

THE ANALYSIS OF IMMUNOGLOBULIN A, M, G BLOOD LEVELS AND THE CONCENTRATION OF METALS IN THE BLOOD SERUM IN ADOLESCENTS.

Iwona Pirogowicz¹, Agnieszka Pawelak², Agnieszka Hirnle²

¹ Department and Clinic of Geriatrics, Wrocław Medical University, Poland

² Student Scientific Organization for Health Promotion and Disease Prevention at the Department and Clinic of Geriatrics, Wrocław Medical University, Poland

Introduction: The natural exposure to various environmental pollutants, including metals, is known to induce epithelial and inflammatory changes. A release of cytokines and other mediators, including immunoglobulins is then observed as a reaction of the organism.

Objective: The present study describes the effect of the exposure to zinc, magnesium, cadmium and lead on the production and the concentration of A, M, G immunoglobulins in a group of adolescents.

Material and Methods: 92 children, (42 female and 50 male, mean age: 6,97) who were admitted to allergist due to allergy diagnostics. The concentration of immunoglobulins in serum, as well as the concentration of zinc, magnesium, cadmium and lead were measured. The data was statistically analyzed.

Results: The values of concentration of immunoglobulins were standardized. The outcome is shown as a percentage of maximum value for one's sex and age. The values for IgA were 8,81%-265% with positive correlation to age(0,45, $P < 0,01$) IgM concentration was 28,11%-235% of maximum physiological values. The IgG was between 1,73% to 269% with correlation with age (0,56, $P < 0,01$).

Conclusions:

The obtained values did not correlate between themselves very strong. Cadmium was the only metal that showed a stronger link between its concentration in serum and the concentration of immunoglobulins.