

IMAGES IN DERMATOLOGY

Mid-dermal elastolysis: Characteristic clinical and histopathological findings

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A 43-year-old female patient with a history of chronic sun exposure presented with progressive, asymptomatic skin lesions on the posterior aspect of the right leg, which had been present for approximately two years. Regarding family history, her mother had experienced early-onset wrinkles and cutaneous laxity associated with sun exposure. Figure 1 shows diffuse areas of fine wrinkles with a reticular pattern on the posterior aspect of the right leg, symmetrically distributed and sharply demarcated. The skin exhibited a characteristic texture composed of multiple intersecting fine lines, producing

the appearance of “wrinkled cigarette paper,” without pigmentary changes or associated inflammatory signs. No perifollicular papules or reticulated erythema were observed, findings consistent with type I mid-dermal elastolysis.¹

Figure 2 shows the histopathological study with hematoxylin and eosin staining, revealing an epidermis with normal histological features and a mild perivascular infiltrate within the dermis. Figure 3 illustrates the elastic fiber stain performed on the skin sample from



Figure 1. Atrophic plaque with an erythematous reticular pattern on the posterior aspect of the right leg, characterized by fine wrinkles, mild cutaneous thinning, and a lax surface with a characteristic “cigarette paper” texture.

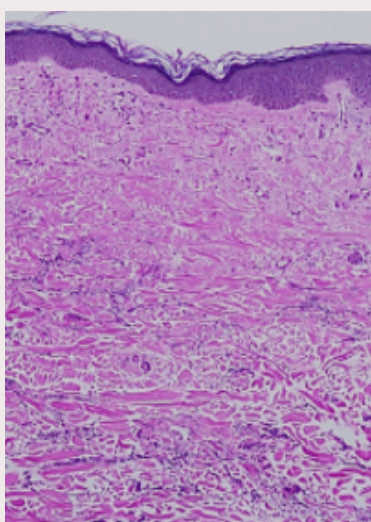


Figure 2. Histopathology demonstrating selective loss of elastic fibers in the mid-dermis, with preservation of the papillary dermis and deep reticular dermis.

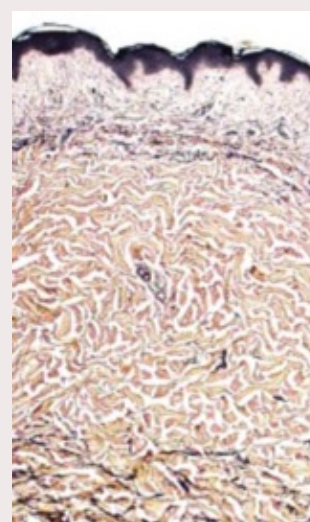


Figure 3. Verhoeff–Van Gieson stain showing mid-dermal elastolysis, characterized by loss of elastic fibers in the middle portion of the dermis.

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the present case (Verhoeff–Van Gieson or orcein stain), which demonstrates the characteristic selective loss of elastic fibers within the mid–dermis, with preservation of normal elastic tissue in the superficial papillary dermis and the lower reticular dermis. This distinctive histopathological finding confirms the diagnosis of mid–dermal elastolysis.^{2,3}

Mid–dermal elastolysis is a rare acquired disorder of elastic tissue that predominantly affects middle-aged Caucasian women.⁴ Its pathogenesis involves an imbalance between matrix metalloproteinases, particularly MMP–9, and their tissue inhibitors, resulting in selective degradation of elastic fibers.⁵ Although ultraviolet radiation exposure has been identified as a triggering factor, the etiology remains unknown in many cases. The differential diagnosis includes anetoderma, pseudoxanthoma elasticum, elastoderma, and acquired cutis laxa.⁶ Unfortunately, no definitive effective treatment is currently available, although variable results have been reported with topical retinoids and strict photoprotection.⁷

INFORMED CONSENT

The patient included in this study provided written informed consent authorizing the use of her clinical data and images exclusively for research and scientific publication purposes. The authors guarantee that no personal identifying information has been disclosed and that no photographs allowing patient identification have been included.

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