

A Purple Ulcer

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CASE

A 42-year-old woman presented with a left lower extremity ulcer. Three weeks prior, she had been struck by a motor vehicle and developed bullae on her thigh, the main area of impact. She could not afford to see a primary doctor, and had been applying a low-cost, over-the-counter topical antiseptic solution to the site since the accident. On examination, she had a 26 by 14 centimeter ulcer on her left medial thigh without tenderness, purulence or crepitation. The ulcer was noted to be bright purple (Figure).

DIAGNOSIS

Gentian violet (hexamethylrosaniline), the basis of the gram stain, has been marketed as an antiseptic since the 1890s.¹ It was used intravenously in the early 20th century to treat sepsis, until being replaced by penicillin and other oral antibiotics. Its exact mechanism of action is unknown, although it is hypothesized to promote free radical formation, inhibit bacterial protein synthesis, and uncouple oxidative phosphorylation. *In vitro* studies have demonstrated its effectiveness against gram-positive bacteria and *Candida*, and clinical studies have shown effectiveness against some skin infections, including methicillin-resistant *Staphylococcus aureus* (MRSA).^{2,3} Given its low cost, ready availability, and limited adverse effects, topical gentian violet may be a useful treatment in under-developed parts of the world as the incidence of MRSA and other skin and soft tissue infections increases.

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Figure. A purple ulcer on the left medial thigh.

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