Feelers projection of the toe

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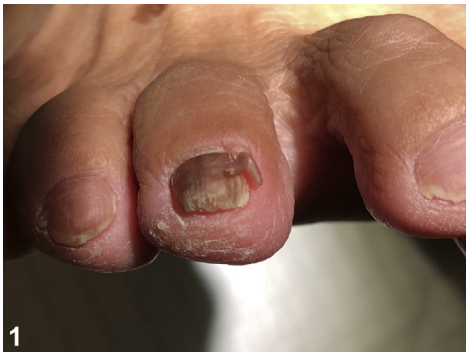
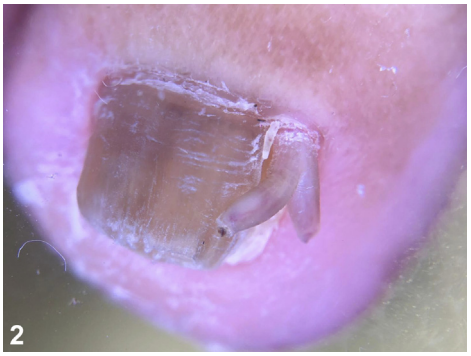
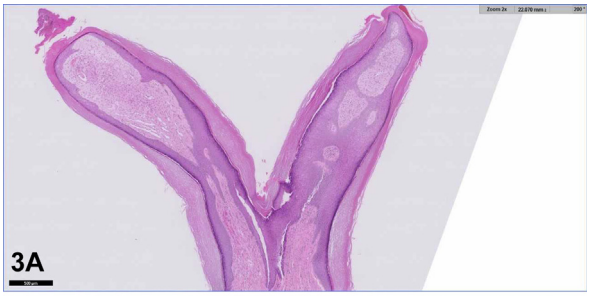
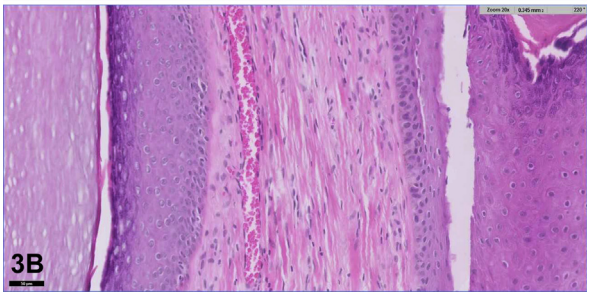
Key word: acquired fibrokeratoma.









A 61-year-old woman with a history of hypertension, hyperlipidemia, diabetes, asthma, and gastroesophageal reflux disease presented with a growth on her third toenail of the right foot for a year. There was no preceding trauma, and attempts to trim the growth were not successful. Examination showed a filiform, bifurcating papule from the medial nail fold of the third toenail of her right foot (Fig 1). Dermatoscopy showed 2 branched, flesh-colored filiform papules, with linear vessels within, crusted tips, and a smaller filiform papule lateral to the branching papule (Fig 2). The lesion was excised, and histopathology revealed a filiform skin lesion with thick orthokeratosis and focal parakeratosis associated with intracorneal hemorrhage (Fig 3, *A*). Vertically oriented collagen bundles and some dilated vessels were seen in the dermis (Fig 3, *B*).

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Question 1: Based on the clinical presentation and the histopathology, what is the most likely diagnosis?

A. Acquired digital fibrokeratoma

B. Pyogenic granuloma

C. Verruca vulgaris

D. Supernumerary digit

E. Superficial acral fibromyxoma

Answers:

A. Acquired digital fibrokeratoma—Correct. This is multibranched acquired periungual fibrokeratoma, which is a variant of acquired (digital) fibrokeratoma, first described by Moriue et al.[1] Acquired fibrokeratoma is a benign fibrous tumor that typically presents as a solitary asymptomatic nodule smaller than 1 cm but may present as a large, painful nodule (giant acquired fibrokeratoma). It usually emerges from the proximal nail fold but can also arise from the nail bed. It often occurs on the toes and fingers. It often demonstrates a collarette of hyperkeratosis at the base, as seen on dermatoscopy. From a histopathologic viewpoint, it has a hyperkeratotic acanthothic epidermis with collagen fibers along the vertical axis consistent with fibrokeratoma.[2,3]

B. Pyogenic granuloma—Incorrect. Pyogenic granuloma can present as a friable, dome-shaped or pedunculated papule or polyp. Histology would show proliferating capillaries in a myxoid stroma, which are absent in this case.

