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Background: Studies about thyroid function following hemithyroidectomy are scarce in the literature and no studies include pediatric population.

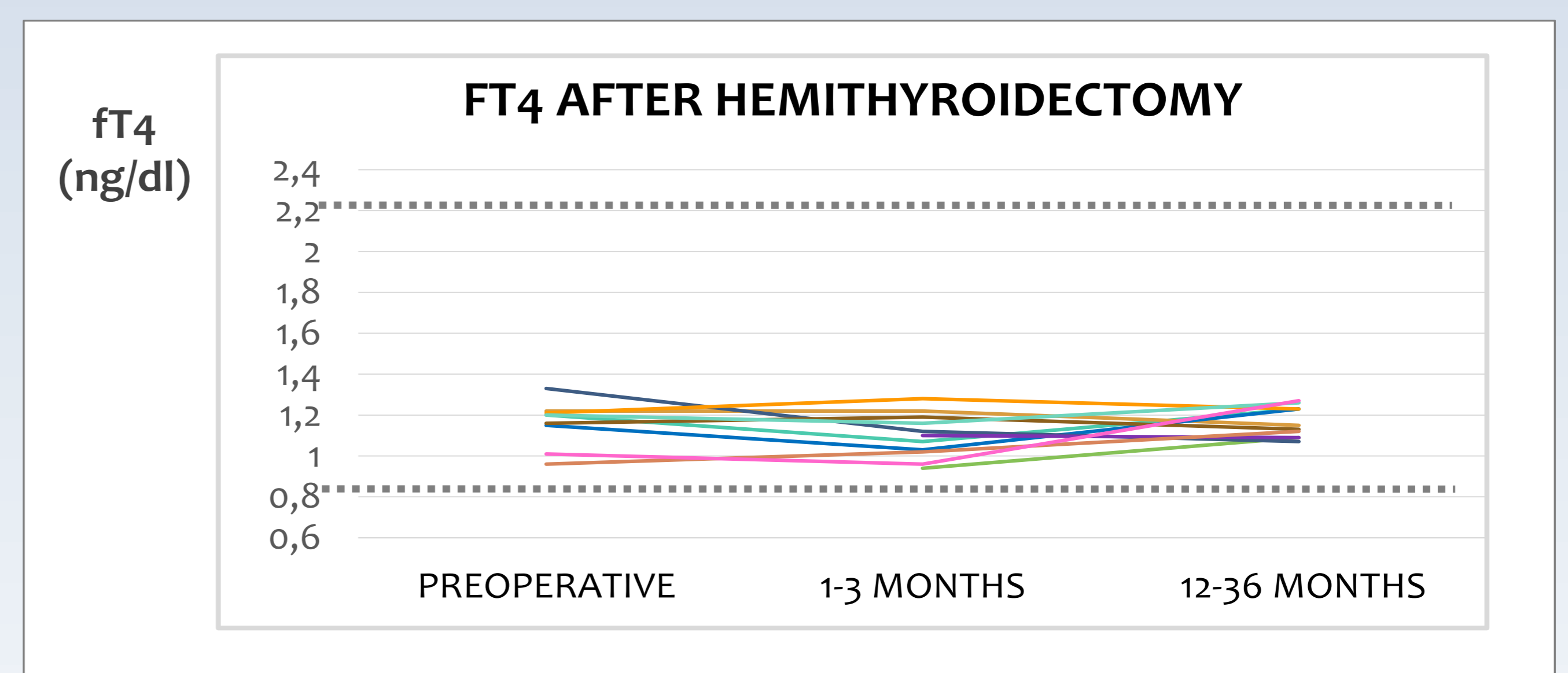
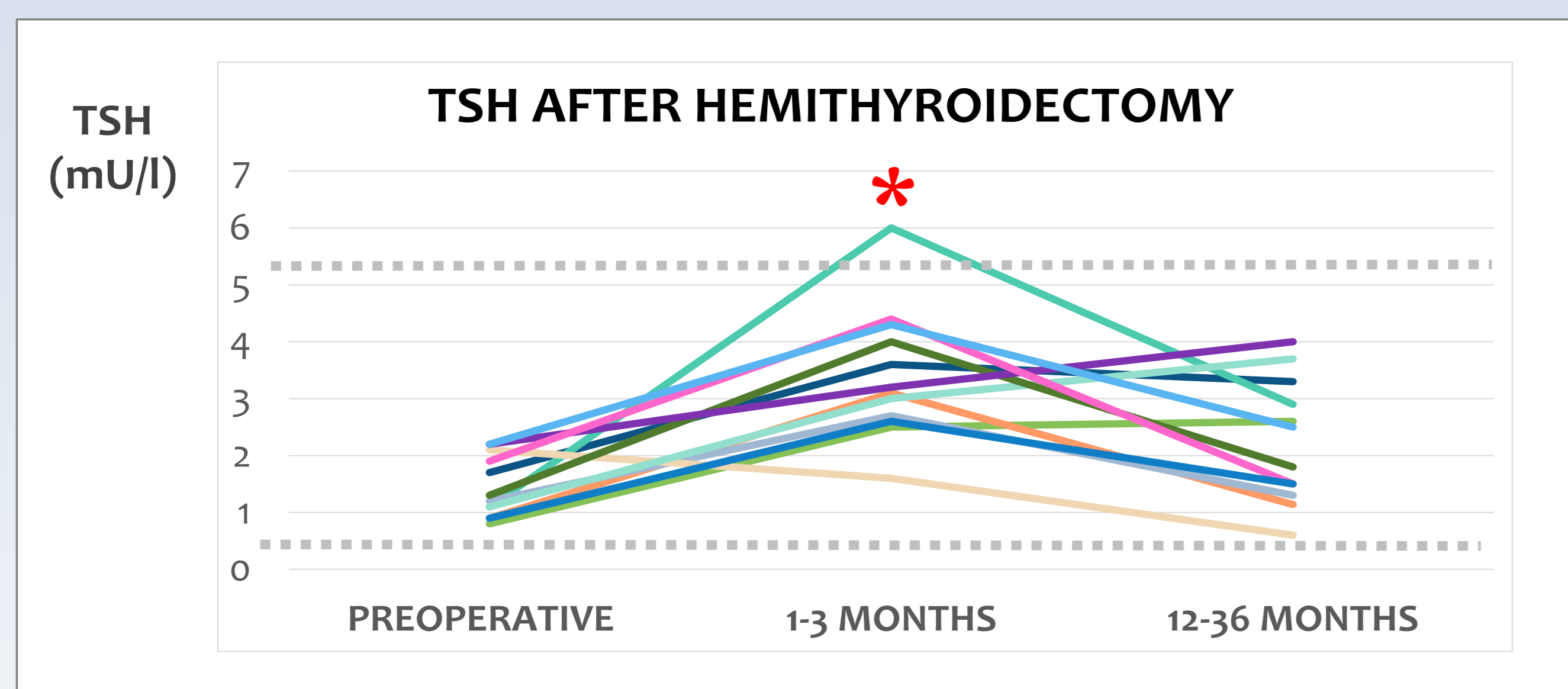
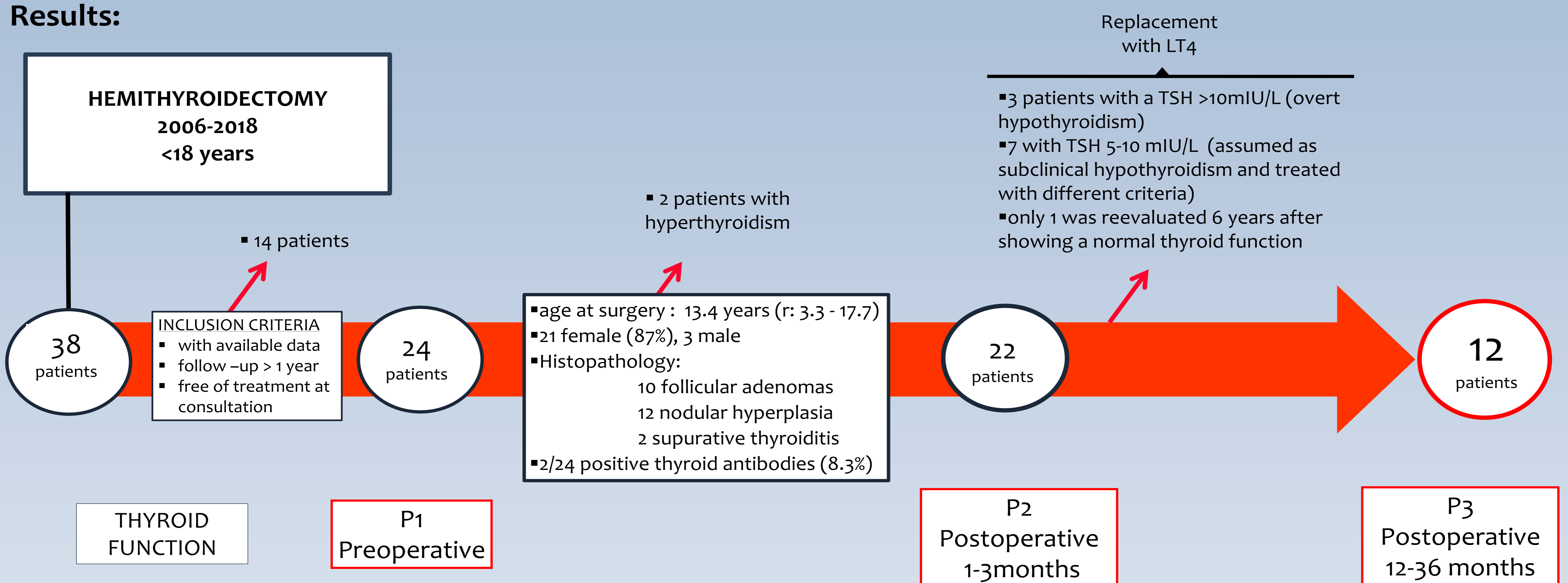
Objective: To describe the thyroid function in pediatric patients who underwent a hemithyroidectomy.

