DERMOSCOPY AND SKIN IMAGING

VASCULAR MORPHOLOGY IN NORMAL SKIN STUDIED WITH DYNAMIC OPTICAL COHERENCE TOMOGRAPHY

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Introduction: Dynamic optical coherence tomography (D-OCT) is a non-invasive imaging technique, suitable for the study of structural and dynamic features of cutaneous microvasculature. Studies with D-OCT have primarily focused on non-melanoma skin cancer (NMSC) and a reference description of healthy skin is lacking.

Objective: To describe the prevalence of standard microvascular features in normal skin.

Methods and Material: A total of 280 participants without skin disease were D-OCT scanned on four body locations; three sun-exposed areas and one unexposed: forehead, back of the neck, back of the hand and medial side of the upper arm. Frequencies of standard vascular features were reported, and relations to anatomical location and demographic data were investigated.

Results: 'Dots', 'lines' and 'curves' were the most frequent shapes at 150 µm, 300 µm and 500 µm. 'Mottle' was the predominant pattern at 150 µm and 300 µm. 'Mesh' was found from 300 µm and primarily found at 500 µm. Regional differences of vascular characteristics were primarily found comparing the medial side of the arm with the other body locations.

Conclusions: In normal skin the most frequent shapes were 'dots', 'lines' and 'curves', and 'mottle' was present more superficially than 'mesh'. Regional anatomical differences should be taken into account when evaluating D-OCT images.