



Wound Sleuth

By Rob Miller, MD, FRCPC (derm)
and Cathy Burrows, RN, BScN, MScCH

History

This 61-year-old male presented to the emergency department with a red, swollen, necrotic area on the lateral aspect of the left foot. He was referred to the vascular leg ulcer clinic for assessment and management of the wound. Doppler ultrasound was performed and the ankle-brachial pressure index (ABI) was normal at 1.1, venous ultrasound was negative for DVT. The patient was treated for atrial fibrillation two weeks prior and was on warfarin 5 mg daily.

Q What is the cause of this wound?

A This patient has developed warfarin-induced skin necrosis (WISN). WISN is rare and occurs in less than 1% of patients treated with anticoagulants.¹

Q How would you confirm the diagnosis?



A International normalized ratio (INR) value was 5 (normal 1.5–2). Bloodwork results for protein C and S deficiency were negative. Anti-thrombin III deficiency, anticardiolipin antibodies, factor V Leiden mutation and lupus anticoagulant were also negative. Liver enzymes were within normal range.

The first symptoms of WISN are pain and redness in the affected area. As symptoms progress, lesions develop a sharp border and become petechial, then hard and purpuric. They may then resolve or progress to form large, irregular,

bloody bullae with eventual necrosis and slow-healing eschar formation.

Diagnosis was based on clinical history and physical assessment.

Q What would the treatment be?

A The warfarin was stopped and the patient was started on

a low-molecular weight-heparin. Local wound management consisted of debridement of the necrotic tissue, and dressing selection was based on maintaining moisture balance and prevention of infection. 🩹

Rob Miller is a dermatologist and **Cathy Burrows** is an independent wound care consultant, both in Halifax.

References

1. Kilic T, Kaya O, Gulbas G, Erkut MA, Arpag H. Late-onset warfarin-induced skin necrosis: Case report and review of the literature. *J Turgut Ozal Med Cent.* 2014;21:223–5.