



EARLY THYROGLOBULIN AFTER TOTAL THYROIDECTOMY FOR INTERMEDIATE- OR HIGH-RISK DIFFERENTIATED THYROID CANCER PREDICTS PRE-ABLATION THYROGLOBULIN VALUES

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Introduction

The use of adjuvant treatment with radioactive iodine (RAI) ablation may be necessary depending on cancer stage, histological features and other factors that determine the risk of recurrence. The objective of RAI ablation is to negativize Tg to undetectable levels to ease the follow-up, and according to American Thyroid Association (ATA) criteria, it should be considered in selected patients with intermediate risk and all those classified as high risk.

Previously, we reported a strategy for patients with WDTC who underwent total thyroidectomy, leaving the patient without levothyroxine support for two weeks and measuring serum Tg two weeks after surgery in the early postoperative period

Objectives

To evaluate the correlation of serum Tg values measured 2 weeks after surgery (early postoperative) with the Tg value prior to RAI ablation (pre-ablative) in order to define its utility as a predictor of pre-ablative Tg.

Materials and methods

This is a retrospective analysis of a cohort recruited prospectively from 2016 to 2019. The study was authorized by the Research Bioethics Committee at the University of Antioquia.

N		89
Age (mean±SD)	44,9±14	45
Sex (Fem)	71	79,8%
Tumor size (mean±SD)	24,2±15,9	20
Neck dissection	53	59,6%
Extrathyroidal extension		
No	53	59,6%
Microscopic	29	32,6%
Macroscopic	7	7,9%
Lymphovascular invasion	37	41,6%
ATA risk level		
Intermediate	50	56,2%
High	39	43,8%
I131 dose		
30-100	55	61,8%
>100	34	38,2%
AbTg levels at postoperative period		
Normal	75	84,3%
High	14	15,7%
Metastatic focus at RAI ablation	2	2,2%
Time from surgery to lab tests	19,1±5,5	18
0-15 days	22	24,7%
>15 days	67	75,3%
Time from ablation to laboratory tests	61,5±61,2	40
Tg behavior from postoperative period to preablation		
Decrease/stable	68	76,4%
Increase	21	23,6%

Table 1. Patients characteristics

Patients with a diagnosis of WDTC who fulfilled the following inclusion criteria were enrolled: >18 years, diagnosis of papillary/follicular carcinoma by FNAB,

total or complementary thyroidectomy w/wo central/lateral neck dissection, intermediate or high risk by ATA guidelines..

All patients were left without levothyroxine support after surgery and for two weeks when the first postoperative control occurred. We measured biochemical markers two weeks after thyroidectomy and initiated levothyroxine support at doses of 1.5-2 mcg/Kg after taking serum samples.

Results

We included 89 patients. Table 1. The median time between surgery and biochemical serum marker measurement was 18 days. Twenty-two patients (24.7%) were measured at 2 weeks, and 67 (75.3%) were measured between two weeks and 30 days.

	Postoperative		Preablation	
	Median/%		Median/%	
TSH	58,2±39	52,0	113,1±76,4	95,8
0-15	8	9,0%	4	4,5%
16-30	15	16,9%	85	95,5%
>30	66	74,2%	0	0,0%
Tg	37,4±80,6	7,6	24,2±61,9	2,9
≤ 2	30	33,7%	41	46,1%
2,1-10	19	21,3%	19	21,3%
10,1-50	24	27,0%	18	20,2%
>50	16	18,0%	11	12,4%
AbTg	161,7±632,9	17,0	76,3±216	16,3
Normal	75	84,3%	80	89,9%
High	14	15,7%	9	10,1%

Table 2. Biochemical markers behavior

The mean postoperative and pre-ablative TSH values and pre-ablative Tg values are shown in Table 2. The comparison between early post-operative and pre-ablative Tg values showed that Tg decreased or remained stable at postoperative levels in 86 patients (96.6%) and increased in 3 (3.4%). Figure 1.

