

Thyroid Function in Children Treated with rhGH for Growth Hormone Deficiency

Triantafyllou P, Georeli I, Dimitriadou M, Maliahova O, Daflos A, Christoforidis A

1st Paediatric Department, Aristotle University, THESSALONIKI, GREECE

Disclosure Statement: none of the authors have a conflict of interest. **Funding:** This study received no funding.

Introduction

- A considerable number of previous studies have shown the relationship between thyroid function and treatment with recombinant human growth hormone, indicating a decrease of FT4 levels and a compensatory TSH increase at rhGH therapy onset.
- On the other hand, we have identified a number of patients with documented primary hypothyroidism (either on treatment with L-thyroxine or not) before the onset of rhGH treatment.

The aim of our study was to assess thyroid function in all children treated with rhGH for GH deficiency and detect the percentage of children with primary hypothyroidism before the onset of rhGH.

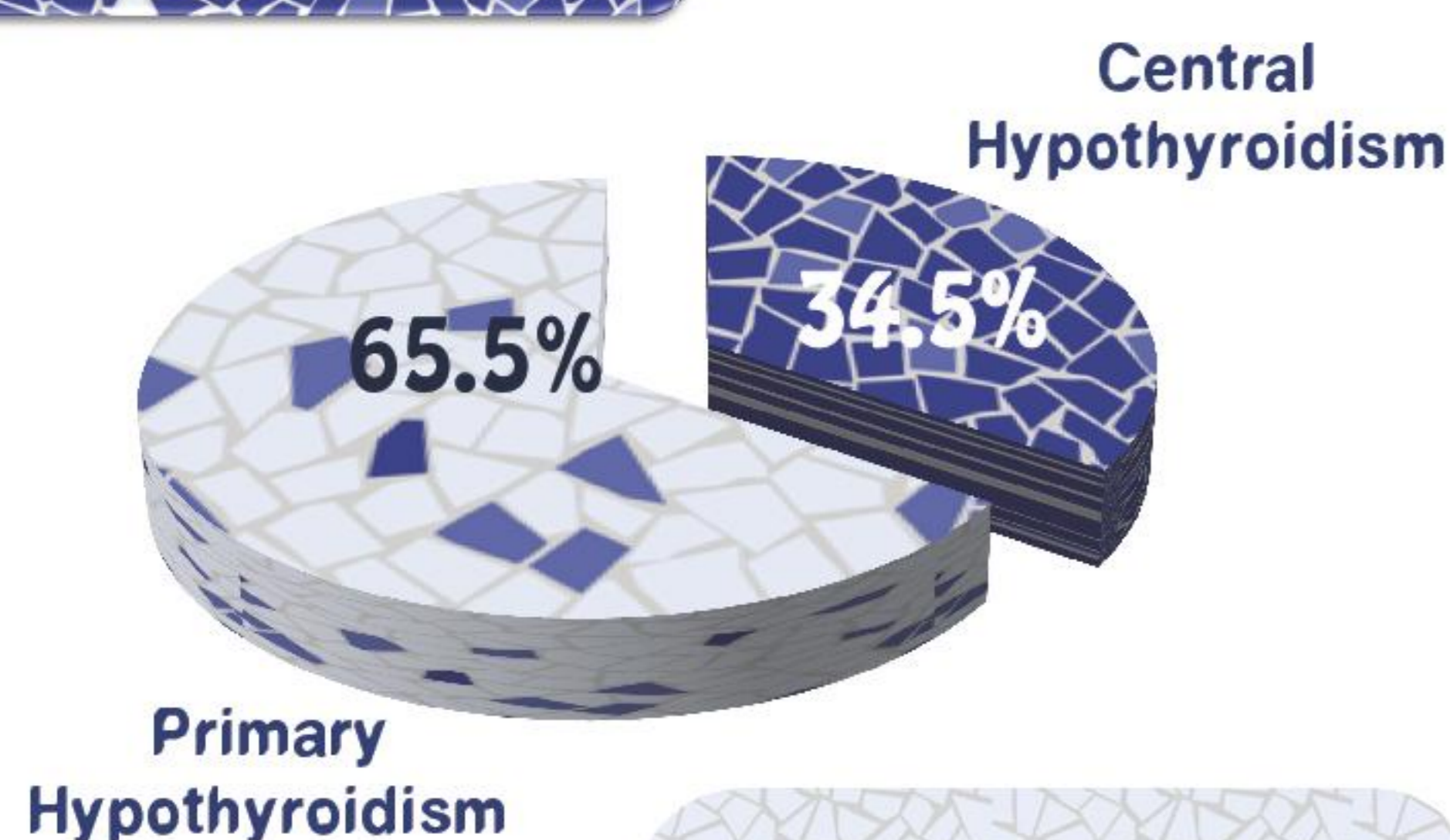
Patients and Methods



- We retrospectively analyzed thyroid function in all patients receiving rhGH for GH deficiency in our department
- Other indications for rhGH treatment (e.g. chronic kidney disease, Turner syndrome, Prader-Willi syndrome) were excluded
- 129 patients with GHD on rhGH treatment were identified (77 boys and 52 girls).

