PHOTOTHERAPY, PHOTODYNAMIC THERAPY

A PROSPECTIVE, RANDOMISED, WITHIN-SUBJECT STUDY OF ALA-PDT FOR ACTINIC KERATOSES USING DIFFERENT IRRADIATION REGIMES.

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Introduction: Photodynamic therapy (PDT) can be used to treat large fields of actinic keratoses (AKs) with high clearance rates. A notable downside is the amount of pain that accompany the treatment.

Objective: This study aimed to optimise the illumination protocol during conventional PDT in order to reduce pain without compromising treatment effectiveness. Our hypothesis was that conventional PDT would be less painful but as effective if the same total light dose was given starting with a low intensity with a gradual increase during the illumination phase.

Materials and methods: In this prospective, randomised study with a split-face design, patients with, symmetrically distributed AKs were included. All patients were treated using a commercially available ALA 78 mg/g gel. One side was illuminated with the Aktilite® CL-128 lamp and the other side with the RhodoLED® lamp in which the light intensity gradually increased to a maximum of 60%.
Both sides received a total light dose of 37 J/cm2 and both light sources use approximately the same wavelength. However, a special protocol was established for the RhodoLED lamp in which the light intensity gradually increased. PDT was carried out on both sides in succession during a single visit. During the illumination phase, the patient was asked every third minute to estimate the pain on each treatment side using a VAS from 0 (no pain at all) to 10 (worst imaginable pain). The clinical effectiveness of the two treated sides was assessed after 12 weeks.

Results: 29 patients with 399 AKs were included. Illumination with the gradually increasing light intensity resulted in a decrease of the median VAS score by 1.1 points. Clearance rate were similar between the two lamps.

Conclusion: Minimising the light intensity during the illumination phase of PDT reduces pain, while still preserving a high clearance rate of AKs.