Inflammation and clinical immunology

Cadmium, zinc, lead, magnesium - are the serum concentrations of these metals helpful in diagnosing the cause of allergy?

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Introduction:

As some light or heavy metals can trigger the allergic reaction to various epitopes, may be interesting to investigate the possible link between the higher concentration of heavy metals in serum and patient's sensitivity to allergens that he is exposed to.

Objective:

The present study describes the correlation between raised levels of immunoglobulin E and the concentration of heavy metals in serum.

Material and Methods:

39 children, (23 female and 13 male) who were admitted to allergist for allergy diagnosis and who were susceptible to at least one tested allergen. Patients underwent serological laboratory tests, as well as the concentration of light and heavy metals in serum was estimated. The nomination of some specific immunoglobulins in E class was estimated. The data was then statistically analysed

Results:

The obtained mean serum concentration of light and heavy metals was: 0,02mg/dm^3 for copper, 2,99 mg/dm^3 for magnesium, 0,38 mg/dm^3 for zinc, 40,84 mg/dm^3 for iron, 0,004 mg/dm^3 in terms of cadmium and 0,04 mg/dm^3 for lead. The correlation between the serum concentration of metals and the sum of tires of specific tested antibodies was: 0,07 for copper, 0,47 for magnesium, 0,34 for zinc, 0,23 for iron, -0,10 for cadmium and -0,06 for lead.

Conclusions:

There was no significant increase in serum concentration of light and heavy metals in patients with diagnosed susceptibility to certain allergens. No strong correlation between the concentration of metals in serum and the tires of specific antibodies in E class was found.