

## PHOTOCHEMOTHERAPY (PUVA) IN THE TUMOUR STAGE OF MYCOSIS FUNGOIDES: A REPORT FROM THE SCANDINAVIAN MYCOSIS FUNGOIDES STUDY GROUP

Lars Molin,<sup>8</sup> Kristian Thomsen,<sup>1</sup> Gunnar Volden<sup>4</sup> and Ove Groth<sup>8</sup>

This study group also comprised: Eva Grunnet,<sup>3</sup> Svein Helland,<sup>5</sup> Lennart Hellbe,<sup>9</sup> Gösta Roupe,<sup>7</sup> Steinar Sjöborg,<sup>6</sup> Henning Schmidt<sup>2</sup> and Marcus Skogh<sup>8</sup>

*Departments of Dermatology* <sup>1</sup>*Finsen Institute, Copenhagen.* <sup>2</sup>*Odense Sygehus, Odense.* <sup>3</sup>*Marselisborg Hospital, Århus, Denmark.* <sup>4</sup>*Rikshospitalet, Oslo.* <sup>5</sup>*Haukelands Hospital, Bergen, Norway.* <sup>6</sup>*University Hospital, Lund.* <sup>7</sup>*Sahlgren's Hospital, Gothenburg.* <sup>8</sup>*University Hospital, Linköping and* <sup>9</sup>*County Hospital, Örebro, Sweden*

**Abstract.** Twenty-five patients with mycosis fungoides in the tumour stage were treated with oral 8-Methoxypsoralen followed by UVA (PUVA), sometimes in combination with topical or systemic chemotherapy. In 17 patients the disease was confined to the skin, in 7 lymph nodes also were involved, and one had visceral involvement. Complete and partial remission was achieved in 14/17 patients with the disease limited to the skin (82%), and partial remission of the skin lesions in 5/8 patients with extracutaneous location.

**Key words:** Mycosis fungoides; Tumour stage; Photochemotherapy; PUVA; Remission rate; Maintenance treatment

Photochemotherapy has been applied with highly promising results in the pretumour stage of mycosis fungoides (for references, see 6).

In the tumour stage of the disease, however, results of PUVA treatment have been less encouraging, possibly due to insufficient penetration of the ultraviolet irradiation into the lesions (3).

The Scandinavian Mycosis Fungoides Study Group has adopted this treatment of mycosis fungoides in both the pretumour and the tumour stage. The results of PUVA treatment of the pretumour stage have been published (6). We now report the results of PUVA treatment of the tumour stage.

### PATIENTS

The 25 patients included in the present series were treated at 11 dermatological departments in Denmark, Norway and Sweden. There were 8 women and 17 men, aged between 38 and 80 years (14 of them over 60 years old).

The diagnosis of the skin tumours was confirmed histologically. Seventeen patients showed no evidence of extracutaneous location of the disease (Stage III according to the staging criteria of the Scandinavian MF group

(2, 6); 7 patients had histologically confirmed lymph node involvement (stage IVb); 1 patient showed involvement of viscera as well as lymph nodes (stage V).

### TREATMENT

All patients were treated with PUVA, sometimes in combination with other forms of treatment. 8-Methoxypsoralen (8-MOP) was given orally as 10-mg tablets in a dosage of 0.6-0.8 mg/kg body weight 2 hours before the exposure to long-wave ultraviolet light (UVA). The type of irradiation source used could differ between the various participating departments. The aim, however, was to irradiate with the highest dose of UVA tolerated by the skin. During the induction phase, PUVA was given four times weekly. When remission had been achieved, maintenance treatment was continued either 2 days per week or 4 days every fourth week.

In some cases it became evident that PUVA alone was not enough to produce remission, and additional treatment had therefore to be given, such as superficial X-ray, soaking with mechlorethamine as described by Volden (8), or systemic chemotherapy (5, 7) (Table I).

