

Subungual Nodule of the Great Toe in Female Child

Case Report

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Abstract

Subungual exostoses are bony projections which arise from the dorsal surface of the distal phalanx, most commonly of the hallux, often disturbing the nail plate and causing pain. We report case of subungual exostosis in a female child of 10 years who presented since one year a fixed firm nodule of the great toe. Clinically, radiologic and histological finding were compatible with subungual exostosis. The treatment is surgical. Early diagnosis avoids nail dystrophy.

Keywords: Subungual Exostosis; Nodule; Great Toe; Surgery.

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Introduction

Subungual exostoses are bony projections which arise from the dorsal surface of the distal phalanx, most commonly of the hallux [1], often disturbing the nail plate and causing pain. We report case of subungual exostosis in a female child.

Case Report

A 10-year-old female child presented since one year history of a slowly growing mass on the tip of the left great toe. She denied any significant trauma to the great toe. The mass was painful when pressed. Skin examination found a 1cm fixed nodule extending from the distal end of the nail. There was poor adherence between the distal nail plate and underlying nail matrix associated to ungual dystrophy. The mass was firm and covered with scaly skin (Figure 1). X-ray showed a bony growth protruding from the distal phalanx of the great toe (Figure 2). For the surgical manage-

ment, after performing a digital block, we removed the nail plate (Figure 3). A strong nail clipper was used to divide the base of the mass at its juncture with the distal phalanx, followed by curettage of the distal phalanx with a bone curette. The nail matrix was repaired with absorbable suture and the nail plate was replaced. The control radiograph showed the disappearance of the mass (Figure 4). Pathologic analysis of the lesion revealed mature trabecular bone with a proliferating fibrocartilaginous consistent with exostosis. There was no evidence of recurrence with a decline of 2 years.

Discussion

Subungual exostosis is an uncommon, slow growing, benign osteocartilaginous tumour arising from the distal phalanx of a digit, beneath or adjacent to the nail bed. Dupuytren first described the condition in 1817 [2, 3] clinically it appears as painful red-pink expanding nodule under the great toenail. The majority of the lesions occur in the second or third decade of life which is the case of our patient [4]. Fikri reported 28 observations in 14 years [5]. Landon reported 44 observations in 65 years [6]. Subungual exostosis more commonly affects women than men in a ratio of 2:1 [7]. Differential diagnoses include subungual verruca, squamous cell carcinoma, onychocryptosis, inclusion cysts, glomus tumor, malignant melanoma [8], Ingrown toenail, Pyogenic granuloma, and Osteochondroma.

Radiologic imaging of Subungual exostosis reveals an osteocartilaginous exophytic mass extending from the distal tuft of the phalanx. Histology showed mature trabecular bone with a proliferating fibrocartilaginous [4].

Various surgical techniques are performed, depending on the extent of nail bed involvement. A fish mouth incision is made where the lesion does not destroy the nail bed. This type of incision raises the nail to excise the tumor, leaving the nail bed intact. Where the lesion is large and the nail bed is destroyed, the nail is removed

Figure 1. fixed nodule extending from the distal end of the nail with ungueal dystrophy.



Figure 2. Bony growth protruding from the distal phalanx of the great toe.



Figure 3. Subungual exostosis after we removed the nail plate.



Figure 4. disappearance of the mass after surgery.



and the tumor approached directly from above. In this case, the nail bed is preserved as much as possible [9]. The most common complications associated with the excision of a subungual exostosis are recurrence, infection, nail plate growth disturbances, and subungual hematoma.

The etiology of subungual exostosis is unknown. The presence of a subungual exostosis is usually interpreted as a reactive pro-

cess rather than as a neoplastic one. It has been described as an acquired deformity in which trauma and microtrauma seem to be the most important etiologic factors [10]. Others authors have hypothesized their growth is related to chronic infection. Starnes reported a genetic correlation in a small number of patients [11]. In an analysis of the histology of subungual exostosis, Ippolito reported that growth could occur via two different mechanisms: enchondral ossification, or more commonly, intramembranous/

mixed ossification [12].

Conclusion

The diagnosis of subungual exostosis is easy, it may be suspected from the clinical presentation and confirmed with radiographic examination. Subungual exostosis should be considered in the differential diagnosis of any digital mass.

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