



Development and risk factors of thyroid dysfunction in patients with positive TPO antibodies

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Background

Autoimmune thyroid disease (AITD) is the most common thyroid disorder in the paediatric age range. However, the **development of thyroid dysfunction** in biochemically euthyroid children with positive TPOAbs and associated risk factors is unclear.

Objectives and hypotheses

To evaluate the **evolution** of children with **positive TPOAbs** and **normal thyroid function** and identify **predictive factors** for the development of thyroid dysfunction.

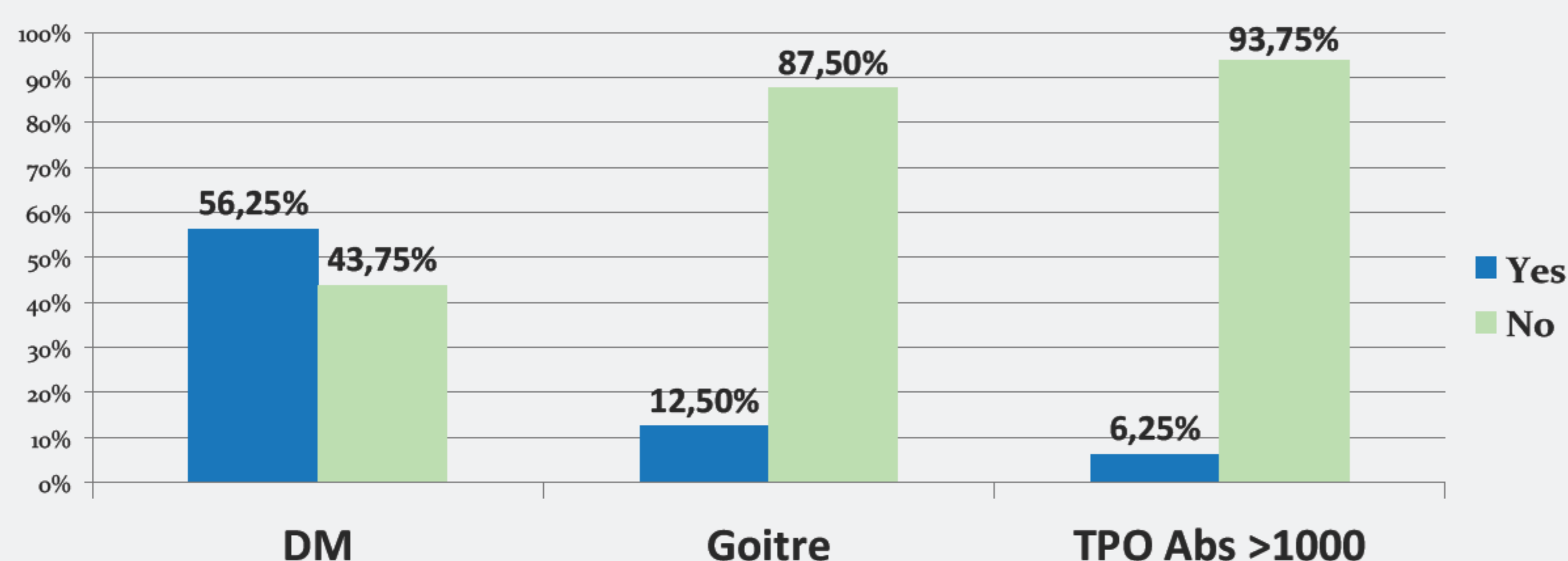
Method

A **retrospective study** analysing a database of **250 children** with positive TPOAbs in 2010 and the development of **thyroid dysfunction** and levothyroxine treatment over 5 years. **Clinical features and risk factors** for hypothyroidism were recorded (such as diabetes, goitre and gender).

