

PUVA therapy for psoriasis: choosing a suitable régime

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SUMMARY

Three age- and sex-matched groups of 30 patients with chronic plaque psoriasis were treated by photochemotherapy (PUVA). Groups I and II received routine maintenance PUVA therapy at different intervals and Group III had no maintenance treatment. The remission time after the clearance treatment with PUVA is compared with the total cumulative dose of long wave ultraviolet light (UVA). A lower mean dose of UVA (51.0 ± 1.7 joules/cm²) in Group III (no maintenance PUVA) achieved a comparable remission period to that after larger cumulative doses following routine maintenance therapy (87.8 ± 4.9 and 77.0 ± 4.1 joules/cm² in Groups I and II).

INTRODUCTION

Photochemotherapy using long wave high intensity ultraviolet rays and oral psoralen (PUVA) is an effective although palliative treatment in chronic psoriasis¹ with therapeutic efficacy comparable to dithranol application.² Patient acceptance is high owing to minimal use of ointments, but potential long-term hazards have not been clearly delineated. It is widely recognised that the possibility of premature ageing, skin cancers, cataract formation, pigmentary changes and alteration in the immune system are potential risks associated with PUVA therapy.³ It is often necessary to use therapy continuously with consequent high total cumulative doses of long wave ultraviolet rays (UVA). The problem of finding safe and effective treatment for chronic plaque psoriasis remains, and dermatologists are constantly striving to find an effective but safe protocol for administering PUVA therapy. There is no general agreement as to whether a maintenance regimen should be used or, if a maintenance regimen is used, what form is effective with minimum exposure to UVA. Since PUVA therapy became available in our skin unit we have been revising our treatment protocol in the light of available data on PUVA therapy. There are only a few published reports concerning the remission period following PUVA therapy and its relationship to total UVA exposure. By constantly revising the treatment protocol, it became possible to compare various régimes of PUVA therapy administered to our

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patients with psoriasis. The object of this retrospective study is to compare groups of patients who had maintenance PUVA with a group who had received no maintenance therapy with PUVA and to relate the total UVA exposure to the length of remission period.

PATIENTS

Only patients with chronic stable plaque psoriasis were selected for the study. All patients were assessed according to already published criteria² prior to starting PUVA therapy. Full clinical examination and laboratory tests (haemoglobin, total white cell count, platelet count, serum bilirubin, alkaline phosphatase, aspartate and alanine transaminase, gamma gluteryl transpeptidase and blood urea) were carried out to exclude co-existing medical problems. The laboratory tests were repeated once during the treatment and at the completion of PUVA therapy in each case. A detailed ophthalmological examination was performed before starting PUVA therapy and after the therapy in all cases. Only those with type II skin were included in the study. All had extensive involvement of their skin with psoriasis, more than 10% of their body surface. Age ranged from 18 to 70 years, mean 37 years. Three groups of 30 patients matched for age and sex were analysed, depending upon the maintenance regimen of PUVA therapy used.

PUVA THERAPY

All patients were treated with PUVA three times weekly until their psoriasis resolved completely, and thereafter according to the maintenance regimen described below. The drug 8-methoxypsoralen was used in a dosage of 0.6 mg/kg body weight, given two hours before the UVA exposure. The initial dose of UVA was 1.5 joules/cm², increasing by 0.5 to 1.00 joules/cm² every 3–4 treatments according to individual needs, using a Waldman 'PUVA 4000' unit. Clinical clearance was considered to have occurred when the psoriatic lesions had flattened completely, both visually and on palpation. The time taken to clear the psoriasis ranged from 4 to 10 weeks.

Group I. After clearance of psoriasis this group was given weekly maintenance treatment with progressive lengthening of the interval between treatments finishing with one treatment every 3–4 weeks. This period of maintenance PUVA was approximately 4 months. At this stage PUVA therapy was stopped.

Group II. After the clearing regimen, patients were treated once every 3 weeks with maintenance PUVA. Duration of maintenance varied from 6 to 7 months.

Group III. After the clearing regimen, no maintenance treatment was given.

All patients were reviewed at 2 months after stopping PUVA therapy and thereafter if they relapsed. A relapse was considered to have occurred with the development of new lesions of psoriasis involving about 5% of the body surface. Remission time was calculated from the time clearance therapy was stopped until relapse. Patients were observed for a period ranging from 2 months to 24 months. Statistical analysis was performed using the paired t test.⁴

RESULTS

The number of treatments to clear psoriasis in each group was the same (Table). The three groups had similar durations of remission. No difference was observed between groups either in the mean total number of treatments needed to clear

psoriasis or in the length of remission achieved. Group III received a lower dose of UVA to achieve the same duration of remission than Groups I and II ($p < 0.0005$), and Group II received less than Group I ($p < 0.05$).

TABLE

Average number of clearing treatments, mean dose of UVA and mean duration of remission in 3 groups of patients with psoriasis on PUVA therapy

Group	Average number of treatments on clearing regimen (\pm SEM)	Dose of UVA joules/cm ² (\pm SEM)	Duration of remission (months \pm SEM)
I	21.0 \pm 0.8	87.8 \pm 4.9	8.53 \pm 0.6
II	21.2 \pm 0.6	77.0 \pm 4.1	9.20 \pm 0.5
III	21.6 \pm 0.5	51.0 \pm 1.7	8.77 \pm 0.6

Nausea and itching of the skin were the only reported side effects. Mild nausea was common, but in only five patients was it severe. Eight patients had mild to moderate itching during PUVA therapy. No other serious side effects were observed in the patients studied. No haematological or biochemical changes were detected. No ophthalmological changes were found in any of the patients studied.

DISCUSSION

We studied three groups of 30 age- and sex-matched patients with chronic plaque psoriasis who had received PUVA therapy, and found that it is possible to obtain a reasonable period of remission from psoriasis with or without maintenance PUVA therapy. There are relatively few reports about the lengths of remission periods after stopping PUVA therapy.^{5, 6, 7, 8, 9} In these reports the remission period after clearing treatment varied from 5 weeks to 8 months, and our results are in agreement. The value of maintenance therapy with PUVA was first questioned in 1977 when PUVA therapy had just been introduced.¹⁰ Other workers^{7, 8} claim that maintenance treatment will prolong the remission periods and thus reduce the total cumulative UVA dosage received by the patients even if they have to go back on a clearing regimen at a later date. Our results do not support this view in that the remission period was similar in all the groups studied whether or not maintenance PUVA was used. However, Warin in a later study¹¹ reported that recurrent courses of PUVA therapy may reduce total cumulative UVA exposure and economic cost. We would agree with this observation and can keep the cumulative UVA dosage significantly reduced with no maintenance PUVA, while still achieving a comparable remission period. Owing to the markedly reduced dose of UVA received by patients who had no maintenance PUVA, we consider that after the clearing regimen PUVA therapy should be stopped and clearing courses should only be repeated if required owing to relapse.

The risks associated with PUVA therapy will almost certainly be due to the cumulative total UVA exposure. The cumulative effects of continued treatment are not yet known. Various modifications such as low-dose PUVA,⁹ frequent rest periods between treatments and combination with other agents such as retinoids¹² may be instituted to reduce the cumulative UVA dose.

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