

Risk Factors for the development of hypothyroidism after thyroid lobectomy

I Barka, F chaker, H bouzouita, M Chihaoui, O Kilani, M Yazidi, O Rejeb, H Slimane

Endocrinology departement , The Rabta University hospital , Tunis, Tunisia

Introduction:

Thyroid-lobectomy is a frequent procedure performed in patients with thyroid nodule. The aim of this study was to determine the prevalence of post-operative hypothyroidism and the risk factors of hypothyroidism in patients undergoing thyroid-lobectomy.

Patients and methods :

We retrospectively reviewed patients who underwent a thyroid lobectomy for benign disease. Patients with known hypothyroidism before surgery or on thyroid hormone suppressive therapy were excluded. We compared the age, the gender, the TSH level and the presence of thyroid antibodies between the patients who developed hypothyroidism after surgery (group 1) and those without hypothyroidism (group 2).

RESULTS :

- 69 patients (66 women and 3 men) were enrolled.
- The mean age at the moment of thyroidectomy was $41,67 \pm 13$ years
- Hypothyroidism was found in 28 patients (**40,6%**) (group 1). The diagnosis was made after a mean duration of $35,1 \pm 49,8$ months after lobectomy. 42,8% had subclinical hypothyroidism.
- Preoperative TSH level was significantly higher in group 1 than group 2. The age, the gender, the positivity of thyroid auto-antibodies and the weight of the resected tissue were the same in both groups (Table 1)

	Group 1	Group 2	P
Age (years)	$41,4 \pm 12$	$41,9 \pm 13$	0,89
Sexe féminin (%)	92,7	100	0,07
TSH préopérative(μ IU/ml)	$2,28 \pm 1$	$1,15 \pm 0,6$	<0,01
Positif thyroid antibodies(%)	0	12	0,47
Number of nodules	$1,7 \pm 1$	$2,5 \pm 1$	0,027

Table1: Characteristics of patients between group 1 (hypothyroidism) and group 2 (without hypothyroidism)

Preoperative TSH levels >2.5 mIU/L was significantly correlated with postoperative hypothyroidism ($P < 0.0001$)

Discussion and conclusions

- 46,3% of patients developed hypothyroidism after undergoing thyroid lobectomy for benign thyroid disease. This is consistent with others studies reported in the literature. The reported incidence ranges from 0% to 43%(1). This variability is strongly depend on how hypothyroidism was defined and the duration of the follow-up. Various factors have been reported as predictive factors of hypothyroidism such as older patient, high TSH levels, lower free T4 levels, presence of thyroid antibodies, histologic thyroiditis and smaller remnant volume (2). We have found that the incidence of hypothyroidism significantly correlated with higher preoperative serum TSH levels.

So that, Routine monitoring of TSH levels as well as thyroid anti-antibodies should be performed in all patients undergoing a thyroid-lobectomy.

References:

- 1- Beisa V, Kazanavicius D, Skrebunas A, Simutis G, Ivaska J, Strupas K Prospective analysis of risk for hypothyroidism after hemithyroidectomy. Int J Endocrinol. 2015
- 2- Verloop H(1), Louwerens M, Schoones JW, Kievit J, Smit JW, Dekkers OM. Risk of hypothyroidism following hemithyroidectomy: systematic review and meta-analysis of prognostic studies J Clin Endocrinol Metab. 2012 .