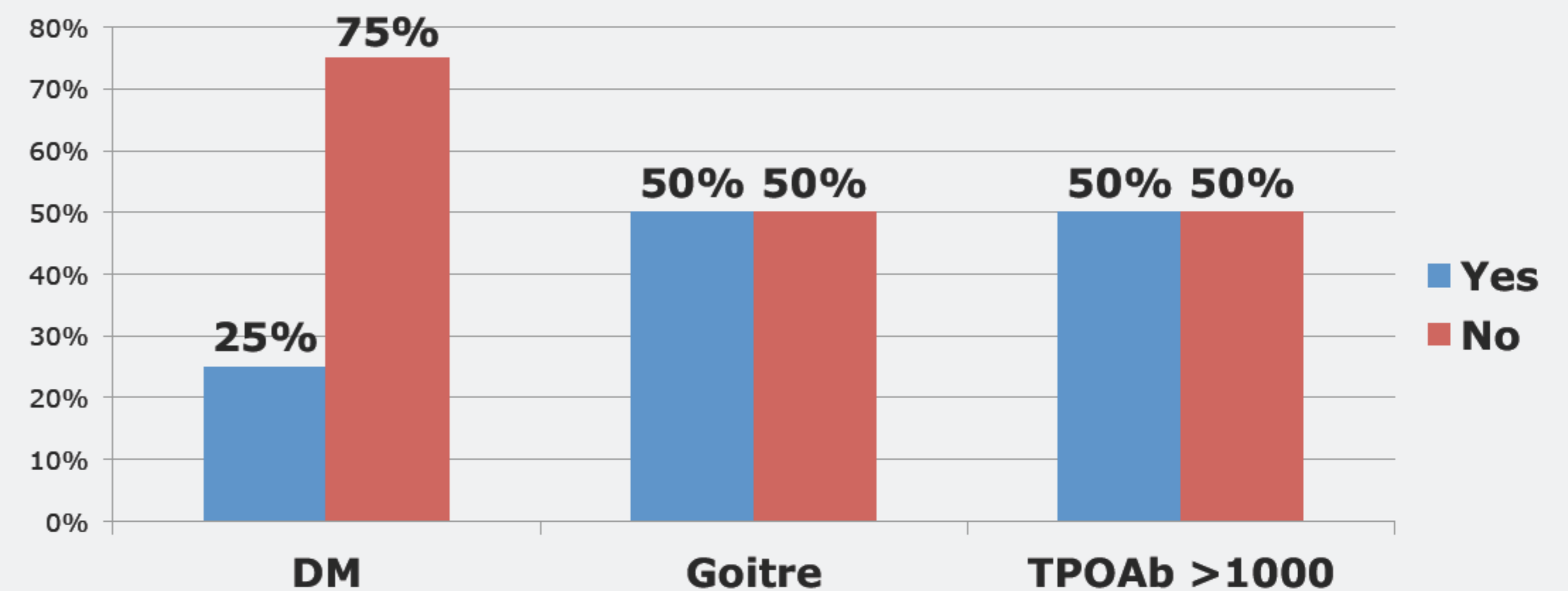
Results

- **Median age:** 11 years (0-18 years).
- Of the **46 positive patients**, **32 (69.5%)** were associated with **normal thyroid function**. On the **abnormal thyroid function**, **78.57%** had high TSH with normal T4.
- We **excluded 12 patients** with normal thyroid function (10: previous treatment; 2: did not have further bloods test done):
 - **20 Patients:** Females 90%; Males 10%; Median age: 10 years (5-14 years); diabetic patients (50%); goitre (20%).

Remain Euthyroid: 16 patients (80%), 87.5% female



Became Hypothyroid: 4 patients (20%), 100% female



Time to hypothyroidism

MEDIAN: 2.44 years (1.96 – 3.68 years)

Conclusion

- Paediatric patients with increased thyroid autoantibodies **need careful monitoring** because no clear criteria exist to predict the evolution.
- **Hypothyroidism developed in 20%** of our patients with positive antibodies. The median time was **2.44 years**.
- **No clear differences** in age or gender were seen but the presence of **goitre (50% : 12.5%)** and **TPOAb >1000 (50% : 6.25%)** seems to be **higher** in those who develop hypothyroidism.
- **More studies** with a highest number of patients are needed to be done.

References

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