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 = 1 TSH + normal values of free triiodothyronine (T3) and thyroxine (T4).
  - cHT = 1 TSH + 1 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 & METHODS

- 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 1 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 Levotiroxine who had sHT and TSH < 10 uUI/ml:
    - 10.3% had + Anti-Tab and 24.1% presented with goiter.

Diagnosis and treatment of sHT

- 1st profile sHT: 64 (88.9%)
- 2nd profile: 37 (58%)
- Without 2nd profile: 27 (42%)
- Confirmed sHT: 32 (86%)
- Prevalence sHT: 22.3%
- Received Treatment:
  - TSH ≥ 10 uUI/ml: n = 9
  - TSH < 10 uUI/ml: 52% not confirmed.

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.