

SPECTROPHOTOMETRIC INTRACUTANEOUS ANALYSIS IN THE DIFFERENTIAL DIAGNOSIS OF PSORIASIS AND ECZEMA

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Psoriasis and eczema have been reported to account for over 20% of referrals to dermatology clinics. Although treatment options for the conditions may often be similar, especially in the use of steroids and emollients, there are an increasing number of specific treatments for each disorder, requiring therefore that the physician make a precise diagnosis.

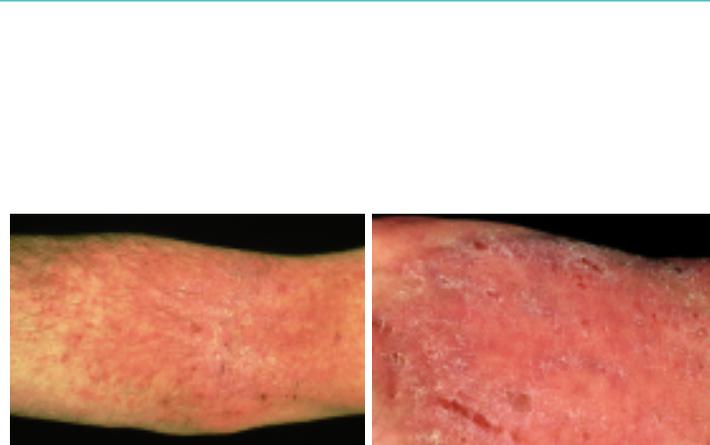
The most appropriate management option thus varies with the diagnosis and although this can be made with a high level of confidence in most instances by an experienced dermatologist, there are in fact not infrequent cases where the clinical features are not definitely diagnostic, and others where patients present instead at either family practice level or to a relatively junior doctor or nurse-led clinic.

Psoriasis typically presents histology showing extended rete ridges and elongated dermal papillae with dilated and tortuous capillaries within them. This however may also be clearly demonstrated in a non-invasive representation of the skin micro-architecture and composition through the technique of spectrophotometric intracutaneous analysis as a series of punctate dots representing the tips of dermal papillae lying between the extended rete ridges.

A study was therefore undertaken at the St John's Institute of Dermatology, St Thomas' Hospital, London in which patients presenting with psoriasis and eczema were imaged utilising this technique to assess whether the disorder could be reliably diagnosed. After Ethics Committee approval and formal patient consent, 30 patients with psoriasis or eczema were imaged and the presence or absence of punctate dots within the blood readout were identified along the level of vasculature; the presence of such punctate dots was found to be highly sensitive for psoriasis (96%) although the size of the dataset did not allow an precise assessment of specificity.

Thus, the high sensitivity of this technique clearly allows a reliable means of excluding psoriasis as a diagnosis if punctate dots are not seen, allowing a physician to be confident thereby in pursuing specific psoriatic treatment options, or else those more suited to eczema. Identification of this diagnostic feature is also clearly non-invasive, quick and painless for the patient, and at the same time easy for the physician, making the technique eminently suitable at an early stage in the health care system.

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Eczema

Eczema close-up



Psoriasis



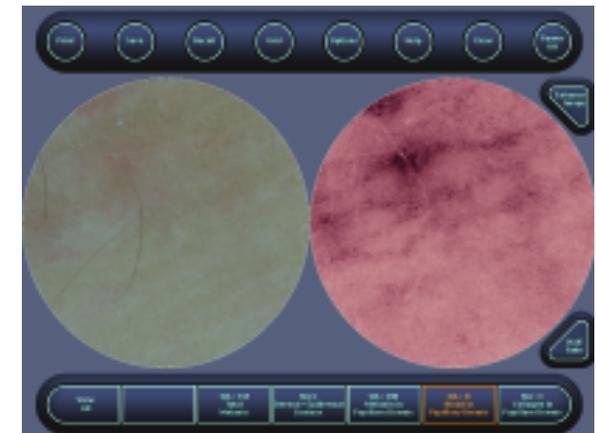
Psoriasis close-up



Psoriasis histology. Note extended rete ridges.



Eczema SIA - Blood view (right); dermatoscopy image on left



Psoriasis SIA - Blood (right); dermatoscopy image on left. Note punctuated dots of high blood concentration (dark red).