

ABSTRACT

Assessment of the Effects of PUVA on Psoriatic Patient Skin by Computerized 20 MHz Sonography

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Sonography is a diagnostic technique which allows images to be obtained by means of ultrasound. B-scan technique was recently introduced in Dermatology, and has produced data on the dimensions and the depth of skin lesions. In this study, psoriasis was assessed by computerized sonography based on B-scan, but also incorporating the A-scan technique, in order to evaluate both the psoriatic lesion and perilesional skin before and after PUVA treatment. Derascan C (Cortex Technology, Denmark) was used. Sixteen psoriatic patients (7 males, 9 females; mean age 42.14 ± 13.42) were examined sonographically on the elbows and lumbar region, both on psoriatic plaques and normal appearing skin. Sonography was performed on both sites before the treatment and after an average exposure of about 200 J/cm^2 , usually corresponding to the resolution of the plaques. Before PUVA treatment, psoriatic plaques were characterized by a

slight increase in the thickness of the epidermis and the dermis at both sites, as compared with uninvolved perilesional skin: the thickening was not statistically significant. After PUVA a significant reduction ($p < 0.02$) in the thickness of psoriatic epidermis was seen on the elbows. A non-significant reduction in thickness was detected after PUVA in dermis. In the lumbar region, psoriatic plaque showed a significant reduction in the thickness of both epidermis ($p < 0.001$) and dermis ($p < 0.005$) following PUVA treatment. A non-significant thickening of both the epidermis and dermis after PUVA was recorded on perilesional skin. The remarkable reduction in the thickness of the dermis after PUVA, seen mainly in the lumbar region, may be due to PUVA-induced dermal remodelling. Thickening of PUVA-exposed, normal-appearing skin may be interpreted as a consequence of a defence response to PUVA stimulus.