Giant acquired periungual fibrokeratoma of the thumb: case report and review

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Abstract Fibrokeratoma is a benign fibrous tumor which usually arises in fingers and toes. Tumor size is usually small, around 3–5 mm. We report a giant acquired periungual fibrokeratoma of the thumb in this study. The size of the tumor is $40 \times 25 \times 21 \text{ mm}^3$. Clinical and histopathological characteristics of acquired fibrokeratoma are also reviewed.

Introduction

Acquired fibrokeratoma is an uncommon, benign fibrous tumor. It usually occurs in adults as a solitary nodule on the fingers and toes. The size of the tumor is generally small, usually less than 1 cm in diameter. Acquired fibrokeratomas larger than 1 cm are reported as giant fibrokeratomas in the literature [2, 3, 7]. We report a giant acquired periungual fibrokeratoma in this study. Clinical and histopathological characteristics of

acquired fibrokeratoma were also reviewed with this well-documented case.

Case Report

A 51-year-old man presented with an asymptomatic solitary nodule on his left thumb. Fifteen years ago, he noticed a slow-growing, flesh-colored nodule on his thumb. There was no history of trauma or infection. Physical examination revealed a $40 \times 25 \times 21\text{-mm}^3$ -sized, skin-colored, solitary, and round tumor on the lateral side of the nail fold and thumb (Figs. 1 and 2). The lesion was completely excised (Fig. 3). Histopathological examination showed marked hyperkeratosis and acanthosis in the epidermis and thick collagen bundles in the dermis (Figs. 4 and 5). The histopathological features were compatible with fibrokeratoma. There was no recurrence or postoperative nail deformity in the 20-month follow-up period (Fig. 6).

Discussion

Fibrokeratoma is a benign tumor which was initially reported by Bart et al. in 1968. It usually appears as a small solitary nodule mainly on the fingers and toes and rarely on the lower lip, nose, arms, and legs [1]. For this reason, this entity can also be called “acral” fibrokeratoma. The size of acquired fibrokeratoma is generally less than 1 cm. Exceptionally, there have been reported cases of giant acquired fibrokeratoma in the literature. Spitalny et al. and Kakurai et al. reported 70- and 38-mm acquired fibrokeratomas on the plantar surface of the heel and toe. Choi et al. reported a 25-mm

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Fig. 1 Physical examination. Skin-colored, $40 \times 25 \times 21\text{-mm}^3$ -sized, solitary, round, and protruded nodule on the lateral side of the left thumb. Dorsal view

Fig. 4 Histopathologic examination. The peripheral sections of tumor showed hyperkeratosis, acanthosis, and thickening of rete ridges (hematoxylin–eosin staining, $\times 40$)

Fig. 2 Palmar view

Fig. 5 The dermis of the tumor showed thick collagen bundles (hematoxylin–eosin staining, $\times 100$)

Fig. 3 Excision and size of tumor

Fig. 6 Postoperative view

acquired digital fibrokeratoma of the toe [1–3, 7]. Our case is the largest sized tumor located on the fingers.

The exact pathophysiology of the acquired digital fibrokeratoma is unknown, but trauma is thought to be a predisposing factor. Kint et al. suggested that acquired digital fibrokeratoma resulted from a neoformation of collagen by the fibroblasts [4]. Nemeth et al. reported that factor XIIIa might play an important role in the pathogenesis of fibrokeratoma [5]. Sezer et al. suggested a possible infectious base of acquired fibrokeratoma and reported a fibrokeratoma developing after a staphylococcal paronychia [6].

Differential diagnosis for acquired digital fibrokeratoma includes supernumerary digit, cutaneous horn, verruca vulgaris, dermatofibroma, and neurofibroma. Surgical excision is the treatment of choice. Recurrence is quite rare following complete surgical excision.

Conclusion

Fibrokeratoma is a rare benign tumor. The size of the tumor is usually less than 1 cm in diameter, but it can grow to giant sizes like our case and can cause functional limitation. Surgical excision is the treatment of choice.

Statement of Informed Consent Even though there was no identifying details about the patient in this study, informed consent was obtained from patient for being included in the study.

Conflict of interest Hakan Bulam declares that he has no conflict of interest. Ayse Sencan declares that he has no conflict of interest. Betul Ak Bozkirli declares that he has no conflict of interest. Billur Sezgin declares that he has no conflict of interest. Serhan Tuncer declares that he has no conflict of interest.

Statement of Human and Animal Rights All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008. Informed consent was obtained from all patients for being included in the study.

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