Solitary keratotic projection on the hand

Hassab El-Naby H, MD, El-Khalawany M, MD

Department of Dermatology, Al-Azhar University, Cairo, Egypt

CLINICAL FINDINGS

A 34-year-old man presented with one year duration of single small nodular skin lesion on the dorsum of the right hand which was slowly progressive (Fig. 1). The lesion was asymptomatic and there was no history of bleeding or oozing. Clinical examination revealed a small rounded non-pedunculated nodular projection measuring about 5mm in length and the base was slightly wider than its top. The projection was firm and located on the dorsal aspect of the right hand closely to the knuckle of the index finger. It was skin colored and the surface was keratotic with many scales especially on its base (Fig. 2). The lesion was completely excised without recurrence for one year follow-up.

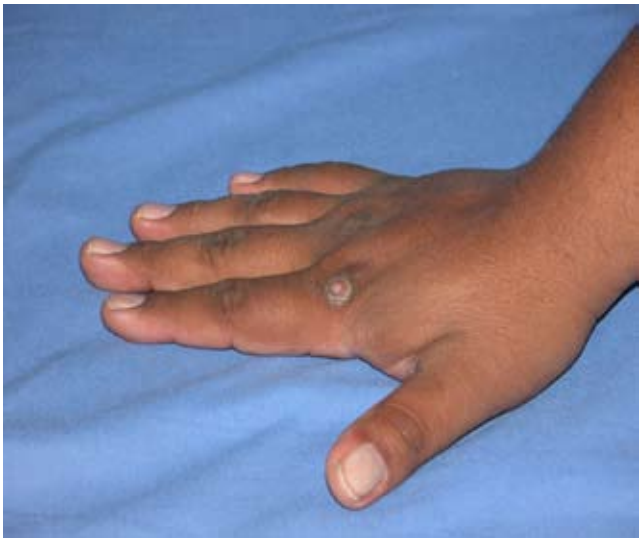

Fig. 1 Solitary nodule on the dorsum of the right hand, located closely to the knuckle of the index finger.

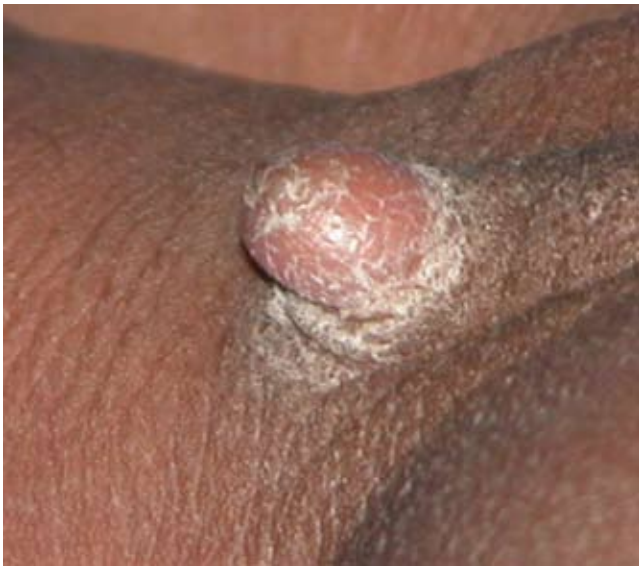

Fig. 2 Nodular projection with scaly keratotic surface and wide base.

What is your differential diagnosis?

Viral wart, cutaneous horn, dermatofibroma, acquired digital fibrokeratoma, supernumerary digit and fibrous papule of the finger.

Pathological findings

Histological examination showed epidermal acanthosis with irregular elongation and branching of the rete ridges. The horny layer showed marked hyperkeratosis with compact keratin. The dermis which constitutes the core of the lesion was formed mainly of hypocellular collagen bundles with normal thickness but they were thickened on the center of the lesion (Fig. 3). The direction of the collagen bundles was mainly vertical and

Correspondence: *Dr. Hassab El-Naby H, MD, Department of Dermatology, Al-Azhar University, Cairo, Egypt*

perpendicular on the epidermis. The core showed increased vascularity with numerous thin walled capillaries (Fig. 4). There was no prominent elastic fibrous nor nerve bundles within the core.

