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Invasive BRAF Wild-Type Malignant Melanoma Arising in a Chronic Venous Ulcer: A Diagnostic Pitfall.

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Introduction

Chronic venous ulcers are common in elderly patients with vascular comorbidities, yet malignant transformation within these lesions remains rare. Melanoma arising in a chronic ulcer represents a diagnostic challenge due to overlapping clinical features and delayed recognition.

Materials and Methods

A 79-year-old man with long-standing diabetes mellitus, chronic venous insufficiency, and a history of splenectomy presented with an ulcerative lesion on the right medial malleolus, persisting for over two years despite wound care. He noted progressive dark nodular growth within the ulcer over the past year. Examination revealed an exophytic tumor on a hyperpigmented ulcerated plaque with irregular borders, asymmetry, and variegated pigmentation. Hyperpigmented satellite lesions extended toward the dorsum of the foot. Histopathology revealed invasive malignant melanoma with a Breslow depth of 1.2 mm, ulceration, and lymphovascular invasion. BRAF wild-type genotype was confirmed. A diagnosis of nodular malignant melanoma stage cT2b N0 M0 was made. He refused surgical treatment. Therapy with pembrolizumab was initiated.

Results

The development of skin cancer in chronic venous ulcers involves several interconnected mechanisms. Chronic venous insufficiency creates a state of persistent inflammation, tissue hypoxia, and repetitive trauma-healing cycles. The most common malignancies associated with venous ulcers are keratinocytic, classically squamous cell carcinoma. Melanoma arising within chronic venous ulcers represents an uncommonly documented yet clinically significant complication.

Conclusions

This case underscores the importance of maintaining high clinical suspicion for malignancy in non-healing chronic wounds, especially in patients with vascular and metabolic comorbidities. Early biopsy of evolving lesions within ulcers is critical, as malignant melanoma in this context is associated with delayed diagnosis and poor prognosis. Dermatologists must remain vigilant and advocate for timely histopathologic assessment of atypical or non-healing ulcers. To our knowledge, this is the first reported case of cutaneous melanoma arising within a chronic venous ulcer to undergo BRAF mutational analysis.

