

P01-214 - MODIFIED MAGNESIUM AND LIPOPROTEINS IN CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

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Objectives: ADHD is supposed to be a heterogenous disorder with a complex etiology. Polyunsaturated fatty acids (PUFAs) have been reported to play a role for a wide range of learning and mood disorders, including ADHD. Furthermore, various additional factors might be beneficial to the buffering effect of PUFAs, including zinc (Zn) and magnesium (Mg). Zn protects lipids against peroxidation by its antioxidative force, as well as it is necessary for the maintenance of fatty acid metabolism enzyme activity. Mg is known to be an indispensable element for fatty acid enzymes and neuronal activities.

In this study, lipid, Zn and Mg concentrations were analysed to investigate the pathological processes within the lipid metabolism in ADHD. We assumed that children displaying symptoms of ADHD would have lower concentrations of Mg, Zn and/or different lipoproteins, compared to controls.

Methods: Blood serum concentrations of Zn, Mg, total cholesterol (Chol), Apolipoproteins a and b (Apo a and Apo b), High density lipoprotein-Cholesterol (HDL) and Low density lipoprotein-Cholesterol (LDL) were analysed in nine boys with ADHS (8.2 ± 0.6 years) and 11 controls (7.9 ± 0.87 years), at three times under different stressful conditions.

Results: Mg and HDL concentrations were significantly higher as Apo b concentrations were lower in ADHD compared to the control group. None of the other parameters did show differences between both groups.

Conclusions: Mg and lipoproteins may play a role in the etiopathogenesis of ADHD. Further investigations should prove the controverse findings about the interrelationships between Mg concentrations and ADHD symptoms.