

“EVALUATION OF ELEVATED SERUM THYROID-STIMULATING HORMONE (TSH) IN CHILDREN AND ADOLESCENTS: A SINGLE-CENTER STUDY IN URUGUAY.”



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INTRODUCTION

- ❖ Elevated serum TSH is a common presenting complaint (pc) in pediatric endocrinology outpatient clinic.
- ❖ Primary hypothyroidism is the most frequent thyroid disease in children.
- ❖ Subclinical hypothyroidism (sHT) predominates in relation to overt hypothyroidism (cHT).
- ❖ Definitions and diagnosis made with two thyroid profiles (4-12 weeks):
 - sHT = ↑ TSH + normal values of free triiodothyronine (T3) and thyroxine (T4).
 - cHT = ↑ TSH + ↓ T3 and T4.
- ❖ The benefit of the use of levothyroxine in sHT is controversial, specially with serum TSH levels less than 10 uUI/ml.

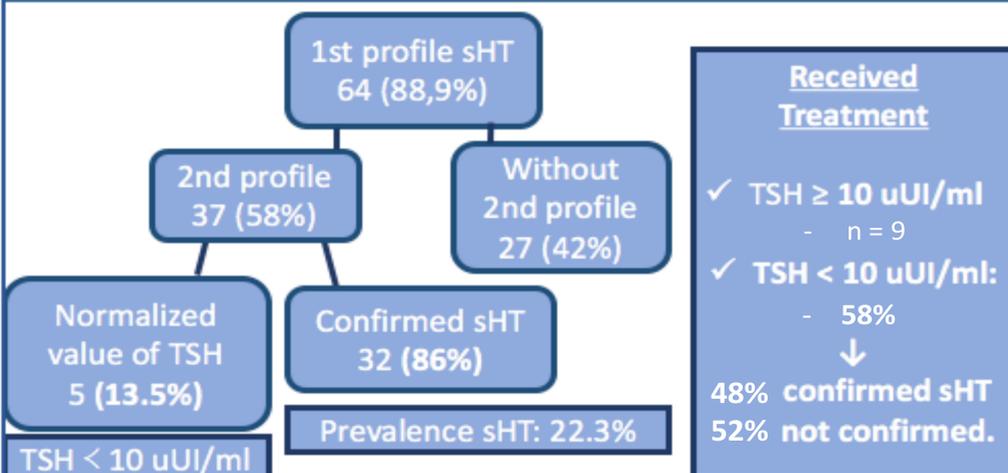
MATERIALS & METHOS

- ❖ Cross-sectional, descriptive study in one center.
- ❖ Retrospective review of the charts of 143 children.
- ❖ Final population was 72 (table 1).
- ❖ Data collected was: Age, gender, anthropometry: height and body mass index (BMI), goiter, neurodevelopment, main reason of request serum TSH, serum TSH, T4, T3, anti-thyroid autoantibodies (anti-Tab), second serum thyroid profile and treatment with Levothyroxine.
- ❖ Laboratory: Electrochemiluminescence immunoassay. Cobas 601 (Roche).

RESULTS

- ❖ 50% of the pc were because of ↑ serum TSH.
- ❖ The main reason of request was the obesity (37%).
- ❖ There was no significant difference between gender (1.3 M:F).
- ❖ Age of presentation was 7 years old.
- ❖ Anthropometry: Height: 83% normal, 11% short. Weight: Figure 1.
 - Obese children: No one had short stature and 17% had + anti-Tab.
- ❖ Goiter: presented in 23% of the children and 40% had + anti-Tab.
- ❖ Diagnosis with 1st thyroid profile: 11% (8) were cHT and 89% (64) sHT.
- ❖ Only 47% had made a 2nd profile. TSH value declines significantly (Figure 2).
- ❖ 2/3 had made anti-Tab: + in 20% of the sHT and 20% of the cHT.
- ❖ All of the cHT received treatment with Levotiroxine.
- ❖ Patients treated with Levothyroxine who had sHT and TSH < 10 uU/ml:
 - 10.3% had + Anti-Tab and 24.1% presented with goiter.

Diagnosis and treatment of sHT



OBJECTIVES

- ✓ Evaluate the prevalence, characteristics and treatment of patients with elevated serum TSH in the pediatric endocrinology outpatient clinic.
- ✓ Pereira Rosell Hospital, Montevideo Uruguay, in a period of time of 6 months. (January to June 2016).

INCLUSION

- Age between 2 – 15 years.
- Pc: Elevated serum value of TSH.

EXCLUSION

- Congenital or secondary hypothyroidism.
- Do not meet the inclusion criteria.

Table 1

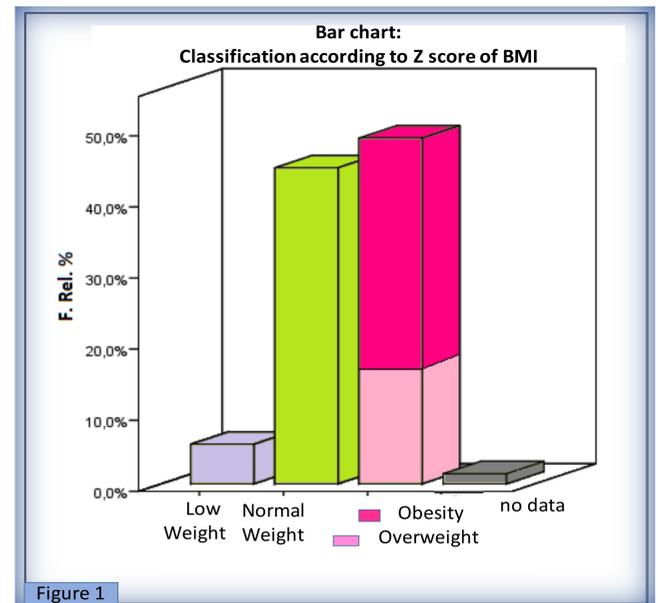


Figure 1

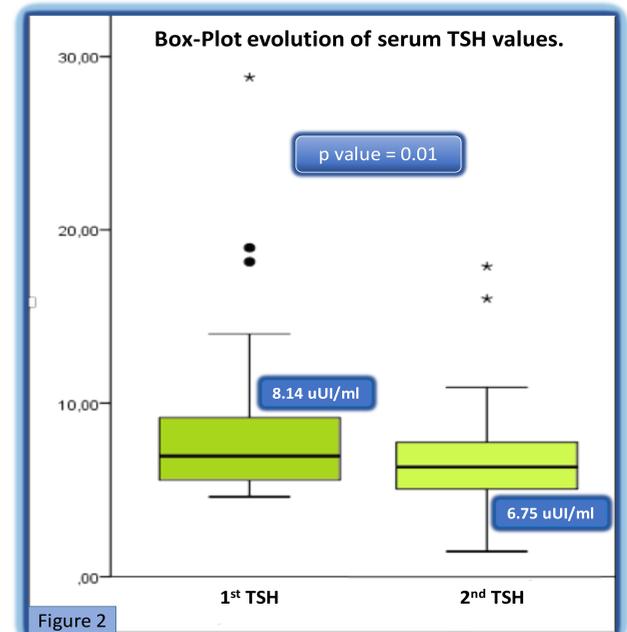


Figure 2

CONCLUSIONS

- ✓ Half of the children referred to our center had elevated serum TSH.
- ✓ Obesity was the main cause of solicitude of the serum TSH.
- ✓ sHT was the most prevalent diagnosis.
- ✓ The diagnosis was not made correctly in most cases leading to an over diagnosis and over treatment.

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