

# Novel Use of Topical Dapsone 5% Gel for Erythema Elevatum Diutinum: Safer and Effective

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## ABSTRACT

We present a case of an otherwise healthy 81-year-old gentleman with multiple asymptomatic, erythematous, indurated papules and plaques, ranging in size from 0.5 to 1.5 cm, involving the dorsal, lateral, and palmar surfaces of the fingers bilaterally. A clinical suspicion of erythema elevatum diutinum (EED) led to initial treatment with topical dapsone 5% gel (ACZONE; Allergan Inc, Irvine, CA). Lesional biopsy demonstrated a dense perivascular infiltration of polymorphonuclear leukocytes and chronic inflammatory cells with perivascular fibrin deposition. Focal neutrophilic infiltration of superficial dermal blood vessel walls was present, suggesting a leukocytoclastic vasculitis. Stains for bacteria and fungi were negative. Clinicopathologic findings were consistent with EED, and in the interim, improvement with topical dapsone 5% gel was noted. Addition of oral dapsone led to complete resolution of the lesions. We present this case to illustrate the subtle, indolent clinical presentation of EED and demonstrate the uncomplicated use of topical dapsone 5% gel for rapid improvement and subsequent successful treatment of localized disease.

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## INTRODUCTION

Erythema elevatum diutinum (EED) is a rare manifestation of a chronic fibrosing cutaneous leukocytoclastic vasculitis. Although first described in 1888 by Hutchinson, it was not definitively named until 1894 by Radcliffe-Crocker and Williams.<sup>1,2</sup> Since then, approximately 100 cases have been reported.<sup>3</sup> EED typically occurs in middle-aged individuals between 40 and 60 years, and has demonstrated a slight male predominance.<sup>2</sup> Cases associated with HIV infection tend to have an earlier age of onset.<sup>4</sup> Clinically, EED most frequently involves the extensor surfaces of the extremities in a symmetric fashion, but has also been reported to involve the skin overlying joints, Achilles tendon, and buttocks.<sup>2,5-7</sup> EED involving the penis has been reported in 2 cases.<sup>6,8</sup> Truncal, retroauricular, genital, axillary, and facial lesions are rarely described.<sup>2</sup> Lesions are characterized by violaceous papules, plaques, or nodules that eventually darken, coalesce, and heal with residual, atrophic, hypo- or hyperpigmented patches with loss of collagen in the dermis, and fibrosis.<sup>5-7</sup> They are generally asymptomatic and soft, secondary to edema and tissue destruction; however, they may be tender, pruritic, painful, or associated with a burning sensation. An annular pattern has been described.<sup>2</sup> The lesions have a tendency to come and go spontaneously, but typically regress after 5 to 10 years. Persistence for 20 years has nonetheless been reported.<sup>6</sup> Constitutional symptoms such as fever and arthralgias have been reported, although systemic vasculitis is not present.<sup>2,9,10</sup> The histologic appearance varies depending on the stage of the lesion. Acute lesions show a marked neutrophilic perivascular infiltrate, while fibrotic replacement of the dermis is found in later lesions. The principal histopathologic finding is