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IS IT POSSIBLE TO PREDICT HYPOTHYROIDISM AFTER HEMITHYROIDECTOMY? A NOVEL PREDICTIVE SCORE

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Conclusions: Only 27.3% of our patients developed hypothyroidism after hemi-thyroidectomy with a median of 6 weeks (5-8) postoperatively (Fig 1). A simple **VATTA** model (Fig 2) including 5 factors could guide endocrine surgeons to predict the need of postoperative T4 requirement (PT4r). Among these factors preop US thyroiditis was more relevant with a greater OR (Fig 3).

Introduction: To preserve function, hemithyroidectomy (HT) is a well-known strategy for the surgical treatment of patients with low risk and limited thyroid or parathyroid cancer. Our aim was to investigate preoperative factors predicting PT4r among these patients.

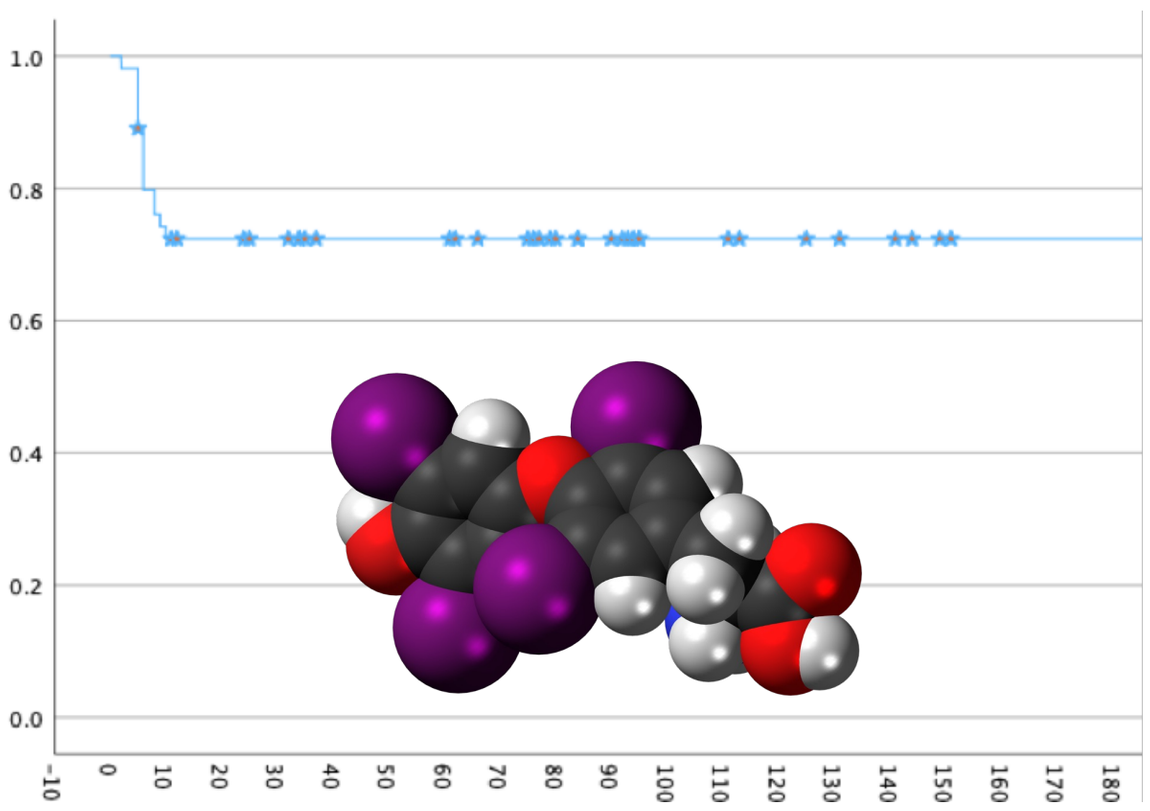
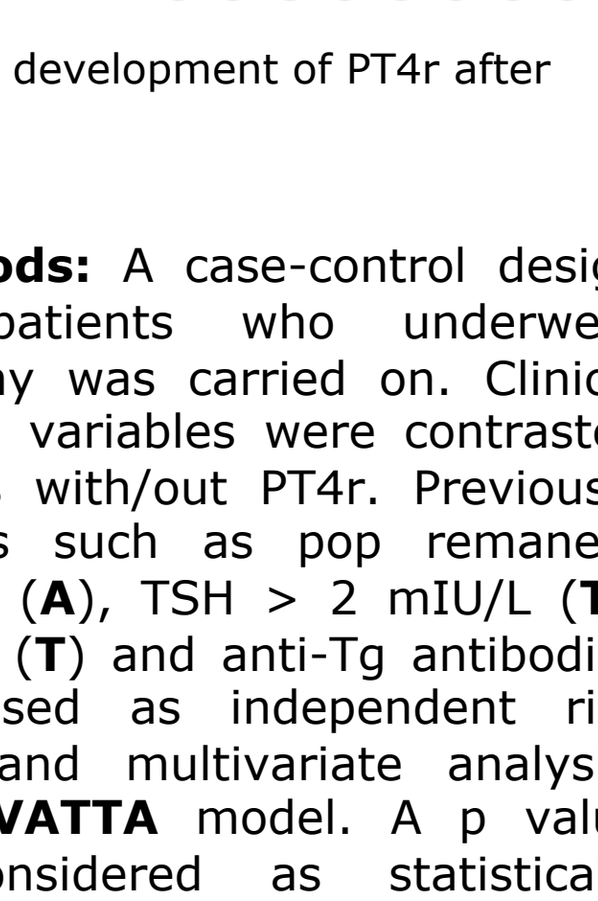


