

Single Case

# Acral Amelanotic Melanoma Mimicking a Non-Healing Arterial Ulcer

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## Keywords

Acral melanoma · Amelanotic melanoma · Non-healing arterial ulcer misdiagnosis

## Abstract

Acral melanomas contribute to approximately 2–3% of melanomas but are commonly misdiagnosed due to their rarity, subtlety at onset and tendency to display amelanotic features. This case report describes a 70-year-old male with an amelanotic melanoma misdiagnosed as a non-healing arterial ulcer. Histopathology demonstrated a Breslow 2.3 mm, Clark level IV acral lentiginous melanoma, which was definitively managed with surgical intervention. This case report highlights the importance of considering melanoma in the differential diagnosis of non-healing ulcers.

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## Case Report

A 70-year-old male, with a past medical history of a cerebrovascular accident, hepatitis C and hypertension, was referred to our plastic surgery clinic for management of a punch biopsy-proven acral melanoma on his right foot. This patient gave a 4-year history of having a right plantar ulcer, for which he sought treatment 2 years previously. At that time, it was thought to have been an arterial ulcer and was managed symptomatically. He subsequently re-presented, with significant pain associated with this ulcer, which again was diagnosed as an arterial ulcer, and an ultrasound scan showed 75% stenosis on his anterior tibial artery. He

was re-referred to the vascular team and on examination was noted to have a 2.5-cm red, well-demarcated ulcer on the distal plantar surface of his right foot, overlying the fourth metatarsophalangeal joint (Fig. 1, Fig. 2).

A punch biopsy was performed, which demonstrated a Breslow 2.3 mm, Clark level IV acral lentiginous melanoma, and he was referred to our plastic surgery service for definitive management. A staging PET scan found no evidence of metastasis, and a sentinel lymph node biopsy was offered to the patient, which he declined.

The patient underwent a wide local excision of the lesion, which included his fourth toe, and the wound was temporised with Integra™ until definitive histological clearance was obtained. At the same operation, he underwent an on-table angiogram, with a view to angioplasty of the anterior tibial artery; however, his foot was adequately perfused via the posterior tibial artery, and angioplasty was not performed. Subsequent formal histology confirmed an invasive acral lentiginous melanoma with a Breslow thickness of 4.3 mm and Clark level V, with adequate clearance margins. He underwent split thickness skin graft to the defect (Fig. 3) and remains under regular clinical and ultrasound scan surveillance for loco-regional recurrence.

### Discussion/Conclusion

Acral melanomas contribute to approximately 2–3% of melanomas and do not always exhibit the classical signs associated with malignant melanoma (asymmetry, border irregularity, colour variance, diameter) [1]. Acral melanomas are more common in weight-bearing areas of the foot [2], including the front of the foot, where our patient's melanoma was identified. Acral melanomas can adopt an amelanotic appearance, which may be attributed to a lack of melanin production by melanocytes and neovascularisation [3]. Both patients and clinicians rarely suspect melanoma for plantar ulcers. Due to their atypical clinical features and rarity, acral melanomas tend to present later and can be difficult to diagnose. Surgical intervention is central to the management of early, localised disease.

In addition to increasing size and a possible change in colour, acral melanomas can present with bleeding or as a wound that fails to heal [4]. This case demonstrates that persistent, non-healing foot ulcers should be evaluated for alternative diagnoses. Melanoma should be considered in cases such as this and histological evaluation performed, especially when a foot ulcer displays atypical features and/or persists despite treatment.

### Statement of Ethics

The authors state that the patient gave written informed consent for his case to be published (including publication of images). This research complies with all ethical guidelines for human studies in accordance with the World Medical Association Declaration of Helsinki.

### Disclosure Statement

The authors declare no conflicts of interest and that no funding was provided for this work.

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**Fig. 1.** Photograph of the patient's foot on initial presentation.



**Fig. 2.** Photograph of the acral melanoma on initial presentation demonstrating its amelanotic appearance.



**Fig. 3.** Photograph of the patient's foot after surgical repair using Integra™ and then a split thickness skin graft.