

Subungual Melanoma with bone infiltration

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Abstract

Nail melanoma is rare and has a poor prognosis. It represents between 0.18 and 2.8% of all cutaneous melanomas. Amputation is usually performed for invasive nail melanoma, but not all invasive melanomas invade or attach to the distal phalanx. Our aim was to report a case of 56-year-old patient with history of a manipulated melanonychia band of the right big toe since 5 years presenting a nail melanoma with bone infiltration. Our patient illustrates the consequences of the late diagnosis of nail melanoma which led to a deep progression and the invasion of bone by the malignant melanocytes.

Keywords: Subungual melanoma; Bone infiltration; Acral lentiginous melanoma; Amputation

1. Introduction

Subungual melanoma is a rare and aggressive form of melanoma that occurs under the nail plate 1. It represents between 0.18 and 2.8% of all cutaneous melanomas 2. Subungual melanoma presents as brown-black discolorations of the nail bed 3. Delayed detection can result in a poor prognosis. Amputation is usually performed for invasive nail melanoma, but not all invasive melanomas invade or attach to the distal phalanx 2. Our aim was to describe the clinical presentation, diagnostic challenges, and treatment approach for a patient with subungual melanoma with bone invasion.

2. Cases report

A 56-year-old patient with a history of a manipulated melanonychia band of the right big toe presented with a black tumoral mass of the right big toe with homolateral inguinal mass evolving for four years.

Clinically, we found a black ulcerated tumor mass measuring 7cm on the right big toe. The lesion was heterogeneous, poorly limited and bleeding upon contact (Fig1). Lymph node examination identified an infiltrated nodular plaque

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firmly fixed to the deep and superficial planes of the right inguinal region. The inguinal mass measured 9 cm, with eroded blackish macular lesions at its center (Fig1b).

MRI of the thigh objectified a lesional process of the proximal superficial soft parts of the right thigh, related to lymph node localizations.

The PET scan revealed a hypermetabolic lesion on the right big toe, accompanied by bone lysis. There were hypermetabolic lymph nodes in the right superficial inguinal region, suggesting lymph node involvement, no signs of hypermetabolic activity indicating metastatic spread to the lungs, liver, or other bones. A Chopart amputation and right inguinal lymph node dissection were performed (Fig 2a).



Figure 1 a- black tumor mass on the right big toe, b- Inguinal infiltrated nodular placard

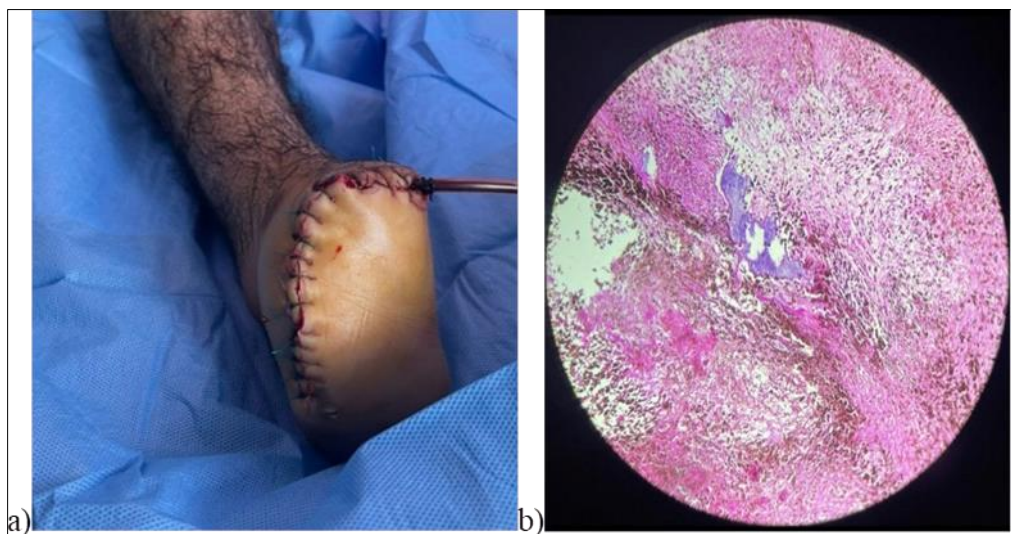


Figure 2 a-Chopart amputation, b- Histological section: bone invasion by melanocytes coloration haematoxylin eosin (x180)

