



The study of Response to Treatment of Vitamin D Deficiency in overweight/Obese Children

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Introduction: Obesity and over weight are one of the most dangerous risk factors for many of diseases and in recent years prevalence of those increased in many of countries significantly. In order to high prevalence of vitamin D deficiency and epidemic obesity, there is some evidence show that there is a reverse relation between serum level of 25 hydroxy vitamin D and "BMI". The purpose of this study is scrutiny response to treatment vitamin D deficiency in children who have obesity and over weight.

Materials and methods: in this study 60 children aged 5 to 15 years old who have BMI $\geq 85\%$ that visiting pediatric clinic of Motahari hospital entered. we checked level of 25(OH) vit D – ca-1 – PTH – P – alk-p after 8 hours fasting and then according to intensity of vitamin D deficiency, vitamin D 300000 to 600000 unit prescribed and all parameters checked after 1 month again and results after and before medication compared and analyzed.

Results: of 60 children in study include 49 children (81.7%) were over weight and 11 children (18.3%) were obese, all had vitamin D deficiency that after therapy intervention only 35% got normal level and 65% still have deficiency. average level of vitamin D in girls were lower than boys. average level of vitamin D in patients after and before intervention in each two groups raised significantly. (over weight $P=0.000$ and obesity $p=0.016$). whereas, there was no significant statistical differences in compared with mean changes of level of vitamin D between two groups after and before intervention. ($p=0.680$). the average level of parathyroid hormone in patients after and before intervention in over weight group reduced significantly. ($p=0.000$) but in obese children group there was no significant statistical change. ($p=0.319$). in



comparison mean changes of level of parathyroid hormone between two groups before and after intervention there was significant statistical differences. ($p=0.65$). mean level of phosphor in each two group after intervention increased, but this is not a significant statistical increase. Mean level of alkaline phosphatase calcium in each two group after intervention has been reduced, but this reduction was not significant statistically.

Discussion: in our study all children who were over weight have vitamin D deficiency somehow that after medication more than half of them still have deficiency and did not get normal level. this results need our more paying attention to obesity of children and vitamin D deficiency in our society.

Key words: obesity, vitamin D deficiency, BMI, children, respond to medication