

Thyroid function and prevalence of celiac disease in children with T1DM in Lithuanian pediatric population

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Background

Patients with type 1 diabetes mellitus (T1DM) are at higher risk for developing coexisting autoimmune diseases.

Objectives

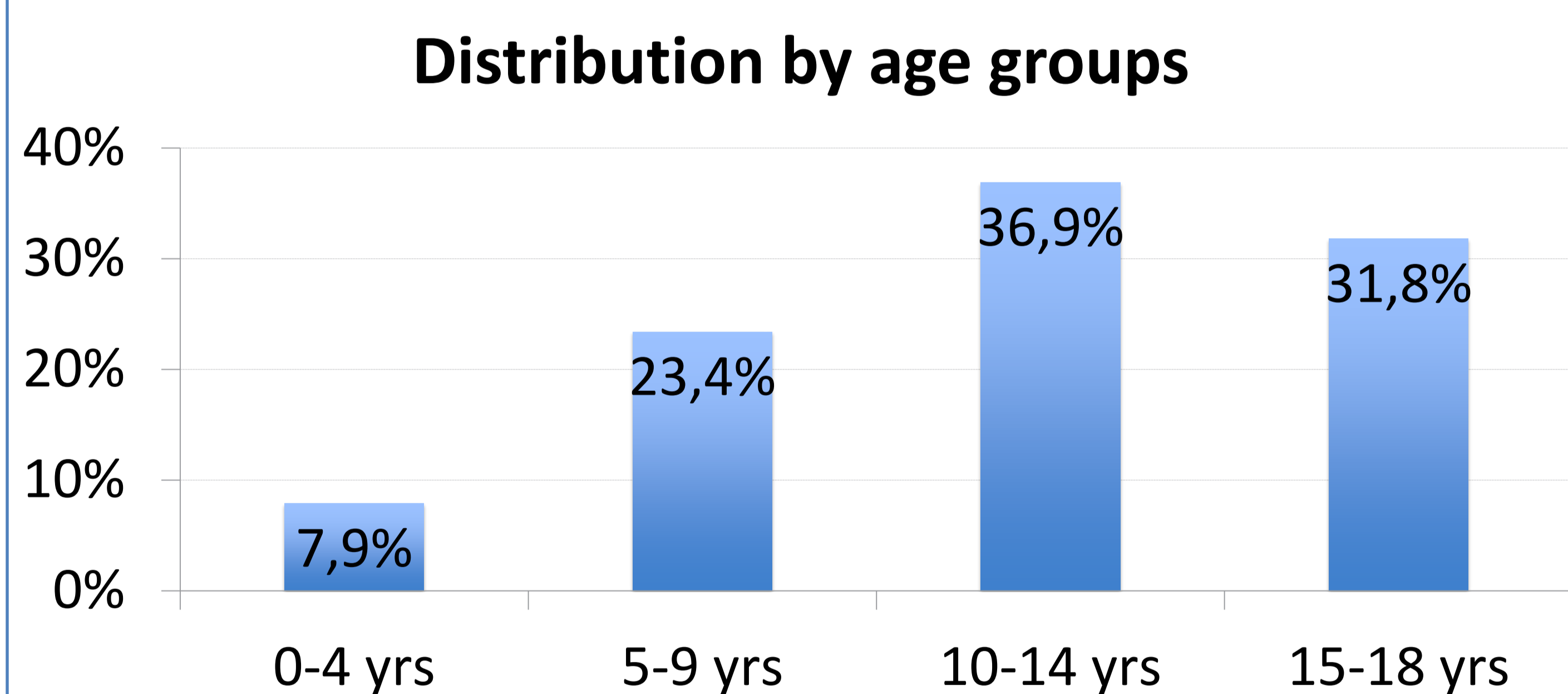
To evaluate thyroid and celiac disease prevalence in children with T1DM in Lithuanian pediatric population.

Methods

777 patients (49.7% males) <18 yrs with T1DM, covering all T1DM pediatric Lithuanian population, were examined. Serum free thyroxine (FT4), thyrotropin (TSH), antithyroid peroxidase (ATPO) and tissue transglutaminase antibodies (tTG-A) were measured.

Results

Mean age of patients was 12.1±4.4 yrs.



Mean duration of T1DM was 3.9±3.9 yrs, in 68.1% duration of the disease was <5 yrs.

The average level of HbA1c was 8.75±2.22%. 33.7% of children had HbA1c <7.5%.

Thyroid dysfunction was detected in 17.6% (n=121) of cases.

Thyroid dysfunction	% of cases
Hypothyroidism	0.4%
Subclinical hypothyroidism	16.6%
Hyperthyroidism	0.6%

Thyroid dysfunction was significantly more prevalent in females than in males, 20.9% vs. 14.3% (p=0.053). Most common dysfunction among males and females was subclinical hypothyroidism, 14% and 19.2%, respectively. We identified 0.9% of females with hypothyroidism, but no males. Hyperthyroidism was present in 0.3% in males and 0.9% - females.

ATPO were positive in 12% (n=82) of cases. There was a significant association between positive ATPO and thyroid dysfunction (r=-0.165, p<0.001).

We found 34.1% of patients with positive ATPO and thyroid dysfunction, while in the group with negative ATPO - 15.3% had thyroid dysfunction.

	Hypothyroidism	Subclinical hypothyroidism	Hyperthyroidism
ATPO (+)	2.4%	30.5%	1.2%
ATPO (-)	0%	14.8%	0.5%

No significant associations between thyroid dysfunction and metabolic control were found.

Positive tTG-A were found in 4%.

No significant correlations between positive tTG-A and HbA1c or duration of T1DM were found (p=0.947 and p=0.062, respectively).

Conclusions

Thyroid dysfunction was more common in females and in patients with positive ATPO antibodies.

The most common thyroid dysfunction among all our patients with T1DM was subclinical hypothyroidism.

The prevalence of positive tTG-A in Lithuanian children with T1DM is similar to data from most other countries.