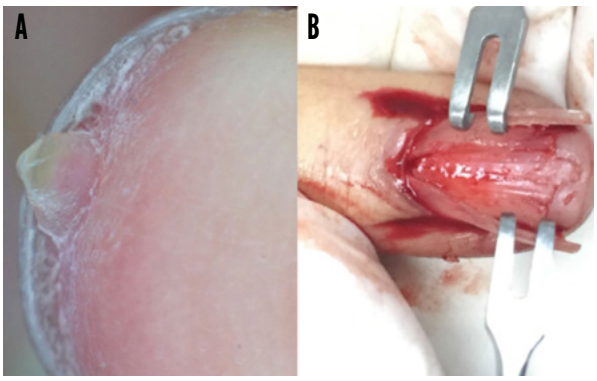
Subungual fibrokeratoma is a benign fibroepithelial tumor and topographic variant of acquired digital fibrokeratomas. Named as such due to its common location on fingers and less frequently on toes.[1]

Although the etiology is unknown, its origin may be traced to the dermal connective tissue or proximal nail fold, probably related to triggers, such as trauma or frequent microtraumas.[1,2]

It is most common in individuals between the second and third decade of life, particularly males.[3,4]

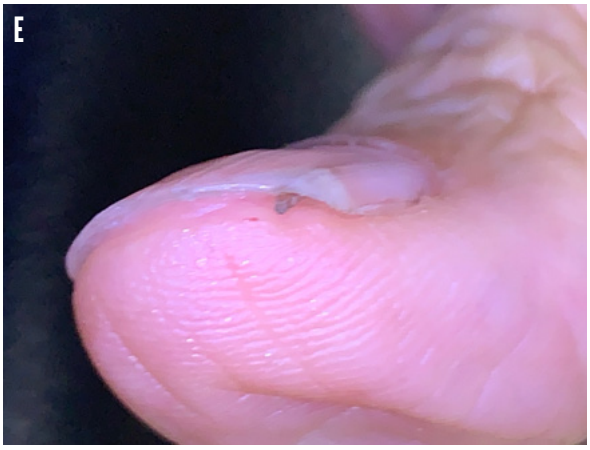
FIRST CASE

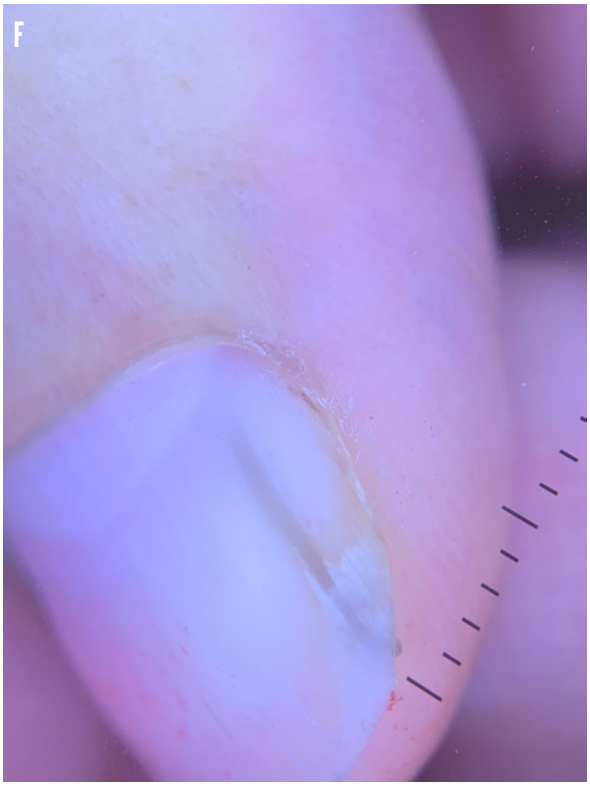
A 56-year-old female patient, with no relevant pathological history, presented with a tumor of approximately 4 years of evolution, located on the left hand's fourth finger. The patient did not report any history of trauma or similar lesions on other fingers. Physical examination revealed a firm, digitiform, keratotic, skin colored papule measuring approximately 3 x 5 mm in diameter, emerging from the nail bed, beyond the hyponychium (figure a). Under clinical suspicion of digital fibrokeratoma, total exeresis of the lesion was performed by means of a longitudinal cut of the ungual laminae (figure b). Histopathological examination showed a tumor constituted by heavily vascularized, dense fibroconnective tissue, and acanthotic epithelium with accentuated hyperkeratosis (figure c), compatible with ungual fibrokeratoma.