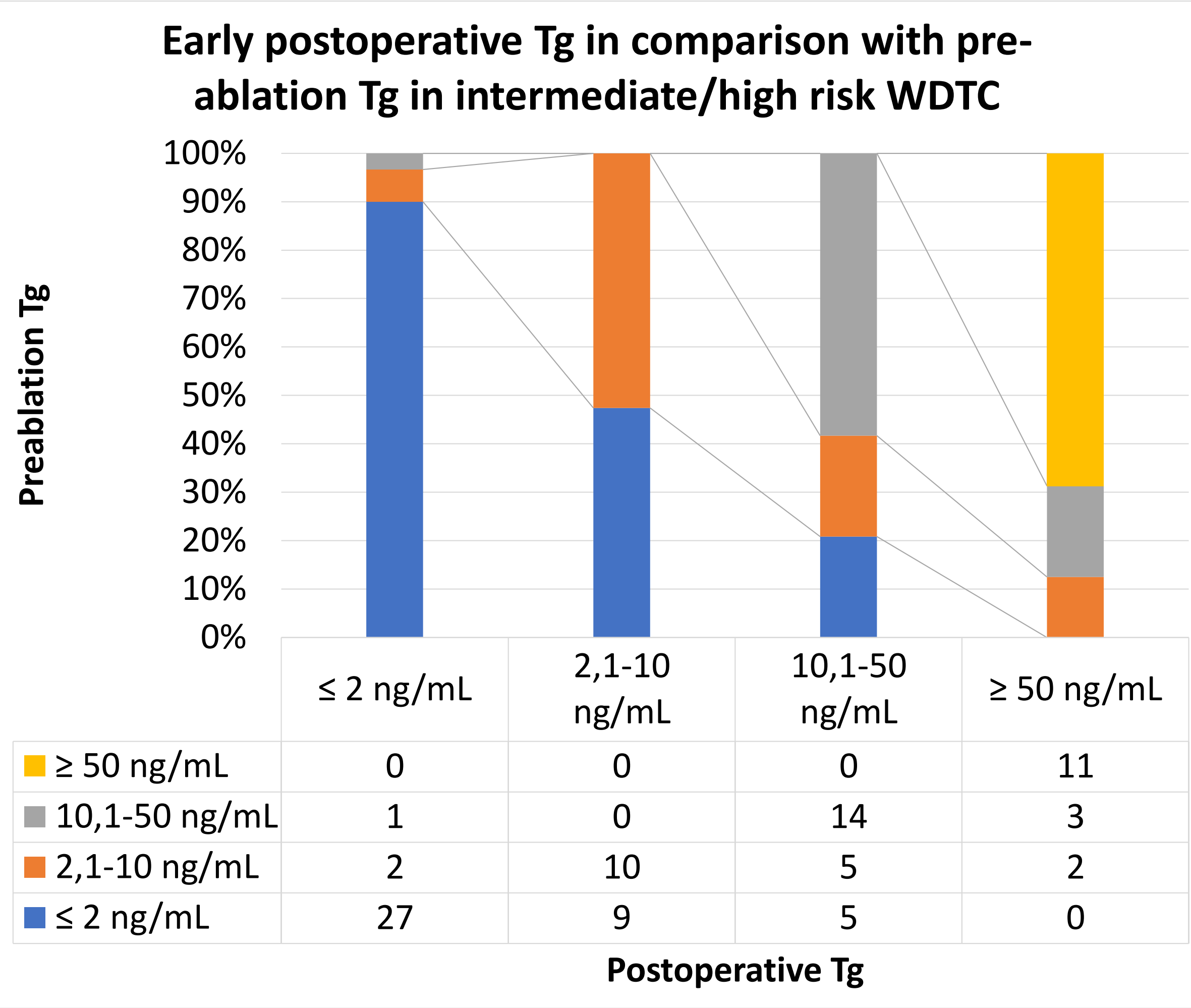


Figure 1. Comparison between early and preablative Tg

Conclusion

Postoperative Tg measurements at two weeks are a reliable marker of preablative Tg levels in patients with intermediate- and high-risk thyroid carcinoma who are candidates for RAI ablation. This early Tg could help decrease the use of RAI ablation in those patients who have low postoperative levels