

Wart Treatment with Anthralin

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In order to investigate the efficacy of anthralin (Anthraderm®) in the treatment of warts a randomized controlled trial was carried out in 72 patients. During a two-month period of treatment 56% were cured in the group treated with anthralin 2% (Anthraderm®), evaluated at follow-up 2-9 months after finishing treatment, compared with 26% in the group treated with the comparative drug (Verucid®). Anthralin 2% (Anthraderm®) was found to

have a significantly better effect, especially in the group of patients with warts solely on the hands. *Key words:* Warts; Treatment; Anthralin. (Received July 12, 1983.)

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Anthraline is an anthracene derivative, which has been used in the treatment of psoriasis since 1916. In psoriasis the effect of anthralin is thought to consist in a reduction of the cell turn over caused by an inhibition of intracellular enzymes and binding to nucleic acids in the cells with a subsequent inhibition of the cell metabolism (1, 2). These pharmacological effects at the cell metabolism might be beneficial in the treatment of the benign tumour produced by replicating wart virus.

In order to investigate this further we decided to make a controlled clinical trial.

MATERIAL AND METHODS

Design of trial. A randomized comparative trial was carried out with Anthraderm® (Anthralin 2% with 0.5% salicylic acid in a wax preparation enclosed in a lipstick-like retractable container) (3) and Verucid® (lactic acid 4%, salicylic acid 11% and copper acetate 11 µg per g in flexible collodium consisting of collodion, colophonium and terebinthinae laricis).

Patients. Seventy-two patients were included consecutively in the study. No treatment was given for at least two weeks prior to entry into the trial. Patients with known immune defects or undergoing immuno-suppressive treatment, or patients with kidney diseases were excluded from the trial.

Treatment and control. At entry into the study the patients were randomized to treatment with either Verucid® or Anthraderm®. The patients were instructed to apply the preparation twice a day. Every two weeks gentle cutting and scraping of the warts were performed in the clinic, effect and side effects were recorded. The effect of the treatment was evaluated as cured or not cured after two months, the criteria of cure being no visible wart tissue after two months treatment. The group of patients evaluated as cured were contacted 2-9 months after finishing treatment and information on eventual recurrence of warts in the same place was recorded.

Statistical method. For the statistical analyses Fisher's exact test was used. Level of significance was 5%. 95% confidence limits are given in the calculations of cure rates.

RESULTS

Fourteen patients were excluded from the trial, ten because they did not follow the instructions and four because they failed to appear for controls. No difference in the distribution of drop-outs between the two groups of treatment was found. Thus, fifty-eight patients completed the trial, 31 of whom were treated with Verucid® and 27 with Anthraderm®.

Table 1. *The effect of treatment according to the localization of warts at entry into the trial*
Revised figures for cure, evaluated at follow-up of the group "cured" 2-9 months after finishing treatment, are given in brackets

Localization of warts	Treatment Anthraderm® Number of patients		Verucid® Number of patients	
	Cured	Not cured	Cured	Not cured
Hands	9 (9)	2 (2)	4 (4)	14 (14)
Feet	4 (2)	6 (8)	3 (2)	5 (6)
Hands+feet	6 (4)	0 (2)	2 (2)	3 (3)
Total	19 (15)	8 (12)	9 (8)	22 (23)

The median age of the patients in the Anthraderm[®]-treated group was—cured: 14.5 years (range 7–45), not cured: 14.5 years (range 6–45) and in the Verucid[®]-treated group—cured: 16.5 years (range 5–54), not cured: 22.5 years (range 7–58).

In Table 1 the effect of treatment, evaluated after two months treatment, are given according to the localization of warts at entry into the trial. Furthermore, revised figures for cure evaluated at follow-up 2–9 months later are given in brackets.

15/27 (56(35–75)%) of the patients treated with Anthraderm[®] were cured while 8/31 (26(12–45)%) of the patients treated with Verucid[®] were cured. The cure rate was significantly higher in the Anthraderm[®] treated group ($p=0.05$).

In the group of patients with warts at the hands only, no recurrences were registered after finishing the trial. 9/11 (82(48–98)%) of patients with warts at the hands only, treated with Anthraderm[®] were cured, while only 4/18 (22(6–48)%) of those treated with Verucid[®] in the same group were cured. This difference in cure rate is statistically significant ($p<0.01$).

Side effects. One patient treated with Anthraderm[®] complained of fragility of the surrounding skin, while another patient complained of staining of the bed linen with Anthraderm[®]. No side effects were observed with Verucid[®].

DISCUSSION

The reason why Verucid[®] was chosen as reference treatment in our study is that it is widely used in wart treatment, and that its efficacy has been studied previously in a controlled study (4). In a study by Auken et al. (4) 51% were cured after 3 months treatment with Verucid[®], and no difference in comparison with a traditional, conservative treatment was found. In the present study a lower cure rate with Verucid[®] was found; however, the period of treatment was shorter (2 months).

In the present study, the duration of the warts was not registered, due to uncertainty about the patients statements, and the number of warts in the single patient was not recorded. It is supposed that these parameters were evenly distributed between the study groups in consequence of the randomization procedure.

When evaluating the results of wart treatment it is important to realize that about 65% of all warts disappear spontaneously within a period of two years (5). Treatment is started in order to accelerate the resolution and diminish the contagiousity.

In our comparative trial Anthraderm[®] showed the highest cure rate. Both Anthraderm[®] and Verucid[®] are easy to apply and have negligible side effects. As a consequence of this study we will introduce Anthraderm[®] in the armamentarium for the treatment of warts.

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