

Day of Healthy Nutrition: Nutrient deficiency often underestimated in gastro-intestinal diseases

On the occasion of this year's Day of Healthy Nutrition on March 7, 2020, on the subject of "Nutrition in Gastrointestinal Diseases", the German Society for Biofactors stresses that diseases of the gastro-intestinal tract in particular can result in a deficiency of vital biofactors. Biofactors – especially vitamins and minerals – possess biological activity that promotes health or prevents disease and, depending on their concentration, may also have pharmacological effects. A lack of biofactors can impair physical and mental performance and lead to numerous health disorders, e.g. cardiovascular and neurodegenerative diseases.

Gastro-intestinal diseases promote vitamin B₁₂ deficiency

Chronic inflammatory intestinal diseases such as Crohn's disease and celiac disease (intolerance to gluten) or conditions following bowel operations or bowel resections can lead to vitamin B₁₂ deficiency, as too little vitamin B₁₂ is absorbed via the intestine and this results in so-called malabsorption syndrome.

A deficiency of the transport protein intrinsic factor (IF) also leads to reduced vitamin B₁₂ uptake. The most common cause of this IF deficiency is type A gastritis, an autoimmune disease in which the organism produces antibodies against the IF-producing parietal cells of the stomach. IF deficiency caused by other forms of chronic gastritis or resulting from partial gastric resection can also lead to impaired vitamin B₁₂ absorption.

From exhaustion to nerve damage

The first symptoms of vitamin B₁₂ deficiency are non-specific and result in exhaustion and the reduced physical capacity of the patients affected. In clinical practice, a vitamin B₁₂ deficit is therefore easy to overlook. "If the deficiency remains undiscovered, however, neurological and psychiatric complaints will become apparent over the long term," warned Prof. Karlheinz Reiners, a specialist in neurology at the Neurological Clinic of the Hermann-Josef Hospital in Erkelenz, at the symposium of the German Society for Biofactors that was held in Frankfurt in November 2019.

Magnesium deficiency in diarrhoea and intestinal diseases

Prolonged diarrhoea increases the magnesium excretion via the intestines. Furthermore, magnesium absorption can be reduced, for example, in chronic intestinal diseases such as Crohn's disease, ulcerative colitis and celiac disease or after intestinal resections.

In turn, magnesium deficiency can result in gastro-intestinal complaints such as nausea, vomiting, intestinal cramps and constipation. In order to break this vicious circle, magnesium should be supplemented when a deficiency has been verified, according to the scientists at the German Society for Biofactors (GfB). With regard to supplementation, it should be taken into account that organic compounds are better tolerated than inorganic compounds and are characterised by a higher level of bioavailability

Magnesium deficiency: muscle cramps, heart problems and osteoporosis possible

Since the biofactor magnesium dampens muscle contractions, a deficiency can lead to muscle tension and cramps. A magnesium deficiency also increases neuromuscular excitability, which increases the risk of hypertension and cardiac arrhythmias. If there is an undersupply of magnesium, the body's most important objective is to keep the magnesium level in the blood constant. Therefore, the organism releases magnesium from the bones, which has a long-term negative effect on bone health and can lead to osteoporosis.

Magnesium deficiency: increased risk of diabetes

Magnesium is also involved in the glucose metabolism, with the result that magnesium deficiency can promote insulin resistance. Current meta-analyses show that magnesium supplementation has a positive effect on the glucose metabolism.

Warning from the experts at the German Society for Biofactors (GfB): Prevent biofactor deficiency in gastro-intestinal diseases

Other biofactors – including vitamin B₁, folic acid and zinc – may also be subject to reduced absorption if there are chronic gastro-intestinal diseases present. For this reason, the scientists at the German Society for Biofactors are calling for more attention to be paid to the supply of minerals and vitamins in patients with gastro-intestinal diseases: "If there is a biofactor deficiency present, appropriate supplementation is recommended," is the clear statement of the GfB.