Treatment of brittle fingernails and onychoschizia with biotin: scanning electron microscopy

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Abstract

Pathologic hoof changes in horses and swine can be normalized by administration of biotin. This vitamin has been given orally to women with brittle fingernails or onychoschizia. The aim of the study was to test whether the favorable clinical results could be corroborated by scanning electron microscopy. We investigated the distal ends of the fingernails from 32 persons. They were placed into three groups: group A consisted of 10 control subjects with normal nails, group B comprised eight patients with brittle nails studied before and after biotin treatment, and group C was 14 patients with brittle nails in whom the administration of biotin did not coincide exactly with the initial and terminal clipping of the nails. The thickness of the nails in group B increased significantly by 25%. In group C, the increase was 7%. Splitting of the nails were reduced in groups B and C and the irregular cellular arrangement of the dorsal surface of brittle nails became more regular in all nails of group B and in 8 of 11 nails of group C.