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Reproducibility of the Diagnosis of Onychomycosis by Dermatologists in a Clinical Setting

Reproducibilidad del diagnóstico dermatológico de onicomicosis en el ámbito clínico

To the Editor:

We recently published a brief report describing observer agreement in the dermatologic context of toenail disorders.¹ The report described good agreement for most signs of onychomycosis except for transverse striae, trachyonychia, and changes in color of the nail plate. Earlier studies suggested that the clinical diagnosis of onychomycosis by dermatologists can show a surprising level of agreement, whereas more specific signs of onychomycosis are less reproducible, suggesting that there are clinical criteria other than those conventionally used in reaching the dermatologic diagnosis of onychomycosis.² Further to our preceding study, we decided to investigate the reproducibility of a clinical diagnosis of onychomycosis in the dermatologic outpatient setting.

To do so, we carried out a new prospective cross-sectional study in 3 dermatology departments, following approval from the ethics committee of each hospital. In the study, examination of the nails of consecutive patients older than 30 years of age seen in the dermatology outpatient clinics at these hospitals was added to the protocol for routine dermatologic examination. The study recruited patients who presented nail abnormalities in which onychomycosis was included in the differential diagnosis (together with onycholysis, subungueal hyperkeratosis, change in color or dystrophy of the nail plate, all larger than 5 mm). All patients (N=76) gave their consent to participate in the study. Each patient was separately examined by 2 dermatologists who answered the question "Is onychomycosis the most likely diagnosis?" Stata 10.1 (StataCorp, College Station, Texas, USA) was then used to calculate the κ statistic (a measure of interobserver agreement to exclude what would be expected by chance). The study was conducted by 8 dermatologists, grouped in interchangeable pairs, each of which contributed between 6 and 36 diagnostic assessments.

The dermatologist pairs obtained a total probability of agreement of 71% compared to 51% expected by chance. The κ statistic was 0.41, which indicates moderate agreement as defined by Landis-Koch.³ The κ values vary according to the prevalence of the clinical findings (in our study, the prevalence would correspond to the one observed in a general dermatology outpatient clinic, allowing it to be generalized to similar clinical settings).

Our results suggest that the dermatologic diagnosis of onychomycosis is readily reproducible between observers and, therefore, may be considered a valuable component in the clinical diagnosis of the condition. Nevertheless, its validity should be investigated in future studies.

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