PHOTOTHERAPY IN CHILDHOOD: A 17-YEAR RETROSPECTIVE STUDY REGARDING EFFECTIVENESS AND SAFETY

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Introduction

Extensive childhood dermatoses are often a challenge owing to their potential impact on the child’s psychological development and the need of safe therapeutic alternatives given the importance of avoiding systemic agents’ toxicity. Phototherapy is therefore widely used as a safe alternative treatment option for photoreactive dermatosis such as psoriasis, vitiligo, pityriasis lichenoides, alopecia areata (AA) or atopic eczema.²

Several phototherapeutic options are available – narrowband UVB (UVB-nb), broadband UVB (UVB-bb), systemic and topical psoralen-UV light phototherapy (PUVA) and topical PUA, respectively – and excimer laser therapy – which are selected on a case-to-case basis according to diagnosis, disease severity, skin phototype and age. Treatment protocol ranges from 2 to 5 weekly sessions, starting with 70% of the predetermined minimal erythema dose (MED) for UVB and 75% of the minimal phototoxic dose (MPD) for UVA, with an increase of 10-20% at each session or if no erythema occurs.

Objective and Methods

This observational retrospective study aims to assess the efficacy and safety of phototherapy to treat moderate to severe dermatological conditions in our paediatric population. Relevant clinical data relative to patients aged ≤18 years treated with phototherapy over the last 17 years was collected from phototherapy charts and clinical records (January 1996 to December 2012). Patients treated with UVB between 2006-2009 were excluded, as the equipment did not allow quantification of the radiation dose in J/cm². Relevant clinical data relative to patients aged ≤18 years treated with phototherapy over the last 17 years was collected from phototherapy charts and clinical records (January 1996 to December 2012). Patients treated with UVB between 2006-2009 were excluded, as the equipment did not allow quantification of the radiation dose in J/cm². Statistical analysis was performed with Gnu S and Excel.

Results

78 children met the inclusion criteria, of which 50 (64%) were female. Mean age was 13 years (range 2-18). Personal and familiar medical history remarks are summarized on table 1. Phototype III was the most prevalent (42; 53.8%), followed by II (23; 29.5%), IV (14.1%) and V (2; 2.6%). None was classified as phototype I. Distribution according to diagnosis is shown on graphic 1. All children were previously and concomitantly treated with topical agents. Systemic agents used before and during phototherapy treatment are shown on table 1.

Topical agents were used and the respective outcome for each specific diagnosis are summarized on tables 2-6. Short term side effects (table 1) occurred in 16 patients (21%), were mild to moderate and none led to therapeutic interruption. No significant statistical correlation was found between side effects and phototype or concomitant systemic therapeutics (p>0.05).

Discussion

Of the 37 psoriasis patients treated, 83.3% improved and 16.7% improved and withdrew the treatment. Alopecia areata and vitiligo patients had lower response rates – 55.6% and 33.3%, and also higher withdrawal rate – 19.4% and 55.5%, respectively. Furthermore, psoriasis patients did significantly less treatments per cycle and shorter cycles (p<0.05) and had globally better outcomes (p<0.05) when compared to other diagnosis, as concluded by previous published data.¹,²

We recognize the lack of assessment of long term oncogenic risk, namely for PUVA patients, as a limitation of this study. On the other hand, the diagnosis prevalence might have been skewed by the exclusion of 21 patients treated with UVB for a period of time (which explains the small group of atopic eczema patients included). According to our data, phototherapy appears to be a safe and effective option for childhood photoresponsive dermatosis, specially psoriasis, without significant difference between its clinical type. However, the significant withdrawal rate and scholar absenteeism might be an important limitation.

Bibliography