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# Acquired elastoma in a subungual location

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## Abstract

Elastomas are connective tissue nevi or hamartomas. They may occur in isolation or can be associated with familial syndromes such as Buschke-Ollendorff syndrome. Elastomas typically present in childhood as small ivory papules or firm skin-colored nodules that can coalesce into larger yellow plaques. These lesions are typically distributed over the extremities, abdomen, and back. Herein, we report an unusual case of a renal transplant recipient who presented with an acquired subungual papule with associated koilonychia and distal nail plate dystrophy. Histopathologic findings were consistent with subungual elastoma.

*Keywords: renal transplant, elastoma, nail tumor*

## Introduction

Elastomas typically present in childhood or adolescence as small ivory or skin colored papules that may coalesce into large yellow plaques. These lesions are commonly described on the extremities and back. We present the case of a 64-year-old man with a history of a kidney transplant and anal squamous cell carcinoma (SCC) who presented for evaluation of a subungual lesion on the right thumb. Biopsy was performed and revealed findings consistent with an elastoma. Herein, we review the differential diagnosis of a subungual lesion in the context of an immunocompromised patient and explore the unique location and unique type of nail apparatus tumor that was presented.

## Case Synopsis

A 64-year-old man with a history of a kidney transplant and anal SCC presented to the dermatology clinic for

evaluation of a nail lesion under the right thumbnail. The patient had a history of a renal transplant 43 years prior for end-stage renal disease secondary to glomerulonephritis; he was managed on an immunosuppressive regimen of azathioprine and prednisone. He had a history of several actinic keratoses in sun-exposed areas and anal SCC treated with surgery, chemotherapy, and radiation. Family history was negative for manifestations of Buschke-Ollendorff syndrome.

The nail changes were first noted by the patient two years earlier. He initially experienced tenderness in the area upon palpation, which had since resolved. The patient did not recall antecedent trauma to the area.

Examination of the affected nail revealed koilonychia with a subtle subungual non-tender ill-defined papule, with overlying nail plate contour distortion (**Figure 1**). There was nail dystrophy distal to the



**Figure 1.** Clinical image of the first finger of the right hand - koilonychia with a non-tender skin-colored papule beneath the nail plate, thus distorting the central contour of the nail plate.

subungual papule with no evidence of hemorrhage, melanonychia, or erythronychia (**Figure 2**). Other nails were normal on clinical examination. Iron studies were within normal limits. Physical examination did not reveal any other lesions suspicious for connective tissue nevi. Given the setting of a long-term immunocompromised patient with history of skin cancer and concern for possible malignancy, a nail bed biopsy was performed. Upon reflection of the nail plate, a well-circumscribed white papule on the proximal nail bed was revealed.



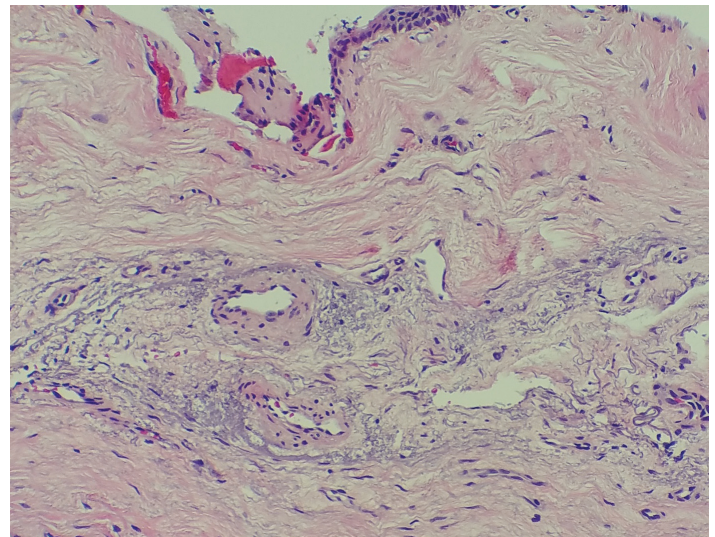
**Figure 2.** Clinical image of the first finger of the right hand - distal nail plate with dystrophy, and subungual papule beneath central portion of nail plate.

Histopathologic examination revealed a subungual elastoma, with collections of elastin fibers in the stroma demonstrated by the Verhoeff van Gieson elastic stain (**Figures 3 and 4**).

