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This Week's Citation Classic®

Swanbeck G, Thyresson-Hök M, Bredberg A & Lambert B. Treatment of psoriasis with oral psoralens and longwave ultraviolet light. *Acta Dermato-Venereol.* 55:367-76, 1975.
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A clinical study of oral psoralen treatment combined with UVA radiation was made in 40 patients, combined with a cytogenetic study of possible chromosomal damage. The results indicated a very good clinical effect but also some chromosomal damage, leading to a cautious enthusiasm for the clinical use of the treatment. [The *SCI*® indicates that this paper has been cited in more than 130 publications.]

Treating Psoriasis with Guarded Enthusiasm

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Early on, we had found that most antipsoriatic agents induced mitochondrial mutations in yeast, as did dithranol, tar extracts, UVB-radiation, and methotrexate.[1] We found that trimethylpsoralen and 8-methoxypsoralen, together with UVA exposure, also induced such mutations—trimethylpsoralen more readily than 8-methoxypsoralen.[2] Therefore, we were interested in trying psoralens orally against psoriasis, together with UVA. Psoralens had earlier been used against vitiligo, but usually with short treatment periods. If psoralens should be used against psoriasis, they would probably be used repeatedly year-after-year, as psoriasis is a chronic relapsing disease. We felt obliged to look for chromosomal effects of psoralen treatment, as we had chosen psoralens because of their mutagenic effect on yeast mitochondria. Simultaneously with clinical treatment of psoriasis patients, we also started to look for chromosomal abberations in vitro and in vivo.

Treatment of the psoriatic patients was started with trimethylpsoralen, which was more effective in vitro and locally. We, however, did not get any clinical effect in the first patients treated. Therefore, we tried 8-methoxypsoralen, which had a very good antipsoriatic effect.

We felt at that time that psoralen treatment was so much more damaging than UVB that it was likely we would encounter some problems. On the other hand, the antipsoriatic effect was so good that we felt we had to go on with the treatment, with guarded enthusiasm. One night, after we had treated 40 patients and were ready with the chromosomal studies, I sat in my home listening to the TV news. They said that a new treatment against psoriasis had been invented in Boston.[3] Every detail they mentioned was in accordance with our findings. The only thing that I think that they exaggerated was the need for special treatment lamps. Our experience was that ordinary UVA tubes, used with good reflectors, did very well.

The Boston group was thus slightly ahead of us. We were first with the chromosomal studies but not with the clinical treatment. I am quite convinced that the Boston group has been much better in "marketing" the treatment than we would have been.

For the more severe cases, psoralens and ultraviolet A (PUVA) treatment has given about 10 years of good quality of life. There is a definite limit to how much PUVA-treatment the skin can stand.[4] In my experience 200 to 500 treatments is what we can give. I find the number of treatments a much more relevant measure of accumulated dose of PUVA than the number of joules of UVA. We give pigmented patients, who can stand a higher dose, more UVA than a blond patient. But, the biological effect is probably the same per treatment in both cases.

1. **Swanbeck G & Zetterberg** G. Induction of respiration-deficient yeast by methotrexate and its relevance for the antipsoriatic effect. *Acta Dermato-Venereol.* 53:465-8, 1973.
2. **Swanbeck G & Thyresson M.** Induction of respiration-deficient mutants in yeast by psoralen and light. *J. Invest. Dermatol.* 63:242-4, 1974.
3. **Parrish J A, Fitzpatrick T B, Tannenbaum L & Pathak M** A. Photochemotherapy of psoriasis with oral methoxsalen and longwave ultraviolet light. *N. Engl. J. Med* 291:1207-11, 1974. (Cited 715 times.)
4. **Henseler T, Christophers E, Hönigsmann H & Wolff K.** Skin tumours in the European PUVA study. *J. Amer. Acad. Dermatol.* 16:108-16, 1987.

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