Results

29/129 (22.5%) patients, were detected to have thyroid dysfunction



Central Hypothyroidism (n=10)

- 2 brain tumor
- 4 ACTH + TSH + GH deficiency
- 4 TSH + GH deficiency

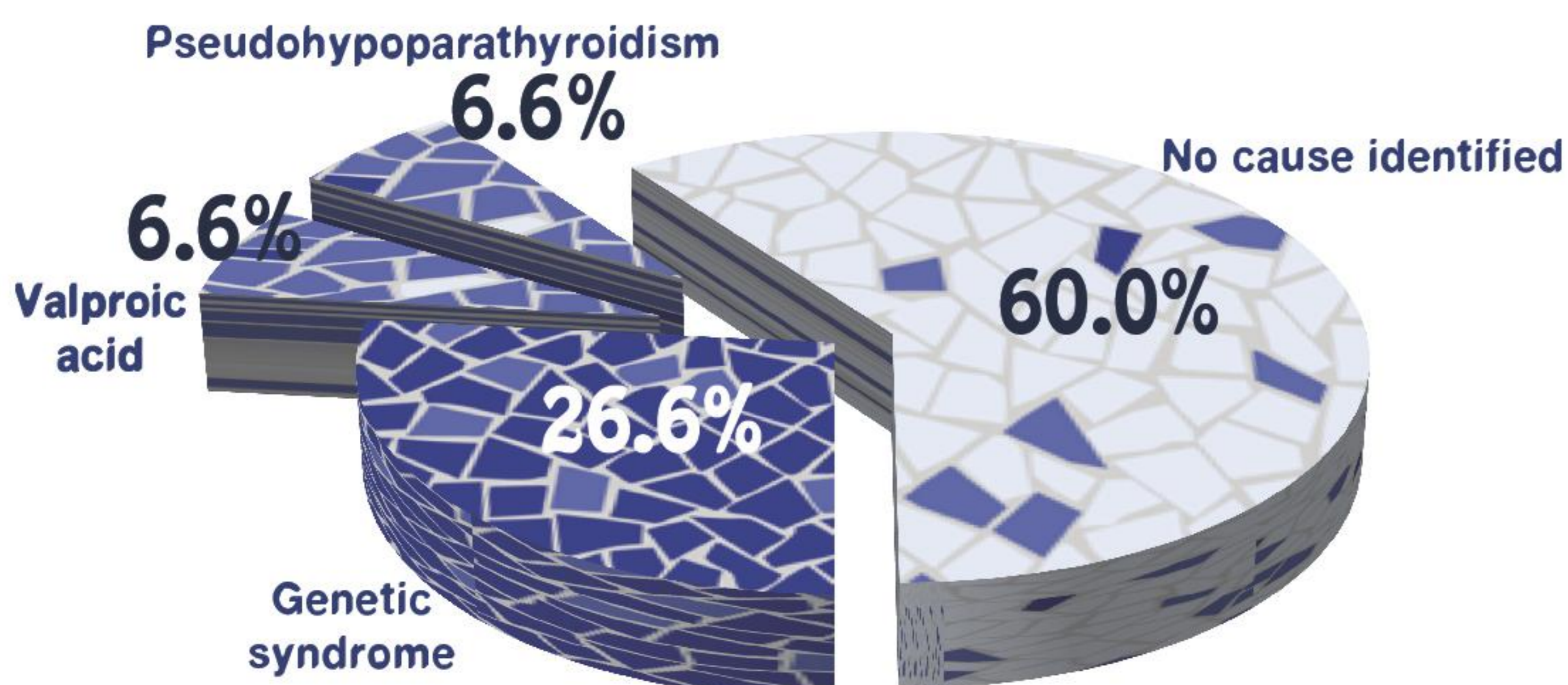
Patients with additional ACTH deficiency were diagnosed at neonatal age whereas patients with TSH and GH deficiency were diagnosed later in life.

Primary Hypothyroidism (n=19)

- 15 before rhGH treatment
- 4 after rhGH treatment

- All 4 patients that were diagnosed with primary hypothyroidism after the onset of rhGH were pubertal boys
- Mean time since rhGH onset: 28.5 months.

Primary Hypothyroidism before rhGH



Conclusions

- A significant percentage of patients with GHD (7%) were found to have primary hypothyroidism of unknown cause that developed before the onset of rhGH
- GHD should be suspected in short children with mild, compensated hypothyroidism.

54th Annual Meeting of ESPE
Barcelona, 1-3/10/2015

