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Key-role of thyrotropin deficiency in disclosing craniopharyngioma diagnosis in a short girl with Hashimoto's thyroiditis

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Hashimoto's thyroiditis (HT) in childhood may present with either **euthyroidism** (52.1% of cases), or **primary overt hypothyroidism** (22.2%), **subclinical hypothyroidism** (19.2%), **overt hyperthyroidism** (3.5%) or **subclinical hyperthyroidism** (3%). In a large series of 608 children and adolescents with presenting HT, we found in no cases a biochemical picture with low free thyroxine (FT4) and normal or low-normal thyrotropin (TSH) serum levels, i.e. a thyroid pattern that is consistent with **central hypothyroidism** (CH), but is not compatible with HT. Therefore, the finding of such a biochemical pattern in a child with HT should direct work-up towards seeking an associated central cause of hypothyroidism.

Aim of the present case report is to reinforce the above view.

In a short girl with **celiac disease** and **Hashimoto's thyroiditis** (HT), the suspect of an associated pituitary lesion was suggested, despite the **lack of neuro-ophthalmic symptoms**, by the finding of a thyroid function pattern that was not compatible with HT (low FT4 with normal TSH). This case report reinforces the view that the finding of a normal TSH in presence of a low FT4 should always alert pediatricians and raise the suspect of **central hypothyroidism**, even when a primary thyroid disease has been already identified. In this case TSH deficiency played a critical role in disclosing diagnosis of **craniopharyngioma** (CP).

Age (yrs)	11	12	12.5	13.0	13,5
Bone age (yrs)	-	10.25	-	-	11.75
Height (SDS)	-2.4	-2.7	-2.9	-2.5	-2.0
BMI (SDS)	-1.3	-1.3	-1.4	-1.2	-1.3
Gluten-free diet	+	+	+	+	+
Hormonal replacement ^o	-	-	+	+	+
Surgical intervention	-	-	+	-	-
Desmopressin therapy	-	-	+	+	+
Estrogen therapy	-	-	-	-	+

^owith GH, LT4 and hydrocortisone



CONCLUSIONS

Among the endocrinological manifestations of CP, TSH deficiency is observed in only 25% of children, whereas GH deficiency (100% of cases) and ACTH deficiency (68%) are distinctly more frequent. In this case report TSH deficiency was present and played a critical role in disclosing diagnosis of CP. If it had been absent, it might be hypothesized that diagnosis of CP would have been furtherly delayed.