Onychomatricoma: Surgical Excision of a Rare and Often Misdiagnosed Tumor

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STATEMENT OF PURPOSE

In this case, we report the clinical findings and surgical excision of a painful mass that was histopathologically confirmed as an onychomatricoma in a 54 year old male. The purpose of this case is to spread awareness to further aid proper diagnosis and to outline the importance of histopathologic confirmation rather than relying on clinical examination alone.

LiTERATURE REVIEW

The onychomatricoma is a rare, benign fibro epithelial tumor of nail matrix origin. First described by Baran and Kint in 1992, it clinically appears as a thickened yellow nail with transverse over curvature, prominent ridging and splinter hemorrhages (1). There are less than 100 reported cases in the literature. It affects predominantly women in the 5th decade and has been described as slow growing and painless (2). This tumor has been misdiagnosed with onychomycosis and treated with antifungals without resolution in previously reported cases (3).

CASE REPORT

A 54 year old male with no significant past medical history presented with right foot pain, specifically to the 4th toenail. He reported noticing a mass to his toe approximately 8 years earlier that enlarged over time. Over the course of the last year, the mass became even larger and more painful with pressure and irritation, especially while wearing shoes.

The patient did reveal a previous injury to his right 4th toenail that occurred approximately 10 years earlier. He stated his foot was caught and jammed between rocks while he was hiking resulting in the nail ripping off. The injury was managed conservatively and the nail grew back, however, it did not have the same appearance as his other nails.

On examination, the patient was neurovascularly intact. His nail examination revealed an elongated, thickened, discolored and dystrophic nail plate with subungual debris associated with the fourth digit. There was a large, hard, and superficial soft tissue mass noted superior, medial and proximal to the toenail (figure 1). There was pain on the palpation of the nail plate. X-rays revealed no osseous abnormalities of the right foot or digits (figure 2).

The mycotic nail was sharply and mechanically debrided in the office. Excision with biopsy of the nail and soft tissue of the fourth digit was subsequently discussed with the patient. The surgery was scheduled two months after the initial encounter, at which time, the patient was taken to surgery for excision and biopsy of the fourth digit toenail and soft tissue lesion.

The soft tissue mass extended proximally about one centimeter back from the proximal and medial nail folds. A #64 blade was used to excise the nail plate while preserving the nail bed, which appeared to be healthy and viable. An English anvil nail splitter was used to excise part of the soft tissue lesion, which appeared to be striated and hard with finger-like papillary projections. The rest of the lesion was excised in full thickness utilizing a #64 blade. No osseous structure was observed or connected to the soft tissue lesion. Intraoperatively, the lesion and soft tissue beneath the lesion were sent for cryosection. The soft tissue resulted benign with the presence of spindle cells.

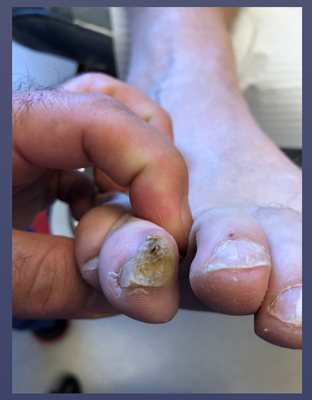

Figure 1

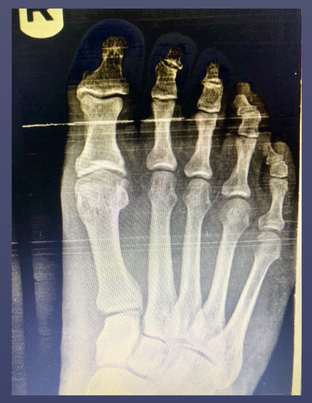

Figure 2

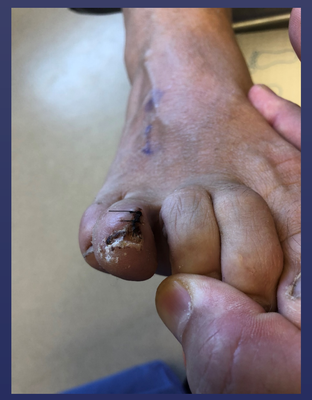

Figure 3

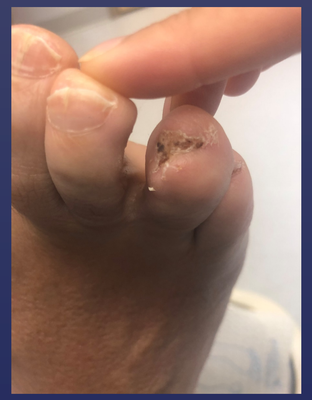

Figure 4

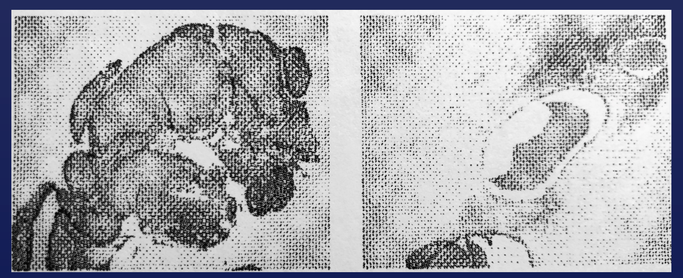

Figure 5

The patient was seen in the office postoperatively, at which time, the surgical site was healing well (figure 3). In further visits, the site was noted to be fully healed and the patient continued to be pain free without complications (figure 4). The final histopathology report results were positive for an onychomatricoma (figure 5).

ANALYSIS AND DISCUSSION

Surgical management resulted in successful short and long term treatment of this patient who has been pain free and without signs of recurrence for over one year. Follow up is ongoing.

Distinctive histological features that confirm diagnosis involve the proximal zone which is below the posterior nail fold and the distal zone which mostly involves the lunula (4). The proximal zone has deep epithelial invaginations with overlying ungual protrusions (4). The distal zone consists of epithelial digitations that originate from the matrix and proliferate causing perforations in the nail plate (4). Recent studies also show that the tumor may originate from the onychodermis because CD10, a marker of the oncychdermis, is expressed in the stroma of the tumor (4).

With few cases reported worldwide, the question is whether this tumor is often misdiagnosed. Until biopsy, it should remain in the differential diagnosis, especially in cases involving a single nail (4). In this case, the onychomatricoma presented as a nodular lesion associated with a nail that also had mycotic changes. However, it may present more subtly, and further mimic onychomycosis. The differential may also include, but is not limited to, a fibrokeratoma, periungual fibroma, verruca, melanoma or squamous cell carcinoma. Imaging techniques may be helpful, but the reference standard for diagnosing onychomatricoma remains a biopsy followed by histopathology confirmation (4).

CONCLUSION

In conclusion, clinicians who may not be aware of this rare benign nail tumor may benefit from this case as early recognition would aid in avoiding misdiagnosis.

REFERENCES

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