An Alternative Treatment Concept in the Onychomycoses

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Even today, the onychomycoses still constitute a therapeutic problem. Although there are a large number of available treatments, the problems associated with the treatment of onychomycosis have not been satisfactorily solved. Local antimycotic treatment alone is hardly a successful cure for the nail mycoses [1, 4], due particularly to inadequate penetration of the active agent into the nail plate affected by the mycosis. Systemic antimycotic treatment is usually pursued over a long period, yet success in treatment – especially in the case of the toenails – may be elusive [1, 3, 13]. Moreover, iatrogenic side-effects may limit the duration of systemic therapy. Only a combined treatment with surgical removal of the nail plate and the administration of griseofulvin as well as a topical antimycotic can be reckoned as successful, and even this is sometimes disputed [20, 25].

Basically, however, what dermatologists put forward is the need for an adequate local treatment of the onychomycoses. Hence, we must first bear in mind the possibly severe side-effects of systemic antimycotics. The chief obstacle to the successful local treatment of nail mycoses is undoubtedly the very effective barrier function of keratinized tissue [21]. An effective local treatment therefore presupposes elimination of the affected part of the nail and the subungual hyperkeratoses which, on the one hand, promotes better penetration of the active agent and, on the other, reduces the fungus-containing nail mass.
A practical and up-to-date local treatment for the onychomycoses must conform with the following requirements: it must be simple in execution, effectively antimycotic, with few side-effects and satisfactory compliance, and it must be economically defensible.

The concept of combined treatment by means of mechanical nail abrasion and local application of an antimycotic was arrived at in the light of these requirements. In recent years we have subjected patients to this technique in the context of a "consulting session for nail mycoses". In order to establish criteria to serve as future indications for this type of treatment we undertook a clinical classification of the severity of the onychomycosis, and we now report on the findings so obtained and the treatment indications derived therefrom.

**Patients and Methods**

The group investigated included 102 patients in all. Of these 29 dropped out during treatment for various reasons (noncompliance: 23 patients, other: 6 patients) and no follow-up was possible in these cases. A standard history was taken and the state of the nail documented before starting treatment and at each follow-up examination. Documentation of the clinical findings was based on classification of the onychomycoses into the familiar types of involvement [12, 26]. Determination of the severity of nail involvement was made by calculating the ratio of the total surface of the visible nail plate to the visibly affected portion of the plate. The severity of involvement was determined and given as a percentage by tracing the outline of the nail plates and the borders of the visibly affected portions on thin plastic sheets, cutting these out and weighing them. This allowed classification into three grades of severity:

I. (minor): involvement of up to 30% of the visible nail plate
II. (moderate): involvement of 30–60% of the visible nail plate
III. (severe): involvement of over 60% of the visible nail plate.