

MEDIZINISCH - WISSENSCHAFTLICHE KOMMENTIERUNG ZUR SPEKTROMETRISCHEN VOLLBLUTANALYSE

Today's spectrometric whole blood test exhibits a high value for calcium and low levels for magnesium, copper, zinc and phosphorus. The values of the other elements do not show significant deviations.

Severe magnesium (Mg) deficiency states as in the present case cannot usually be explained completely by insufficient Mg uptake in food. It is important here to look for primary diseases with potential negative effects on Mg metabolism or for living situations involving and increased requirement. First of all, gastrointestinal disturbances should be excluded, which conditions may entail raised levels of enteral Mg losses or absorption disturbances, for instance exocrine pancreatic insufficiency, inflammatory intestinal diseases and frequent diarrhoea. Acute and chronic liver parenchyma damage usually involves Mg deficits. Among endocrine diseases associated with an Mg deficiency, hyperthyreosis and hyperparathyroidism are worthy of special mention. A diabetic metabolism may also result in raised levels of renal Mg loss, as can intake of diuretics or consumption of even moderate amounts of alcohol. Life situations involving higher requirements include pregnancy, breastfeeding and high levels of physical activity (sports, above all competitive sports).

The observed constellation of elements, with reduced levels of both copper (Cu) and zinc (Zn), suggests weakened immune defence functions. Cu and Zn modulate a number of humoral and cellular immune defence functions and both elements are required at increased levels in, for instance, chronic inflammatory processes. The clinical picture frequently includes an increased susceptibility to infection, often correlated with delayed convalescence.

Numerous zinc(Zn)-dependent biological functions can be affected by low Zn concentrations. Over 300 enzymes contain Zn or require this element as a cofactor. Examples include carboanhydrase, alkaline phosphatase, alcohol dehydrogenase and carboxypeptidase. In the presence of an insufficient supply of Zn, the activity levels of these enzymes are reduced. All growth and regeneration processes require Zn. Zn contributes to hormone metabolism (e.g. insulin and the hypophyseal hormones) and deficiency results in negative effects on vitamin A metabolism and, not least, on the immune defences as well. The adult daily Zn requirement is listed as 7 mg per day for women and 10 mg per day for men. 90 % of the body's Zn occurs in the blood cells, so that a serum analysis will usually not suffice as a basis for determination of a Zn deficiency.

Therapy suggestions:

Zn in known dose and preparation.

Cu in known dose and preparation.

Mg in known dose and preparation.

Note: Therapeutic recommendations are based on the measured results and should only be a hint. The decision about necessary therapeutic indications on each individual case will not be replaced by this comment.