
Subject: Biotin

Posted by [Raiders-Fan](#) on Sat, 12 May 2007 14:55:26 GMT

[View Forum Message](#) <> [Reply to Message](#)

Ich lese hieraus dass man schon 10mg nehmen sollte

Khalidi N, Wesley JR, Thoene JG, Whitehouse WM Jr, Baker WL. Biotin deficiency in a patient with short bowel syndrome during home parenteral nutrition. JPEN J Parenter Enteral Nutr 1984 May-Jun;8(3):311-4

A 54-year-old woman with short bowel syndrome was supported with home parenteral nutrition. Six months after receiving 2200 kcal/day of balanced home parenteral nutrition without biotin, she developed biotin deficiency with complete hair loss, eczematous dermatitis, waxy pallor, lethargy, and hypersthesias. Blood and urine samples were collected prior to treatment. Serum zinc was 64 micrograms/dl (nl 50-150 micrograms/dl), and the triene/tetraene ratio was 0.068 (nl 0.4), thereby ruling out zinc and essential fatty acid deficiencies. Serum biotin was 332 pg/ml (nl 520 +/- 220 pg/ml), and urine biotin was 5.22 ng/mg of creatinine (nl 4.3-95 with a mean of 30.2 ng/mg creatinine). The same parenteral nutrition regimen was continued and oral biotin was administered (10 mg/day). After 3 wk, serum and urine biotin levels were 650 pg/ml and 35.6 ng/mg creatinine, respectively. New hair growth was evident and all of her other symptoms resolved. Intravenous biotin was then provided (5 mg/day) for a month after which serum and urine biotin levels were 1316 pg/ml and 178 ng/mg creatinine, respectively. The patient has been subsequently maintained on an intravenous multivitamin product containing 60 micrograms biotin per daily dose and remains free of signs and symptoms of biotin deficiency.

Biotin

Biotin was formerly known as Vitamin H, or Coenzyme R, and is sometimes used interchangeably with Vitamin B7. It was originally discovered as a part of the complex called "bios" which promoted the growth of yeast and was isolated as the curative factor in the "egg white" disorder.

Functioning as a protein-bound coenzyme, biotin assists in energy production by synthesizing fatty acids and carbohydrates. It also helps create blood sugar from such non-carbohydrate precursors as lactic acid and pyruvic acid during starvation or fasting. It is one of the few vitamins that can be made by the body in healthy intestinal bacteria. Therefore, the body is not solely dependent on foods for an adequate supply. In studies, the output of biotin can be three to six times greater than the intake, with most of the excess found in the feces. This may reflect its intestinal bacterial synthesis. For those who maintained a constant intake, the urinary output of biotin remained reasonably constant.

Studies have shown that biotin can reduce muscle cramps, often called "growing pains," in children and can alleviate the symptoms of eczema and infantile dermatitis. Interestingly, children with unruly or "uncombable" hair that insists on sticking out in all directions from many cowlicks have been helped with biotin supplements. How this works is not understood, but it does seem to work. As with all B vitamins, biotin deficiencies in children affect their physical and mental development.

A biotin deficiency has been linked to keratoconjunctivitis, which is an inflammation of the cornea and conjunctiva of the eye. Deficiencies also produce defects in T and B cells, which are the "fighters" of the immune system targeting such foreign invaders as viruses and bacteria. When these cells fail or become too few to be effective, disease results.

Brittle nails; thinning hair, eyebrows, and eyelashes; and red or scaly skin are signs of a deficiency. In adults, other symptoms of biotin deficiency include depression, lethargy, hallucinations, and a lack of feeling in the extremities. In infants, decreased strength, lethargy, and developmental delays are seen. For most patients, 1-10 mg. of biotin are sufficient to correct disorders, but some therapies have required as much as 200 mg. orally or 20 mg. IM without showing signs of toxicity.

Claims have been made that biotin can cure baldness, but these claims have not been substantiated. Some cases of baldness can be attributed to a biotin deficiency as in severe or chronic dieting, but hair returns when balanced nutrition is restored. This is a different condition from that of a genetic nature.

Since biotin is produced within the bacteria of the intestinal tract, deficiencies can also occur after long periods of antibiotic use. In the normal friendly flora of the intestinal tract, biotin can help prevent the conversion of the yeast *Candida* to its fungal form, which is the cause of yeast infections.

The protein, Avidin, found in raw egg whites, binds to biotin and prevents its absorption -- thus the reason for limiting the intake of egg nog and such drinks. This component of raw egg white and its detrimental effect has been known since 1916 with experiments on rats. Chronic ingestion of raw egg will eventually produce such symptoms as scaly dermatitis, muscle pains, alopecia (hair loss), glossitis (red lips), mental depression, and general fatigue. Although egg yolks contain avidin, the whites contain three to ten times more. Avidin and the avidin-biotin complex are stable in heat up to 85°C.

Biotin deficiency has been linked either as a contributor to or as a result of the following:

- 1) Prolonged consumption of raw egg whites. Symptoms appear gradually after several weeks.
 - 2) Parenteral nutrition without biotin supplementation.
 - 3) Short bowel syndrome and other malabsorptive causes.
 - 4) A deficiency of biotinidase, an enzyme found in pancreatic secretions and intestinal mucosa. This enzyme is necessary to release protein-bound biotin and cling to biocytin so that biotin can be recycled.
 - 5) PEM (protein energy malnutrition). As in which came first, the chicken or the egg, it has yet to be determined whether a biotin deficiency causes PEM or whether PEM contributes to a biotin deficiency.
 - 6) Long-term anticonvulsant therapy.
 - 7) Leiner's Disease.
SIDS. There is evidence pointing to the fact these infants have a much lower liver content of biotin than infants who have died from other causes.
 - 9) Pregnancy and renal dialysis significantly increases the need for biotin.
 - 10) Gastrointestinal diseases, along with their "cures" of antibiotic therapies, prevent the manufacture and absorption.
 - 11) Alcoholism contributes to a deficiency.
-