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An investigation of striae distensae using reflectance confocal microscopy.

An investigation of striae distensae using reflectance confocal microscopy.; Australas J Dermatol. 2012 Aug;53(3):181-5. doi: 10.1111/j.1440-0960.2012.00884.x.

ABSTRACT

Background: Striae distensae, otherwise known as stretch marks, are white or red scar-like streaks on the skin. Although they are not associated with adverse health outcomes, striae are associated with significant cosmetic morbidity. While they have been well characterised histopathologically, a non-invasive method of microscopic lesion assessment of striae would be welcome.

Methods: To gain insight into the small-scale morphological features associated with striae we undertook an in vivo investigation of nine patients with striae alba and one with striae rubra utilising reflectance confocal microscopy (RCM).

Results: Here we demonstrate that features known to be present using light microscopy, such as parallel collagen bundles in the dermis, and some features that are not well recognised by light microscopy, including distortion of dermal papillae, are demonstrable using RCM.

Conclusions: Characterising the features of early and established striae distensae with confocal microscopy is an important foundation for future work. The potential ability to reliably identify the earliest pathological changes in skin in early lesions or before clinically manifest striae develop - a task facilitated by our findings - will increase the understanding of their pathogenesis and will have significant practical utility in monitoring the impact of future preventative interventions.