Figure 1. Weeks until development of PT4r after hemithyroidectomy

Materials & Methods: A case-control design including 55 patients who underwent hemithyroidectomy was carried on. Clinical and demographic variables were contrasted between patients with/out PT4r. Previously described factors such as pop remanent volume (**V**), age (**A**), TSH > 2 mIU/L (**T**), thyroiditis by US (**T**) and anti-Tg antibodies (**A**) were assessed as independent risk factors by bi- and multivariate analysis, integrating the **VATTA** model. A p value ≤0.05 was considered as statistically significant for a two-tailed hypothesis by means of IBM SPSS v20.



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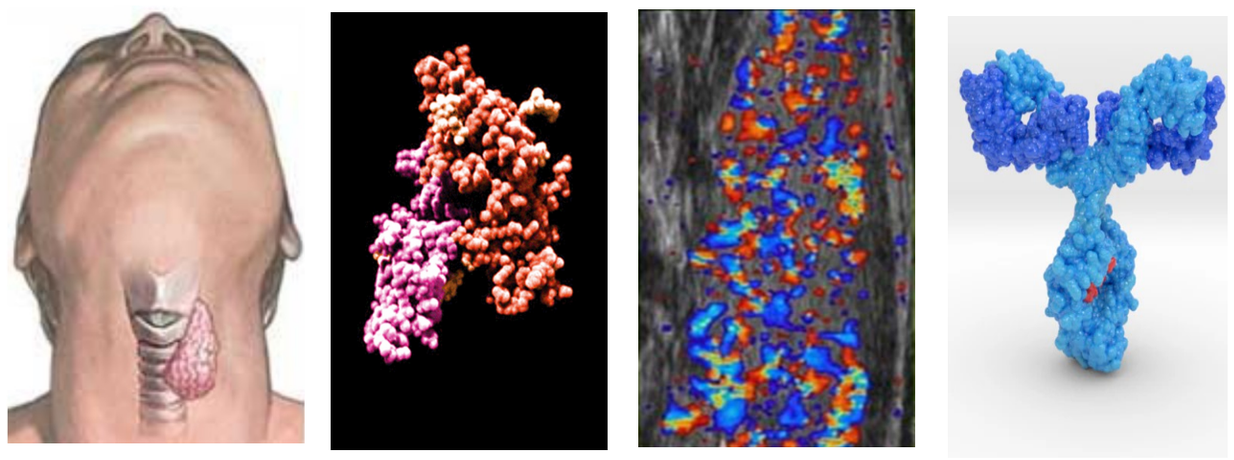
Results: 46/55 (83.6%) were female and 9 (16.4%) were males. Median (IIQ) age was 39 (18-77) years. PT4r was present in 15 (27.3%) and not in the remaining 40 (72.7%) patients. This took a median of 6 weeks (5-8) to be biochemically identified (Fig 1).

Volume < 15 cc | **Age > 46** | **TSH> 2mIU/L** | **Thyroiditis by US** | **Anti-Tg Abs**



V A T T A

Figure 2. VATTA model, each factor accounts for 1 point.

Based on our results, at least 2 out of 5 items were able to predict PT4r. This proposed novel score was significantly higher in patients with PT4r (20, 10-40 vs 50, 40-75 respectively; *p=0.03*). However, preoperative thyroiditis diagnosed by US was the most important predictive variable for PT4r (OR 6.12, $CI_{95\%}$ 1.5–24.3; *p=0.01*, Fig 3). Although other variables displayed greater OR, these did not result statistically significant by bivariate analysis but only as additive value in the multivariate analysis.