### RESULTS

#### *Stage III*

Initially all but 3 of the 17 patients were treated with PUVA alone (Fig. 1). In 5 cases complete remission was obtained within 1-3 months, and another 3 with solitary, persistent tumours went into complete remission after addition of superficial X-ray in 2, and soaking with mechlorethamine in one. Three cases responded with partial remission after PUVA alone within the same period of time. In 3 cases PUVA

Table 1. The effect on cutaneous lesions of PUVA combined with other treatment in 8 patients with mycosis fungoides in the tumour stage with extracutaneous involvement

PR, NC and PD—see Fig. 1

MF stage	Additional treatment	Initial effect of therapy (1-2 months)	Course
IV	Topical mechlorethamine (soaking)	PR	Change of therapy after 3 months in PR owing to unrelated disease
IV	Cyclophosphamide i.v.	PR	In PR for 8 months
IV	Cyclophosphamide i.v.	PR	PD after 3 months, change of therapy
IV	Cyclophosphamide i.v.	NC	Change of therapy
IV	Cyclophosphamide i.v.	PD	Change of therapy
IV	Methotrexate i.m.	NC	Change of therapy
IV	CAVOP <sup>1</sup>	PR	PD after 4 months, died 2 months later of MF
V	VP-16 i.v. plus cyclophosphamide i.v.	PR	Died 2 months later of MF

<sup>1</sup> CAVOP—Cyclophosphamide i.v., adriamycin i.v., VP-16 p.o., vincristine i.v. and prednisolone p.o.

treatment failed altogether, in one of them even after addition of superficial X-ray and mechlorethamine. Thus, complete and partial remission of PUVA treatment, including cases receiving additional treatment of solitary tumours with X-ray or mechlorethamine, was obtained in 14/17 cases (82%).

Remission was kept under control in 10 cases with maintenance PUVA treatment, in 6 given regularly (once a week or one week each month), and in 4 with longer intervals as indicated in the figure (irregular maintenance).

In 3 cases of complete cutaneous remission, dissemination of the disease to organs other than the skin was shown to have occurred (Fig. 1).

#### Stage IV and V

In the cases with extracutaneous involvement, PUVA treatment had been combined with superficial X-ray in one and systemic chemotherapy in 7 patients (Table 1).

Remission of cutaneous lesions was initially obtained in 6 patients within 1-2 months but lasting only a short period of time.

In one case remission could be maintained by continuous PUVA plus cyclophosphamide treatment for 8 months. Due to severe nausea, 8-MOP and cyclophosphamide had to be replaced by topical trisoralen bath (1) as the sole treatment. The patient was still kept in remission for another 12 months, when the disease progressed.

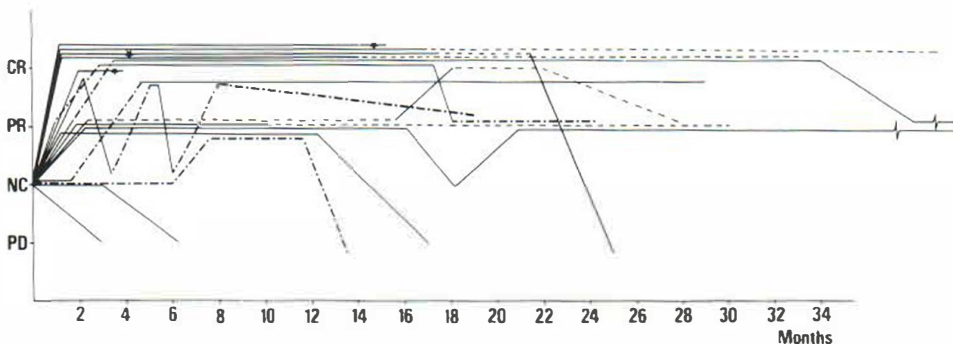


Fig. 1. PUVA in 17 patients with cutaneous tumour stage (stage III) of mycosis fungoides. —, Treatment continued regularly; ---, treatment continued irregularly; — PUVA combined with superficial X-ray or topical mechlorethamine soaking. x Appearance of mycosis fun-

goides lesions in organs other than the skin. CR, Complete remission; PR, partial remission (to more than 50%); NC, no change; PD, progressive disease as compared with the first day of treatment.

## DISCUSSION

Most authorities agree that PUVA treatment gives a high remission rate in the early stages of mycosis fungoides (6, 9). In this series we have found that PUVA treatment is also of value in a strikingly high number of tumour cases. Fourteen out of 17 patients in stage III obtained remission (complete or partial) within 4 months, and this remission could be maintained for up to 45 months.

Oral PUVA therapy is a convenient treatment for skin lesions, but some patients need additional treatment such as superficial X-ray or topical mechlorethamine for solitary resistant lesions.

In 3 cases extracutaneous spreading occurred despite cutaneous clearing. These patients have been described in detail previously (4). This observation stresses the importance of combining topical and systemic therapy in the tumour stage of mycosis fungoides. In such a combination oral PUVA seems to be not only efficacious but also highly acceptable to the patient.

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Lars Molin, M.D.  
Department of Dermatology  
University Hospital  
S-581 85 Linköping  
Sweden