ZINC DEFICIENCY, AND HYPOVITAMINOSIS D, CONNECTION WITH AUTISM SPECTRUM DISORDERS

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Introduction: Inspiration is from my family: (the child of my sister). From the outcome of the research on: Autism and food intolerance we found that the connection of Autism and food intolerance is very strong, while causes of food intolerance besides the deficiency of digestive enzymes, a special role in this development also have zinc deficiency.

Mechanism: Zinc with tens and dozens of functions in the body, has an important role in pancreas, where digestive enzymes are produced, also cause deficiencies in aminoacids, which are an integral part of the proteins. The aminoacids also function as chemical blocks on neurotransmitters with key role in the brain to affect the emotional state and behavior. For its reason the proper balance of these nutrients are essential for a healthy development: emotional and cognitive in children, also the role of proteins in protein synthesis (exactly another cause for food intolerance mechanism is the lack of those in protein buildings). Furthermore, tryptophan deficiency as the aminoacid-serotonin synthesizing again an interconnection with food either as a deficit or as an etiology, but, also serotonin links in the evaluation of ASD and neuromental disordres. Zinc with his antibodies also has a role in the pancreas as transporter and nerve structure, so it has an important role as neurotransmitter through: GABA-anxiety. This did in deeper research considering that zinc begins with his functions from the cellular level. Zinc deficiency in pregnancy: Zinc is widely recognized for critical roles in the cell division, differentiation and function that are essential for tissue growth, so zinc homeostasis in the brain is affected the lack of zinc in the diet and its alteration can cause brain dysfunctions. It may be also one of the reasons, whether in enzymatic deficits also giving psycho-motor disorders since: oligominerals are very important in developing the CNS.

Method and materials: Over 65 patients, aged 5-11 years, have been tested for serum zinc levels (the research continues with patients testing, and for vitamin D level), at the biochemistry laboratory, patients are confirmed with ASD diagnosis, and from clinical aspect are followed from neurologist specialist, also worth noting that these patients around 90% of them are also tested for food intolerance, and are 99% intolerant in some foods. Zinc levels have been tested in serum, 2.5 ml blood, serum intake: 1.5ml serum, working method: photometric method as analytical methods. Requires: 0.8 mL (minimum: 0.2 mL) serum . Blood zinc level reported in µmol/L. Useful in detecting zinc deficiency. : Zinc is an essential element; it is a critical co-factor for carbonic anhydrase, alkaline phosphatase, RNA and DNA polymerases, alcohol dehydrogenase, and many other physiologically important proteins. The peptidases, kinases, and phosphorylases are most sensitive to zinc depletion. Zinc is a key element required for active wound healing. Zinc deficiency findings and the connection to autism are very important for ongoing follow-up since treatment with zinc supplements has given positive signs to our investigated autistic patients, and this is an reason that this deficit is probably transmitted by a pregnant mother, will be broadly explained in the research, that all of these factors also affect the responsible genes.

Biography

Dr. Luljeta Hetemi is a Resident doctor in Biochemistry Institute –Skopje. Her work and birth place is Kosovo.

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