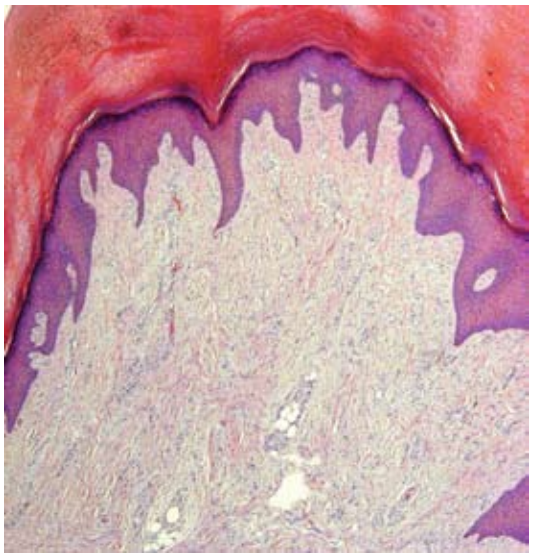

Fig. 3 Epidermal acanthosis and hyperkeratosis with fibro-collagenous core

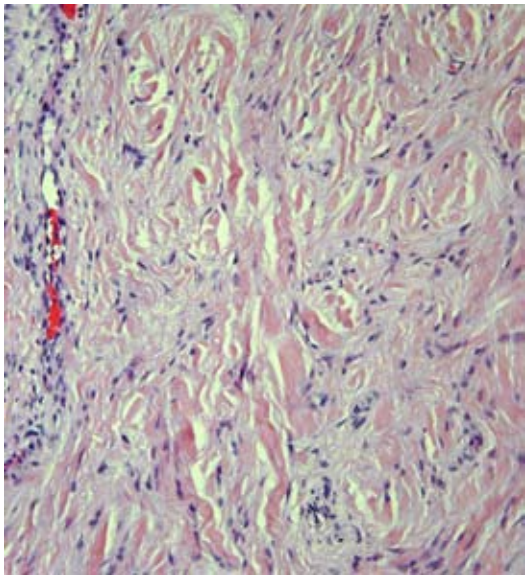

Fig. 4 The center of the core showed vertically oriented thick collagen bundles with dilated capillaries.

DIAGNOSIS

Acquired digital (acral) fibrokeratoma

COMMENT

Acquired digital fibrokeratoma (ADF) is the a benign fibrous lesion that may occur as a reaction to trauma.[1] Although the tumor is commonly located on the fingers and toes but it can occur in other parts of the hands and soles,[2] which was suggested to be called as acquired acral fibrokeratoma (AAF) rather than ADF. Our case is the best example for this entity which located on the hand but away from the finger.

ADF commonly affects adult males as a solitary firm lesion with keratotic surface either skin colored or slightly pigmented.[3] The lesion can be presented with either elongated slightly pedunculated outgrowth or dome-shaped exophytic nodule or papule and may appear as a finger-like projection protruding from a collarette of slightly raised skin.[4]

There is a wide clinical differential diagnosis, which includes dermatofibroma, viral wart, supernumerary digit and cutaneous horn.[5] The histological characteristics of ADF can differentiate it from the other clinically simulating lesions. Typically it shows hyperkeratosis and acanthosis. In the dermis, there are thick collagen bundles, thin elastic fibres and increased vascularity.[6]

The tumor may resemble rudimentary supernumerary digit, however, the later is almost always appears from birth as bilateral projections at the base of the fifth finger. Histologically, it is characterized by the presence of numerous nerve bundles, especially at the base of the lesion.[7] ADF may also resemble Periungual fibromas I(Koenen's tumour) which typically arises from the nail fold in tuberous sclerosis. The longitudinal arrangement of thick collagen bundles may be more prominent in ADF.[8]

The clinico-pathological challenges of acquired digital fibrokeratoma (ADF)

Diagnosis	Clinical Features	Histopathology
Rudimentary supernumerary digit	• Base of the fifth finger • Since birth • Bilateral	• Numerous nerve bundles, especially at the base
Koenen's tumour	• Emerging from the nail folds • Appear at or after puberty • Pathognomonic for tuberous sclerosis	• Loose collagen with numerous small vessels distally, but with dense collagen and few vessels proximally.
Digital fibromatosis	• Mostly in infants and rarely in adults • Predilection for the third, fourth and fifth digits	• Monomorphic bundles of bland, myofibroblast- like cells • Tumour cells have vesicular nuclei, an inconspicuous nucleolus and pink cytoplasm. • Some mitotic figures may be seen.
Fibrous dermatofibroma	• Smooth-edged • Commonly in the periungual tissues • No collar of elevated skin • Lacks the hyperkeratotic tip	• Hypocellular • Prominent collagen bundles • Rarely has a histiocytic dermal component.
Fibroma of tendon sheath	• Predilection for the distal upper limb, particularly the hand and fingers • Well-circumscribed small, slowly growing	• Multilobular and well circumscribed • Background of variably hyalinized stroma. • Stromal clefting is prominent.

Small lesions can be removed by using a 3-5mm punch while large lesions can be excised by shave or elliptical excision. The lesion usually shows no recurrence after adequate excision.[9]

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