C. Verruca vulgaris—Incorrect. Tiny black dots representing thrombosed vessels would be seen in dermatoscopy.

D. Supernumerary digit—Incorrect. A supernumerary digit is present since birth and usually found at the base of the fifth digit. Histologically, it shows nerve bundles and neuroid elements that are absent in this case.

E. Superficial acral fibromyxoma—Incorrect. Superficial acral fibromyxoma can present as an asymptomatic flesh-colored, dome-shaped, polypoid, or verrucous tumor in the periungual/subungual region similar to fibrokeratoma. However, histology would show bland spindle and stellate cells within a myxoid or collagenous stroma, with subcutaneous involvement, which is not present in this case.

Question 2: Which of the following statements regarding acquired digital fibrokeratoma is *true*?

A. Acquired fibrokeratoma is a commonly reported tumor

B. Acquired fibrokeratoma is common in children

C. Acquired fibrokeratoma is usually asymptomatic

D. Acquired fibrokeratoma is associated with viral infection

E. The histopathology shows neural bundles

Answers:

A. Acquired fibrokeratoma is a commonly reported tumor—Incorrect. Acquired fibrokeratoma is uncommonly reported. The actual incidence is unknown, with most cases published as case reports.

B. Acquired fibrokeratoma is common in children—Incorrect. The tumor occurs more often in middle-aged adults, with a 1:1 male-to-female ratio.[4]

C. Acquired fibrokeratoma is usually asymptomatic—Correct. It usually presents as a solitary asymptomatic nodule smaller than 1 cm but may occasionally present as a large, painful nodule (giant acquired fibrokeratoma).[3]

D. Acquired fibrokeratoma is associated with viral infection—Incorrect. The exact pathophysiology is unclear. It is thought to be associated with trauma or repetitive irritation. An infectious cause has also been proposed as there have been reports of cases that occurred after a staphylococcal infection. There was a case that occurred with gingival overgrowth after ciclosporin treatment.[3]

E. The histopathology shows neural bundles—Incorrect. Histopathology typically shows hyperkeratotic and acanthotic epidermis with thick collagen bundles oriented along the vertical axis in the dermis. Kint et al[5] classified acquired digital fibrokeratoma into 3 different histologic variants. Type I, which is the most common variant, usually presents as a dome-shaped lesion that contains a core of thick, densely packed collagen bundles with fine elastic fibers and a hyperkeratotic epidermis. Type II is a tall and hyperkeratotic lesion that contains more fibroblasts and collagen bundles that are more regularly arranged than the first type with less elastic fibers. Type III, which is the least common type, typically presents as a flat to dome-shaped

lesion with poorly cellular structure and absent elastic fibers.

Question 3: What is the treatment of choice?

A. No treatment

B. Shave excision

C. Silver nitrate

D. Cryotherapy

E. Complete surgical excision

Answers:

A. No treatment—Incorrect. Acquired digital fibrokeratoma does not show spontaneous regression. They should be excised, especially if causing symptoms such as local pain or causing cosmetic concerns. However, patients can also opt not to be treated as they are benign.

B. Shave excision—Incorrect. Local recurrences after shave excision can occur. Incomplete surgical excision accounted for 71.4% of treatment failure.[4]

C. Silver nitrate—Incorrect. Patients do not respond to treatment with silver nitrate.[4]

D. Cryotherapy—Incorrect. Treatment failure with cryotherapy is high.[4]

E. Complete surgical excision—Correct. Complete surgical excision of the tumor, including its basal attachment, is the treatment of choice and recurrences are rare. 9.2% of lesions treated with complete surgical excision recurred.[4]

Conflicts of interest

None disclosed.

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