THYROXIN REPLACEMENT THERAPY DOES NOT IMPROVE GROWTH VELOCITY IN CHILDREN WITH SUBCLINICAL HYPOTHYROIDISM AND SHORT STATURE

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Introduction: Subclinical hypothyroidism (SH) is defined as elevated thyrotropin-stimulating hormone (TSH) levels in presence of normal thyroid hormones concentration. The overall prevalence is about 4-10% as reported in large general population screening surveys (1). However, only few studies exist on the younger population (2,3). Objective: To evaluate the prevalence of SH and the effect of thyroxin replacement therapy on growth parameters in short stature children. Patients and Methods: 766 patients seen at the Outpatient Short Stature Clinic of the Hospital de Clínicas de Porto Alegre, Brazil, were evaluated with TSH measurement. After exclusion of chronic systemic diseases, genetic syndromes, hypopituitarism and overt hypothyroidism 367 remained. A total of 46 (12,53%) initially had normal thyroid hormones with elevated TSH, therefore diagnosed as SH. 282 patients who had at least 6 months of follow-up were selected. Patients were divided into three groups: SH treated with L-thyroxine (LT4) (SHT group (n=20)); SH not treated with LT4 (SHNT group (n=26)); and the normal TSH level group (control group (n=236)). The anthropometric data (height standard deviation score (Hsds), growth velocity (GV), GV standard deviation scores (GVSDS)) of the groups were analyzed at 6 and 12 months of follow-up. Statistical Analysis: SPSS, $p < 0,05$. Results: Gender, age and pubertal stage did not differ between groups. Median TSH was higher in the SHT group (7.1) than in SHTN (4.8) or controls (1.9) ($p<0,001$). GV in the SHT, SHNT and control groups were respectively 3.53±1.8cm, 3.07±1.40 cm and 2.89±1.28cm ($p=0,113$) at 6 months and 6.83±2.12cm, 6.30±2.21cm, 5.98±2.09 ($p=0,247$) at 12 months. Use of LT4 did not show benefit in either GVSDS or HSDS at 6 and 12 months in this study. During follow-up the median TSH in the SHT group was 2.07 (range 0.54 to 4.15). Conclusion: L-thyroxine treatment in our SH population did not provide significant improvement in height in intermediary evaluation.