

## **Non-invasive evaluation of tacalcitol plus puva versus tacalcitol plus UVB-NB in the treatment of psoriasis: "right-left intra-individual pre/post comparison design".**

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Photochemotherapy with psoralen plus ultraviolet A (PUVA) and phototherapy with UVB narrow band (UVB-NB) are used in the treatment of psoriasis. Numerous studies have shown that the additional administration of either topical or systemic antipsoriatic agents may effectively increase the efficacy of these therapies. This study aimed to compare through objective data the efficacy of topical tacalcitol in combination with PUVA or UVB-NB versus PUVA and UVB-NB monotherapy in the treatment of mild to moderate chronic plaque psoriasis. Modified Psoriasis Area and Severity Index (PASI) score, transepidermal water loss (TEWL) and stratum corneum hydration were used to monitor the restoration of skin barrier in the psoriatic plaques of 40 patients during photochemotherapy. The study was a right-left, intra-individual, pre/post comparison trial. PUVA and UVB-NB treatments were given three times a week. On those plaques localized on the right side of the body tacalcitol ointment was applied once a day, in the evening. Corneometry, TEWL and modified PASI score were used to evaluate the response to the treatment at baseline, one month and two months. Thirty-six of the forty enrolled subjects completed the study. The comparison between combination treatments and the PUVA/UVB-NB monotherapy showed no significant differences with regard to modified PASI index. However, significant differences were recorded with regard to TEWL and corneometry. The combination of tacalcitol plus PUVA or tacalcitol plus UVB-NB restored epidermal barrier functions as well as skin hydration faster than PUVA or UVB-NB monotherapy (TEWL:  $p=0.0050$  and corneometry:  $p=0.003$ ). The combination of tacalcitol plus UVB-NB allowed a better restoration of skin barrier functions than tacalcitol plus PUVA ( $p=0.013$ ). In conclusion, the combination of tacalcitol plus PUVA or plus UVB-NB improves the therapeutic result. In addition, the data from TEWL and skin hydration suggest a means in which tacalcitol plus UVB-NB induces a better normalization of skin biophysical parameters.

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