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# THE EFFICACY OF MALATHION SHAMPOO AGAINST HEAD LOUSE INFESTATION

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## Summary

Treatment with 1% malathion shampoo cured pediculosis in 17 patients. Shampoo treated hair was lethal to 1st instar lice.

## Introduction

Lotions with malathion 0.5% are very effective against head louse (*Pediculus capitis* De Geer) infestation in the Netherlands (Blommers et al., 1978) and elsewhere (Maunder, 1971; Coates, 1971). However, a minor drawback is the characteristic, and to some people rather offensive smell, which does not disappear until the hair is washed. Whereas it is generally recommended to wash the hair not earlier than 12 hr after treatment, social taboo or mere distaste might hinder effective control in some situations. Because shampoo with malathion might be useful to circumvent this problem, its efficacy was tested in the field and its residual action in the laboratory.

## Materials and methods

Prioderm<sup>®</sup> shampoo containing 1% malathion was used to treat 17 persons of varying age with manifest infestation (*i.e.* active lice). Treatment was carried out in accordance with the manufacturer's instructions (*cf.* Preston & Fry, 1977), but, in contrast to what these authors did, the treatment (= double application) was repeated 7 days later.

Twelve patients were inspected visually just before the second treatment, to see whether young lice were present. All patients were reexamined by means of a fine-tooth comb one week after the second treatment.

In the laboratory, a batch of human hair was treated in the same manner as if on the head of a patient. The hair was rinsed 3 times after each application of shampoo. The treated hair was offered to 3 × 16 nymphs in round-bottom test tubes (*cf.* Blommers & Van Lennep, this issue) as soon as it was dry.

## Results and discussion

Active lice were not observed on any of the patients a week after the 2nd treatment. Treatment with malathion shampoo is efficacious. Active 1st instar lice were yet observed just before the 2nd treatment in 5 out of 12 persons, indicating that ovicidal action alone is insufficient.

The result of the laboratory experiment is shown in Table 1.

**Table 1.** Average mortality of 1st instar head lice on human hair treated in vitro once (double application) with malathion 1% shampoo. Incubation at  $26 \pm 1^\circ\text{C}$  and  $70 \pm 5\%$  R.H.

Exposure time (hr)	Percentage mortality
4	12.5
8	36.2
24	81.6

Preston & Fry (1977) have shown that a single treatment with malathion shampoo is sufficient to cure pediculosis in a great majority (27 out of 28) of cases. Apparently, the emerging nymphs were killed by the residual action of malathion in the hair. The laboratory experiment shows that this residual action is rather elevated indeed. Although the overkill produced by a single shampoo treatment is clearly far less than with the 0.5% malathion lotion treatment (*cf.* Blommers & Van Lennep, this issue), we can not disagree with Preston & Fry (1977) that the shampoo with malathion is about as efficacious as the lotion, even when the shampoo treatment is not repeated after a week.

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## References

- Blommers, L., M. van Lennep & H.J. van der Kaay, 1978. *Gammexaan en malathion bij de behandeling van pediculosis capitis*. Ned. T. Geneesk. 122, 664-668.
- Coates, K.G., 1971. *Control of head infestation in schoolchildren*. Community Med. 126, 148-149.
- Maunder, J.W., 1971. *Use of malathion in the treatment of lousily children*. Community Med. 122, 145-147.
- Preston, S. & L. Fry, 1977. *Malathion lotion and shampoo. A comparative trial in the treatment of head lice*. Roy. Soc. Health J. 97, 291.