

Burden of obesity on Vitamin D status and bone health in obese Egyptian children.

Introduction:Children with malnutrition will have deleterious effects on their health and life either malnutrition is due decreased or increased nutrition. liability of bone health deterioration may be imminent. **Aim of the study:**In this study, we visualized the relation between overweight and levels of bone deterioration markers, minerals and vitamin D status in Egyptian children. **Methods:**40 children aged 8-13 years old were enrolled, 30 obese with body mass index (BMI) 32 ± 2.8 and 10 with BMI 24 ± 3.1 as control group. Parathyroid hormone (PTH), Osteocalcin (OS), bone alkaline phosphatase (APH), 1,25 (OH) vitamin D3 (vitD3), 25(OH) vitamin D3 were analyzed by immunoradioassay kits. Serum and urinary calcium, phosphorus, hydroxy proline in urine all done by quantitative calorimetric method. **Statistical analysis:**Data were expressed as mean \pm standard deviation, T Student test and Pearson correlation were used for differences of variance. Analysis with excel for windows 10 Microsoft was used. **Results:**showed high BMI group have elevation of PTH with disruption of levels of OS, APH, bone minerals, urinary hydroxyproline and vitD3 status versus control group ($P \leq 0.05$). Significant Positive correlation between BMI and PTH level was detected. **Conclusion:** Obesity positively correlated with hyperparathyroidism which can cause imminent bone mineral deterioration with liability for weak bone hazards. Wide scale studies are needed, meticulous investigation of bone health in obese children as well as calcium and vitamin D supplementation are recommended.

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