SECOND CASE

A 62-year-old patient presented with a filamentous linear lesion of a year evolution, located on the right thumb.





There was not any history of trauma, nor pain from palpation. Physical examination revealed a hyperpigmented, hard elastic consistency, filiform lesion, emerging from the proximal third of the nail bed and protruding through the hyponychium beneath the nail plate (figures d and e). Dermoscopy showed a homogenous pigmented longitudinal band measuring approximately 1 x 6 mm below the nail plate, producing detachment on the plate's distal region (figure f).

COMMENTARY

Digital fibrokeratoma was firstly described in 1951 by Moncorps. However, it was not until 1968 that Bart et al. performed several retrospective studies, in which they described a fibromatous tumor located on the fingers, simulating cutaneous horns or rudimentary fingers with distinctive histopathological features.[5,6] At a later stage, Pinkus defined 28 cases in other areas, such as the palms, heels and knees. Consequently, it was denominated acral fibrokeratoma as to represent the rest of areas.[6]

Although the etiology is unknown, frequent trauma or microtrauma may be considered as contributing factors. Nemeth and Penney describe the existence of Factor XIIIa-positive dermal dendritic cells of these tumors. This factor plays an important role in collagen synthesis and formation, which may be activated due to trauma, acting as a contributing factor for tumor formation.[4,7]

This tumor is clinically characterized as a solitary, exophytic and hyperkeratotic (occasionally hyperpigmented) neoformation. It is generally nodular or filiform, and pedunculated or sessile, measuring less than 1 cm. Lesions greater than 1 cm are considered as giant fibrokeratomas.[6] They have a narrow base and hyperkeratotic tip.[1] Moreover, they may surge from the proximal nail fold and cause the laminae to be depressed. In certain occasions, especially if the location is subungual, they may emerge from the proximal matrix or nail bed and produce changes, such as longitudinal grooves, trachyonychia, hyperkeratosis and onycholysis.[8] These tumors are asymptomatic. However, a particular size and location can put pressure on the matrix, causing pain and nail dystrophy.[4,8]

Yasuki divides them into 5 subcategories, according to anatomical location: Ip: proximal nail fold; Im: dermis beneath the nail matrix; Ib: nail bed; IIp: dermis of the dorsum of the distal phalanx; III: lateral nail fold.[9] Other locations, such as elbows, dorsal region of the hands and feet, calves and heels are described.[4,10]

Dermatoscopy exposed several findings according to location and form: homogeneous and milk-white areas, worm-like filiform structures with erythematous areas and skin colored branching structures.[9,11]

Diagnosis was based on clinical suspicion and histopathological confirmation,[6] which revealed a hyperkeratotic epidermis with accentuated irregular acanthosis, and thickened and branching interpapillary ridges. The center of the lesion is formed by intertwined dense bundles of collagen with vertically oriented, dilated capillaries.[12,13]

Köenen's tumor is the main form to be distinguished among differential diagnoses. Although it shares similar histopathological features, it is commonly associated to tuberous sclerosis[8] and presents other distinctive dermatologic features, which must be researched when treated. Other differential diagnoses with frequent entities in acral zones are verruca vulgaris, pyogenic granuloma, onychomatricoma, onychopapilloma, digital myxoid cyst, dermatofibroma, among others.[8,14]

Surgical excision is considered as the first-line treatment. Surgical techniques are performed according to the tumor's size and location,[6] especially if found beneath the ungual laminae in order to avoid irreversible dystrophies. This would require total or partial exeresis of the ungual laminae to fully excise the lesion.[15] If the tumor is located above the laminae, surgical excision with banner flap would be the first-line treatment. In this procedure, two oblique incisions are made at the proximal nail fold in order to visualize the lesion in its entirety and excise it, without injuring the nail matrix.[16] Other techniques, such as curettage, shave and phenolization or CO2 laser are described.[8] Complete exeresis is associated to a low recurrence rate. Consequently, the periungual area of the feet is that of the highest recurrence rate due to incomplete excisions.[4]

CONCLUSION

Subungual fibrokeratoma is a location variant of acquired digital fibrokeratomas. Complete surgical excision is the first-line treatment with an exceptional recurrence rate.

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