Received: 2 July 2021 | Revised: 15 August 2021 | Accepted: 5 September 2021

DOI: 10.1002/cia2.12205

Journal of Cutaneous Immunology and Allergy

WILEY

CORRESPONDENCE

Onychomatricoma mimicking subungual melanoma and Bowen's disease

Dear Editor,

Onychomatricoma is a benign tumor of the nail matrix, usually shows a yellowish and thickened nail plate and proximal splinter hemorrhage but sometimes present with longitudinal melanonychia. Longitudinal melanonychia has been demonstrated in diverse diseases. While onychomycosis is the common, malignant diseases such as subungual melanoma and Bowen's disease should also be differentiated. We herein report a case of pigmented onychomatricoma that mimics subungual melanoma and Bowen's disease.

A 53-year-old Japanese man visited our dermatology clinic with a 2-year history of toenail pigmentation (Figure 1A). Physical examination revealed a dark brown pigmented band on the medial edge of the right great toenail. The involved area of the nail plate was thickened and rough. Onychoscopy showed longitudinal parallel white lines on the band of brownish homogenous coloration (Figure 1B). A potassium hydroxide (KOH) examination for fungi was negative. Under the suspected diagnosis of subungual melanoma or Bowen's disease, an excisional biopsy was performed. Histopathological examination of the proximal portion of removed nail plate showed multiple deep invaginations filled with digitated epithelial proliferations (Figure 1C). These digitated epithelia contained thick keratogenous zone in the apex. A resected papillary tumor of the nail matrix showed fibroepithelial projections with spindle cell proliferation in the stroma (Figure 1D, E). Immunohistochemical examination revealed that CD10 and CD34 positive cells proliferated in the fibrous stroma (Figure 1F). In addition, S-100 and Melan A staining showed scattered melanocytes in the epithelium without evident proliferation (Figure 1G). PCR analysis using human papillomavirus (HPV) consensus primers, L1C1/L1C2 and GP5(+)/GP6(+), was negative (data not shown).[1] From these clinicopathological features, we diagnosed as onychomatricoma. Five months follow-up showed no recurrence (Figure 1H).

Onychomatricoma is a benign nail matrix tumor that was first described by Baran and Kint in 1992. Di Chiacchio et al. summarized 30 cases of onychomatricoma and showed the major clinical features including increased nail thickness, splinter hemorrhages, xanthonychia and transverse curvature of the nail. However, longitudinal melanonychia was shown to be less often.[2] Pigmented onychomatricoma retains histopathological features of classic onychomatricoma, namely epithelial invagination filled with V-shaped keratogenous zone, abundant fibrillar stroma, and thickened nail plate with cavities occupied by papillary projections of epithelium. Immunohistochemically, CD10 and CD34 are positive for stromal cells.[3] These results were consistent with our case. The differential diagnosis of pigmented onychomatricoma includes onychomycosis, traumatic subungual hematoma, Bowen's disease, and subungual melanoma.[4] Pigmentation visible through the translucent cuticle like our patient was revealed to be pseudo-Hutchinson's sign.[5] While Hutchinson's sign is common in melanoma, localized hyperkeratosis, dark dots, free edge nail pitting, and hairpin-like vessels are observed more frequently in nail squamous cell carcinoma than in onychomatricoma.[6,7] Our case also resembled subungual Bowen's disease which was frequently associated with high-risk HPV infection.[1] Since pigmented onychomatricoma often masquerades subungual melanoma and Bowen's disease, we should keep in mind of this rare but specific

