PHOTOTHERAPY, PHOTODYNAMIC THERAPY

EPIDERMAL BARRIER FUNCTION IMPROVES DURING NARROW BAND UVB PHOTOTHERAPY IN PATIENTS WITH PSORIASIS

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Introduction: Psoriasis is a multi-systemic inflammatory disease. The new concept of the disease pathophysiology involves immune-driven T-cell response with the involvement of different cytokines and proinflammatory molecules. Yet not much is known on the epidermal barrier function in psoriasis pathogenesis. In this study we aimed to evaluate skin barrier function in patients with plaque psoriasis and to assess its dynamics durng narrow band UVB phototherapy

Material and methods. 22 patients with plaque type psoriasis vulgaris and 25 gender- and age-matched healthy controls were enrolled. We assessed epidermal barrier function by measuring by non-invasive biophysical methods 2 parameters: transepidermal water loss (TEWL) and stratum corneum hydration (SCH). Measurements were taken from two sites: psoriasis plaque and the clinically uninvolved skin at the volar aspect of the forearm before and after 12 sessions

Results: At baseline TEWL-values were significantly ($p<0.0001$) higher on psoriatic plaques (16.8 g/h/m2) in comparison to uninvolved skin (5.3 g/h/m2); with a decrease at both sites after NB-UVB phototherapy. SCH was significantly lower at psoriatic plaque s (4.7AU) compared to uninvolved skin (42.4AU) and increased after treatment (8.6AU) ($p<0.0001$). SCH decrease slightly during therapy at uninvolved skin (40.6AU).

Conclusion: Our results demonstrate deteriorated barrier function at psoriasis plaque skin as well as at clinically uninvolved skin. It is, however, not clear whether epidermal barrier disturbances are the result or the cause for skin inflammation in psoriasis. We showed that narrow band UVB phototherapy results in improvement of epidermal barrier parameters and functional integrity.