The histological examination of the excisional biopsy from the right forefoot indicated an acral lentiginous melanoma in the vertical growth phase, with a Breslow depth of 7 mm and Clark level V, showing bone infiltration (Fig 2b). The excisional margins of the skin were clear of malignancy. The histological analysis of the right inguinal mass revealed lymph node metastases measuring 9.2 cm in length, with capsular rupture and extension into the surrounding soft tissues. The proposed staging was T4bN3BM1a. Treatment with immunotherapy was initiated, and a limb-fitting procedure was performed.

3. Discussion

Our patient illustrates the evolution of an undiagnosed subungual melanoma with bone involvement, providing insights into the clinical course and challenges associated with this presentation.

Longitudinal melanic bands pose a diagnostic and therapeutic problem for the practitioner. For fear of melanoma, the usual attitude is to perform a total excision of the lesion, removing the bed, matrix and pigmented tablet 3. A study, published in December 2017, demonstrated that there could be a large disparity between the tumor thickness on initial biopsy versus the final tumor thickness 4. This point highlights the importance of having a good quality biopsy to make the initial histological assessment followed up with a management plan. In a French study of 22 cases carried out between 1989 and 1998, the majority of cases involved the thumb and index finger, as in our patient (11 out of 16). Histology revealed benign melanocytic lesions in all cases, with no malignant lesions 3. In a Japanese study of 30 cases of nail melanoma, not all invasive melanomas invaded or attached to the distal phalanx. Of the 30 cases studied, only four were attached to bone 2. In our patient, the melanonychia band was manipulated with nail avulsion. Our patient subsequently developed an acrolentiginous melanoma and only consulted us at a metastatic stage. Our patient illustrates the lack of awareness of the patients gravity and consequences of uncontrolled manipulation of nail lesions

4. Conclusion

Early and prompt nail apparatus melanoma diagnosis is associated with less invasive surgical procedures and a better patient's prognosis 5,6. Strengthening awareness among the population and practitioners is necessary for the prevention of advanced nail melanoma.

Compliance with ethical standards

Acknowledgments

This research received no external funding. The patient in this manuscript has given written informed consent to publication of the case details

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of ethical approval

Ethical approval to report this case was obtained from the Ibn Rochd University Hospital Ethics Committee.

Statement of informed consent

Informed consent was obtained from the patient included in the case report.

References

- [1] Mole RJ, MacKenzie DN. Subungual Melanoma. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 [cité 4 mai 2024].
- [2] Nakamura Y, Fujisawa Y, Teramoto Y, Sato S, Yamada K, Sekine K, et al. Tumor-to-bone distance of invasive subungual melanoma: an analysis of 30 cases. *J Dermatol.* oct 2014 ;41(10):872-7.
- [3] Bali D, Casanova D, Aharoni C, Mutaftschiev N, Cilirie K, Legré R. Bandes mélaniques longitudinales unguéales (mélanonychies) : conduite à tenir à propos de 22 cas. *Chirurgie de la Main.* 1 janv 2002 ;21(4) :225-34.

- [4] Reilly DJ, Aksakal G, Gilmour RF, Gyorki DE, Chauhan A, Webb A, et al. Subungual melanoma: Management in the modern era. *J Plast Reconstr Aesthet Surg.* déc 2017;70(12):1746-52.
- [5] Dika E, Piraccini BM, Fanti PA. Management and treatment of nail melanoma. *G Ital Dermatol Venereol.* juin 2017;152(3):197-202.
- [6] LaRocca CJ, Lai L, Nelson RA, Modi B, Crawford B. Subungual Melanoma: A Single Institution Experience. *Med Sci (Basel).* 15 sept 2021 ;9(3) :57.