



NAIL DISORDERS

EFFICACY OF NAIL LACQUER CONTAINING HYDROXYPROPYL CHITOSAN (HPC), EQUISETUM ARVENSE EXTRACT AND METHYL-SULFONYL-METHANE ALONE OR IN COMBINATION WITH ORAL BIOTIN IN THE TREATMENT OF BRITTLE TOENAILS. A

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Introduction: The hydroxypropyl-chitosan (HPCH), methyl-sulfonyl-methane and Equisetum arvense nail lacquer (HPC-NL) strengthen the nail improving the appearance of the fragile nail. Oral supplementation with biotin is believed to strengthen nail structure. We evaluated, in a prospective, randomized, assessor-blinded, study the efficacy of HPC-NL alone or in combination with oral biotin (HPC-NL+B) in the treatment of onychodystrophy.

Subjects and Methods: Fifty subjects (21 men) with brittle toenails (onychoschizia/onychorrhexis) were enrolled. Twenty-five were randomly assigned to HPC-NL group (one application/daily) and twenty-five to the HPC-NL and biotin (10 mg/daily) regimen. Topical and oral treatments lasted four months. The primary outcome of the study was the evolution of the Onychodystrophy-Global-Severity-Score (OGSS) assessing nail dystrophy, lamellar and longitudinal splitting, dyschromia and pitting, using a 4-point scale from 0 (sign absent) to 3 (sign severe). Clinical visits were performed at baseline, and after two and four months of therapy.

Results: At baseline the OGS score, mean (SD), was 8.4(2.1) in the HPC-NL group and 11.8(2.3) in the HPC-NL+B group. The OGSS was significantly reduced at month two and month four in both two groups (OGSS HPC-NL: 6(2.0) at month 2, and 3.6(1.9) at month 4; OGSS HPC-NL+B: 8.3(2.6) at month 2; and 4.6(2.4) at month 4). OGSS was reduced by 57% and by 62% in the HPC-NL and HPC-NL+B group, respectively. At the end of study period, the percentage of subjects with an OGSS reduction of $\geq 50\%$ in comparison with baseline, was 53% in the HPC-NL group and 79% in the HPC-NL+B group. This difference was statistically significant ($P=0.05$). Both treatments were very well tolerated.

Conclusion: In subjects with brittle toenails, the topical use of HPC-NL alone is associated





with a clinically relevant improvement of nail appearance. The combination with oral biotin is associated with further clinical improvement.