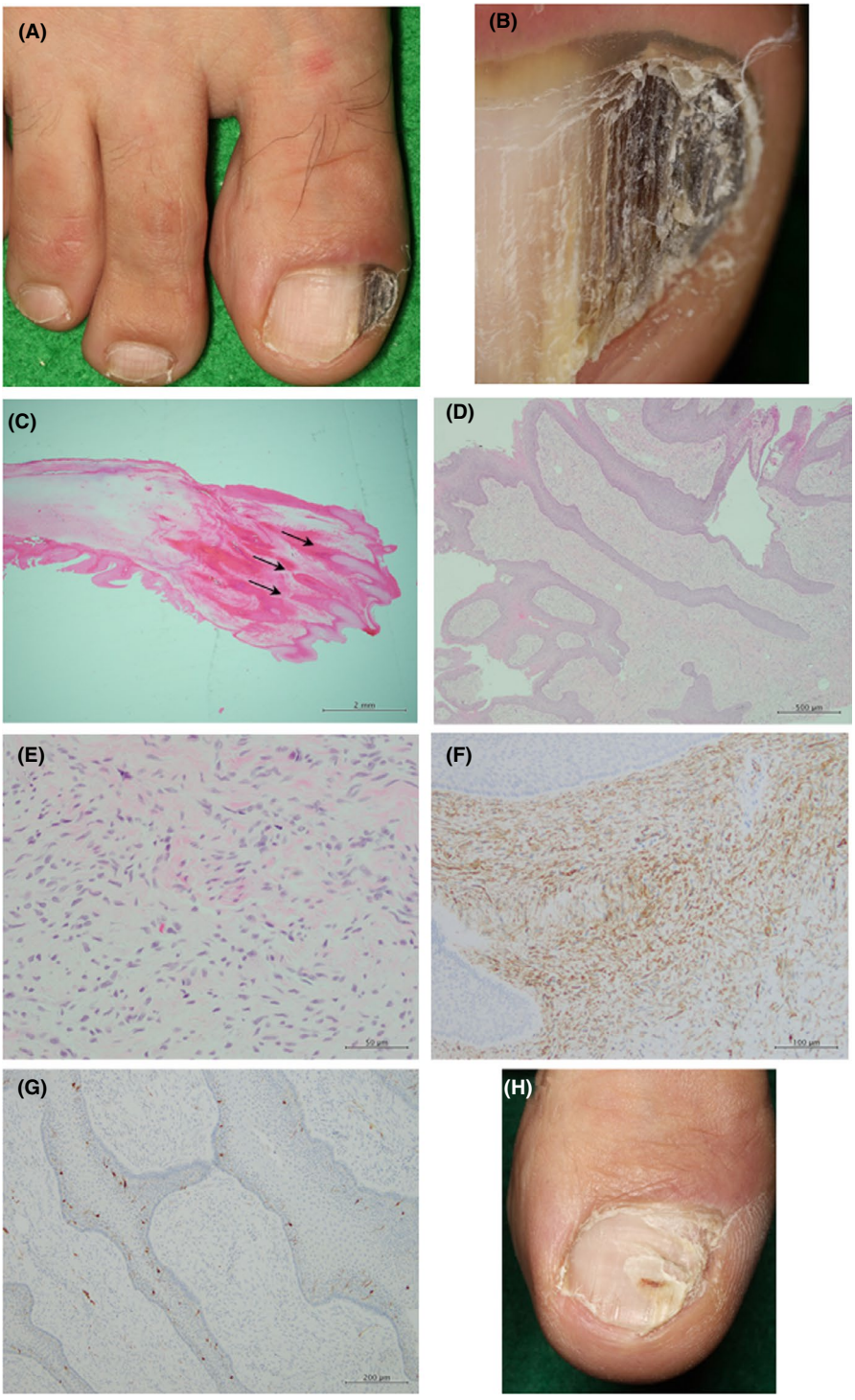

FIGURE 1 Clinical and histopathological features. (A) Longitudinal melanonychia with rough and thickened surface on the medial edge of the right great toenail. (B) Onychoscopy showing longitudinal parallel white lines on the band of brownish homogenous coloration. (C) Proximal portion of the removed nail plate showing multiple deep invaginations filled with digitated epithelial proliferations. Arrows indicate keratogenous zone in the apex of the digitated epithelium. (Hematoxylin–eosin stain, original magnification ×12.5, scale bar = 2 mm). (D) Resected specimen of the nail matrix tumor exhibiting fibroepithelial projections Hematoxylin–eosin stain, original magnification ×40, scale bar = 500 μm). (E)Spindle cell proliferation in the stroma. (Hematoxylin–eosin stain, original magnification ×400, scale bar = 50 μm). (F) Immunohistochemically, the proliferating stromal cells are positive for CD34 (×200, scale bar = 100 μm). (G) Immunohistochemically, the scattered melanocytes in the epithelium are positive for S-100 without evident proliferation (×100, scale bar = 200 μm). (H) Clinical view 5 months postoperatively

nail matrix tumor to avoid aggressive surgery, when we encounter a longitudinal melanonychia.

ACKNOWLEDGMENTS

We thank Ms Kanai Saki for technical assistance.

DECLARATION SECTION

Approval of the research protocol: N/A.

Informed Consent: Written informed consent was obtained from the patient.

Registry and the Registration No. of the study/trial: N/A.

Animal Studies: N/A.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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REFERENCES

1. Shimizu A, Tamura A, Abe M, Motegi S, Nagai Y, Ishikawa O, et al. Detection of human papillomavirus type 56 in Bowen's disease involving the nail matrix. Br J Dermatol. 2008;158:1273–9.
2. Di Chiacchio N, Tavares GT, Tosti A, Di Chiacchio NG, Di Santis E, Alvarenga L, et al. Onychomatricoma: epidemiological and clinical findings in a large series of 30 cases. Br J Dermatol. 2015;173:1305–7.
3. Joo HJ, Kim MR, Cho BK, Yoo G, Park HJ. Onychomatricoma: A Rare Tumor of Nail Matrix. Ann Dermatol. 2016;28:237–41.
4. Ocampo-Garza J, Di Chiacchio NG, Di Chiacchio N. Pigmented onychomatricoma: Four cases. Australas J Dermatol. 2018;59:e66–9.
5. Baran LR, Ruben BS, Kechijian P, Thomas L. Non-melanoma Hutchinson's sign: a reappraisal of this important, remarkable melanoma simulant. J Eur Acad Dermatol Venereol. 2018;32:495–501.
6. Teysseire S, Dalle S, Duru G, Phan A, Debarbieux S, Poulhalon N, et al. Dermoscopic Features of Subungual Squamous Cell Carcinoma: A Study of 44 Cases. Dermatology. 2017;233:184–91.
7. Duarte AF, Correia O, Barros AM, Ventura F, Haneke E. Nail melanoma in situ: clinical, dermoscopic, pathologic clues, and steps for minimally invasive treatment. Dermatol Surg. 2015;41:59–68.

How to cite this article: Kuriyama Y, Shimizu A, Tamura A, Motegi S-I. Onychomatricoma mimicking subungual melanoma and Bowen's disease. J Cutan Immunol Allergy. 2022;5:24–26. https://doi.org/10.1002/cia2.12205