

Short Contact Anthralin Therapy of Psoriasis with and without UV-irradiation and Maintenance Schedule to Prevent Relapses

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A short term anthralin application schedule was used at home in 42 patients with severe psoriasis. In another group of 21 patients treated at our day care center, UV-B irradiation was added when the surplus of anthralin had been washed off. Good healing results within 3-8 weeks were noted in most patients. To prevent relapses 31 patients continued the anthralin treatment once or twice a week after healing. In 15 cases this was combined with UV irradiation. One patient relapsed after a severe infection, but 16 others were observed for 6-9 months and 14 for 3-5 months without relapses. Irritation of non-affected skin is common especially at the beginning of the treatment and some staining of clothes and linen

can occur. With proper information about this, the treatment is well accepted by the patient who generally finds it reasonably simple without the need of special protective dressings. *Key words:* Psoriasis; Short contact anthralin (dithranol) therapy; Maintenance treatments. (Received July 12, 1983.)

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There is an increased and enhanced penetration of anthralin in the psoriatic lesions compared to normally appearing skin (1). This is the rationale for applying anthralin on the skin for a limited time and then washing it off. A therapeutic response can thus be obtained in the lesions, with minimization of the irritating effects on the non-affected skin. Since one does not need to be careful with strict application to the lesions the application time can be shortened so that on removal of the surplus anthralin-ointment the staining is decreased (2). The favorable therapeutic results first reported by Schaefer et al. (3) have been confirmed by others using 1–5% anthralin in vaseline applied daily for 10–30 min (4–8).

We present here the results of treatment with anthralin + UV-B irradiation for patients visiting our day care center 2–5 times per week as well as the results in patients who prefer to treat themselves at home with anthralin alone. With both schedules the number of treatments per week has gradually decreased. After healing, maintenance treatment of the old lesional areas was undertaken once weekly for several months.

PATIENTS

The degree of severity of the lesions was estimated according to a score given in Table I. The approximate area involved with psoriasis was also noted.

Group I. Short contact anthralin + UV-B treatment at the day care center was given to 21 patients (13 men and 8 women, ages 28–76). The surface area involved was 20–80% (mean 47%) and the severity was 3–4 (mean 3.5 before treatment). Large plaque psoriasis dominated in 19 patients and 2 had small plaques less than 2 cm diameter.

Group II. Short contact anthralin treatment alone was offered to 42 patients (28 men and 14 women, 11–78 years of age) who preferred to treat themselves at home. The surface area involved was 10–80% (mean 30%). The severity score before treatment was 4 in 13 patients and 3 in 29 patients. Large plaques of psoriasis were seen in 38 patients and small plaques in 4.

Treatment schedule at our day care center (Group I)

The patients started with a shower. Then anthralin with 2% salicylic acid in white petrolatum (vaseline) was applied. The concentration of anthralin was gradually increased from 0.3 to 3% and the number of treatments decreased as shown in Table II. It took the patients and/or the nurse 5–15 min to smear the affected areas. Care was taken to avoid getting the ointment on the face and skin-folds especially the axilla and genital areas. It was left on the skin for 15–20 min, then removed by soft paper, a non-basic soap and a shower. UV-B irradiation was then given in a Waldmann cabin equipped with 12 Sylvania UV-B lamps. The dose of irradiation was gradually increased from 0.03 to 0.3 J. In some patients with dark skin the maximum dose was 0.6 J. The patients were asked to continue maintenance treatment even after the lesions had disappeared. The patients were allowed to use a moistening cream in the evening if they felt the skin was too dry.

Table I. *Degrees of severity*

Score 4:	Crusts + thick infiltrated plaques
Score 3:	Infiltrated red plaques
Score 2:	Red plaques with slight infiltrate
Score 1:	Healed—no infiltrate or redness, but some change in pigmentation

Table II. *Anthralin dosage in Group I*

Week 1:	3 days—anthralin 0.3% + UV-B
Week 2:	3 days—anthralin 0.5% + UV-B
Week 3–4:	3 days—anthralin 1% + UV-B
Week 5–8:	2 days—anthralin 1% + UV-B
Week 9–:	1 day—anthralin 1–3% + UV-B

Table III. *Results of anthralin treatment at home for more than 1 month*

Healed	36 patients
Markedly improved	5 patients
No real change	1 patients
Not known	2 patients

Treatment schedule at home (Group II)

Weeks 1 and 2 the patients applied 5–7 times weekly 0.2–0.5% anthralin with 2% salicylic acid in white petrolatum and left it on for 20–30 min. The ointment was then removed as in Group I. Weeks 3 and 4 the concentration of anthralin was increased to 0.5–1% and the number of applications decreased to 3–5 times weekly. After 5 weeks 1% anthralin was applied 1–2 times weekly. Careful instructions were given to avoid or decrease side effects such as skin irritation and staining of clothes and furniture. The patients were seen after 2 weeks, and then monthly at the day care center. They were asked to continue treatment even although the lesions had healed.

RESULTS

Short term anthralin + UV-B treatment

After 3–9 weeks 19 of the 21 patients were healed (score 1) and 2 patients had markedly improved (score 2) after 8 weeks.

Maintenance treatment once weekly was accepted by 15 healed patients. Relapses have not yet been observed in any of them over an observation time of 6–9 months in 6 patients and 3–5 months in 9 patients. Maintenance treatment was refused by 4 patients. Here, relapses were seen after 3–5 months.

Irritation was noted, especially at the beginning, in skin folds and genitals although the ointment had not been applied here. The probable reason is that the patients transferred the ointment to these regions when washing. Irritation caused by being seated cross-legged with anthralin on the skin was frequently noted on the upper legs.

The irritation was observed as a marked reddening in 13 patients which often was accompanied by burning sensation. Here the anthralin treatment was interrupted for some days. In 7 patients the irritation was less marked. Despite the initial or temporary irritation all the patients were willing to continue the treatment. Other side effects noted were pigmented and sometimes dry skin as well as staining of clothes which had been in close contact with the skin.

Short term anthralin treatment alone

The results of more than one month of treatment in 42 patients is given in Table III. Of 16 healed patients continuing maintenance treatment 1–2 times weekly, one patient relapsed after one month probably because of a severe throat infection. In the other 15 patients no relapse was seen within the following observation times: 6–9 months 10 patients; 3–5 months 5 patients.

Side effects were noted as in Group I. The irritation was reported as marked in 14 patients and weak in 4. Staining of clothes and linen were often noted.

DISCUSSION

Short term anthralin treatment has been found to be an effective treatment of psoriasis. Precise information about the treatment is necessary to avoid side effects and to make the treatment acceptable to the patients. It is also suitable as a maintenance treatment to prevent relapses. In this regard it seems to be as good as PUVA or UV-B (9–12).

Our study is unable to demonstrate whether or not the addition of UV light improves the healing rate. Anthralin irritation can be prevented by pre-treatment with UV irradiation (13). UV-B irradiation given after anthralin treatment, however, can increase the anthralin irritation. To decrease irritation it would therefore have been more rational to start with UV irradiation but this was not done since that might have delayed the healing process. The higher initial level of irritation in the group receiving UV-B irradiation may be due to the fact that the erythema was observed by the personnel treating the patients. Several patients with marked reddening of apparently normal skin had not previously paid attention to it.

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