

About the consequences of untreated magnesium deficiency for developing diabetes mellitus – a case report

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The experience of our group of patients that are affected by magnesium-deficiency tetany [6] (among them 7 families) is that the prevalence and importance of this disease is generally not taken into consideration sufficiently. Here we report a case of untreated magnesium deficiency that resulted in symptoms of diabetes mellitus and hypertension.

The case study of a woman (now 86 years old) shows that magnesium deficiency can lead to heavy signs of diseases that are treated only symptomatically to relieve these problems. The magnesium deficiency is rarely diagnosed and even more rarely taken seriously, because its symptoms are often suspected of being ephemeral or even hysterical [5, 9]. Nevertheless, in our case magnesium substitution was the only causal therapy.

The explanation is that the stress-sensitive magnesium-deficiency patients can develop a dysregulation of the carbohydrate metabolism in particular in situations characterised by magnesium deficiency and high stress [18] (anxiety and excitement) that results in a high glucose level.

It is known that magnesium is needed for insulin synthesis and secretion, for insulin sensitivity of cells as well as for the transport of glucose into the cells, and for the functioning of the key enzymes in the glucose metabolism [1, 2, 4, 7, 10, 11, 12, 14, 15].

As experienced by our organisation, the life-long high dosage of magnesium is essential for patients suffering from genetically caused magnesium deficiency. This life-long therapy protects this group of patients from developing symptoms of other illnesses [3, 13, 16, 17] – among them diabetes mellitus too – that cannot be treated successfully by purely symptomatic medications.

1. All regularly treated diabetic patients that belong to families which show magnesium-deficiency symptoms must receive high-dosed magnesium at least in addition.
2. As it is more difficult to diagnose magnesium deficiency than diabetes, all diabetic patients should get magnesium therapy to test whether a reduction of antidiabetics as well as antihypertensiva is possible. Magnesium must be given already before hypomagnesaemia can be diagnosed.