Design: Retrospective cohort study.

Patients and methods: Among the 38 patients that consulted the Endocrinology Unit and underwent hemithyroidectomy from 2006 to 2018, a total of 24 patients with available data who were followed up for more than a year and who were free of treatment at consultation were included in the analysis.

All patients were analyzed for age, sex, surgical indication and final pathologic analysis. Thyroid function (TSH, free T4 (fT4) and antithyroid antibodies were measured preoperative (P1) and postoperative at 1-3 months (P2) and 12-36 months (P3). Paired Anova test was performed to evaluate changes in TSH and fT4 levels ($p < .05$).

Results:



* $p < .05$ with respect to P1 and P2

- ✓ Median TSH and fT4 at P1 were 1.2 mIU/L (r: 0.8-2.2) and 1.2 ng/dl (r: 1-1.9), respectively.
- ✓ TSH at P2 showed a significant elevation when compared to TSH at P1 ($p < .05$).
- ✓ TSH at P3 showed a significant decline when compared to TSH at P2 ($p < .05$).
- ✓ TSH at P3 showed no difference to TSH at P1.
- ✓ FT4 was normal at P1, P2 and P3 showing no differences between them.

Conclusions

Thyroid function in this cohort of 12 pediatric patients who were not treated after hemithyroidectomy had transient changes characterized by a significant elevation of TSH at P2 and a significant decline at P3 -reaching similar levels to that observed at P1- with a stable fT4 suggesting an adaptive response.

Even when our cohort is too small, our results could suggest that the replacement with LT4 for subclinical hypothyroidism should be determined in a more cautious manner considering that the elevation of TSH < 10 mIU/l with normal fT4 can spontaneously normalize in further controls.