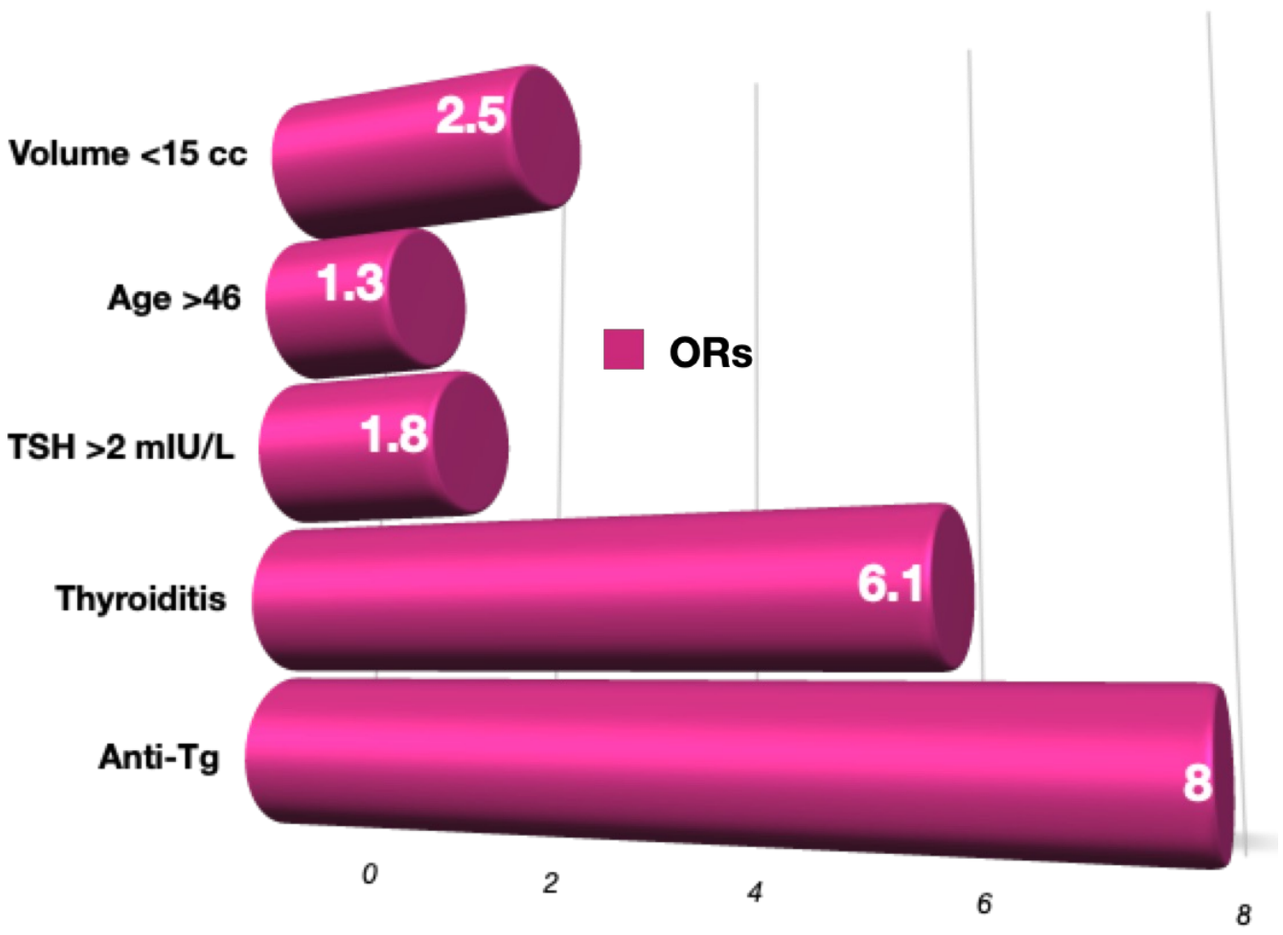
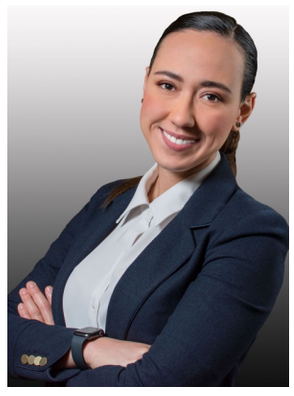


Figure 3. Odds ratio for the probability of developing hypothyroidism after hemithyroidectomy



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