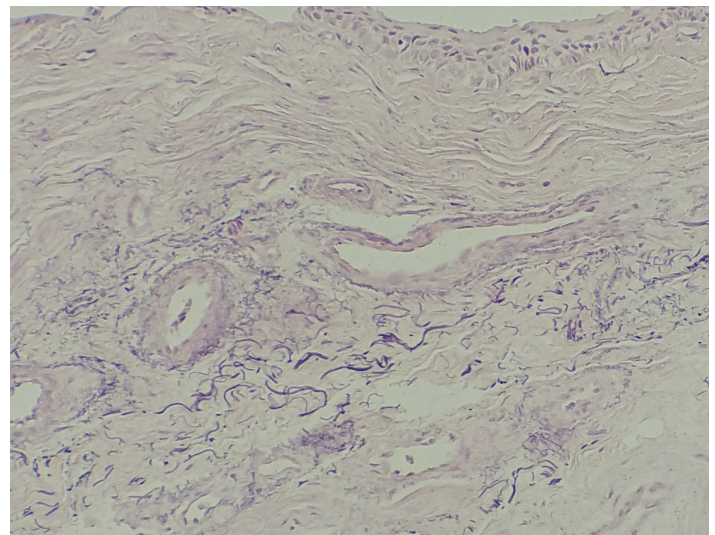
### Case Discussion

Immunosuppression after solid organ transplant leads to a markedly increased incidence of skin cancer [1, 2]. There is a sixty-five-fold increase in SCC and a ten-fold increase in basal cell carcinoma compared to the general population [2]. This increased risk is attributed to factors such as ultraviolet light exposure, age at transplant, skin phototype, and duration of immunosuppression [1].

Our patient had a history of skin cancer and developed a subungual papule in the setting of over four decades of immunosuppressive therapy for his renal transplant. Transplant patients are



**Figure 3.** Histopathologic image showing an abundant deposition of elastic fibers in the dermis of the nail bed (H&E, 10x)



**Figure 4.** Histopathologic image showing an accumulation of elastin fibers in the dermis (Verhoeff van Gieson, 10x).

particularly susceptible to infections with high-risk human papillomaviruses, which can predispose these individuals to development of SCC [3-7]. These factors weighed heavily in our level of concern for the development of SCC, the most common malignant tumor of the nail unit [8].

The differential diagnosis for this nail lesion was quite extensive and included onychomatricoma, glomus tumor, onychopapilloma, verruca, digital mucous cyst, SCC, amelanotic melanoma and metastasis, among others (**Table 1**). The nail findings in this case were not pathognomonic for a single entity.

Although elastomas are classically associated with familial syndromes such as Buschke-Ollendorff,

**Table 1: Differential Diagnosis**

Onychomatricomas	Slow-growing painless tumors, can present with longitudinal nail thickening or ridging, xanthonychia, splinter hemorrhages, and transverse overcurvature [8].
Glomus tumors	Exhibit painful blue or red discoloration beneath the nail plate, longitudinal erythronychia, or fissures with nail notching [8].
Verruca vulgaris	Common in the periungual and subungual skin and may present as a keratotic subungual nodule with nail dystrophy and onycholysis. [9].
Onychopapilloma	Also known as nail bed papilloma, classically presents as localized longitudinal erythronychia with hyperkeratosis [10].
Digital mucous cysts	Pseudocysts that result from the leakage of synovial fluid from the adjacent joint capsule into the surrounding tissue [11].
Metastasis	Malignant tumors, though quite rare, can metastasize to the nail unit and present as red to violaceous nodules that destroy the nail plate [12].

elastomas may also arise in an isolated fashion [13, 15]. Indeed, isolated elastomas may be underrepresented in the literature owing to their benign nature [17]. The majority of elastomas in Buschke-Ollendorff syndrome occur on the extremities and abdomen [14]. Other areas of distribution include the buttocks, back, feet, and hands, but there is only one prior report of a connective tissue tumor involving the nail apparatus [13-18]. In addition, other than rare case reports and isolated inherited variations [13, 19], familial and isolated nevi are acquired in childhood to adolescence [14, 15, 19, 20]. Elastomas have been rarely identified in patients on immunosuppressive medications, such as one patient with systemic lupus erythematosus. However, there is no known association between elastomas and immunosuppression [19]. A surgical approach was taken given the risk of underlying malignancy but elastomas do not require treatment. Herein, the authors have described a rare elastoma in an unusual subungual location in a chronically immunosuppressed transplant recipient.

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