



A. Kowalska<sup>1)</sup>, D. Gąsior-Perczak<sup>1)</sup>, I. Pałyga<sup>1)</sup>, T. Trybek<sup>1)</sup>, A. Słuszniaik<sup>2)</sup>

## Is ultrasensitive Tg measurement capable of substituting for Tg measurement after rhTSH stimulation in evaluation of effectiveness of radioiodine ablation in patients with differentiated thyroid cancer

<sup>1)</sup>Endocrinology Department, Holycross Cancer Centre, Kielce, Poland  
<sup>2)</sup>Laboratory of Tumor Markers, Holycross Cancer Centre, Kielce, Poland

### INTRODUCTION

Undetectable concentration of Tg after rhTSH stimulation (Tg/rhTSH) is one of the most important criteria in evaluating the effectiveness of radioiodine ablation in patients with differentiated thyroid cancer (DTC) treated with 131I

### AIM

To evaluate the possibility of using Tg measurements during L-T4 (Tg/L-T4) treatment by the ultrasensitive method, instead of Tg measurements after rhTSH stimulation (Tg/rhTSH), in assessment of response to the initial treatment of DTC.

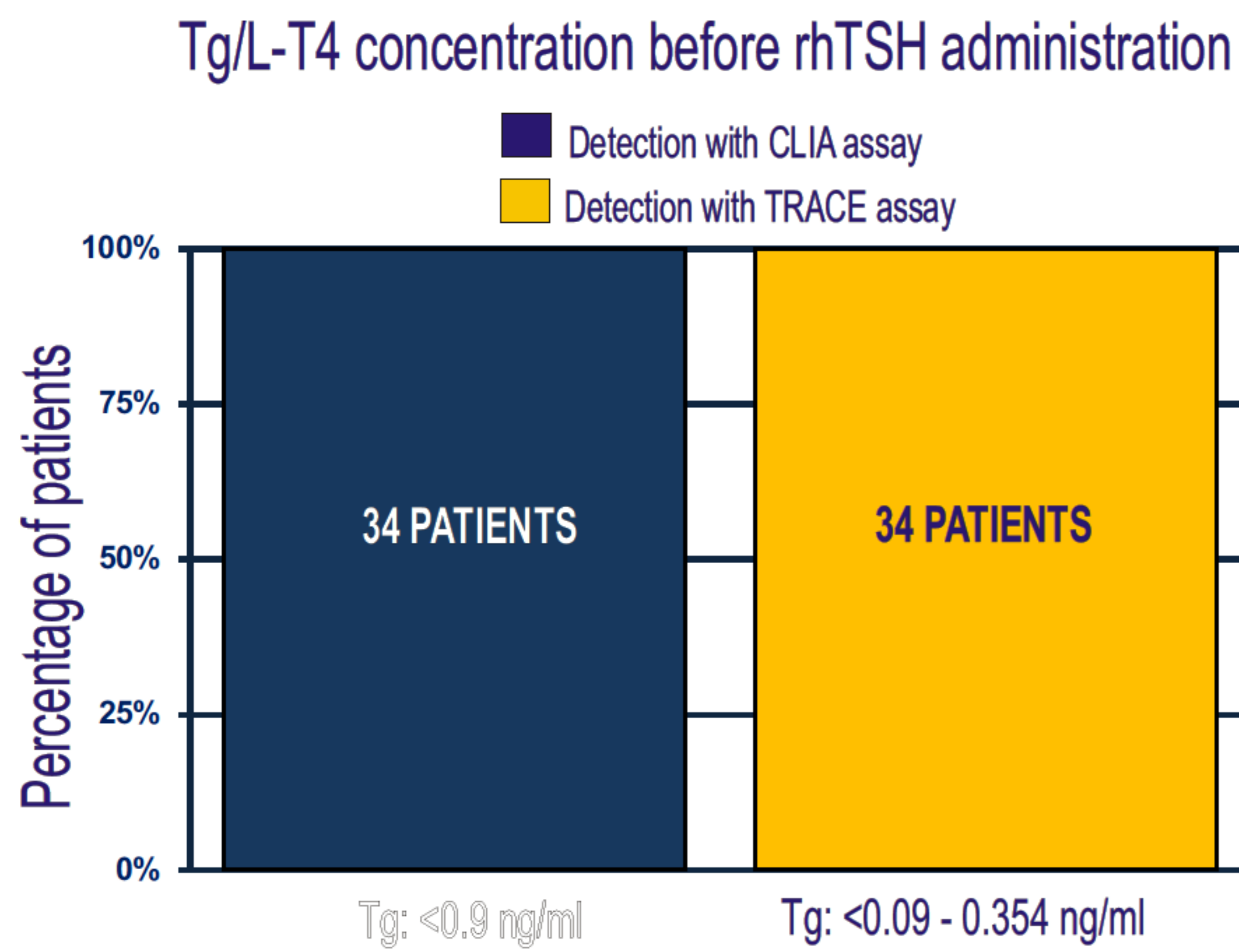
### MATERIAL

The study was performed on 34 consecutive DTC patients after surgery and adjuvant treatment with 131I, referred for evaluation of ablation effectiveness 9 months after 131I treatment.

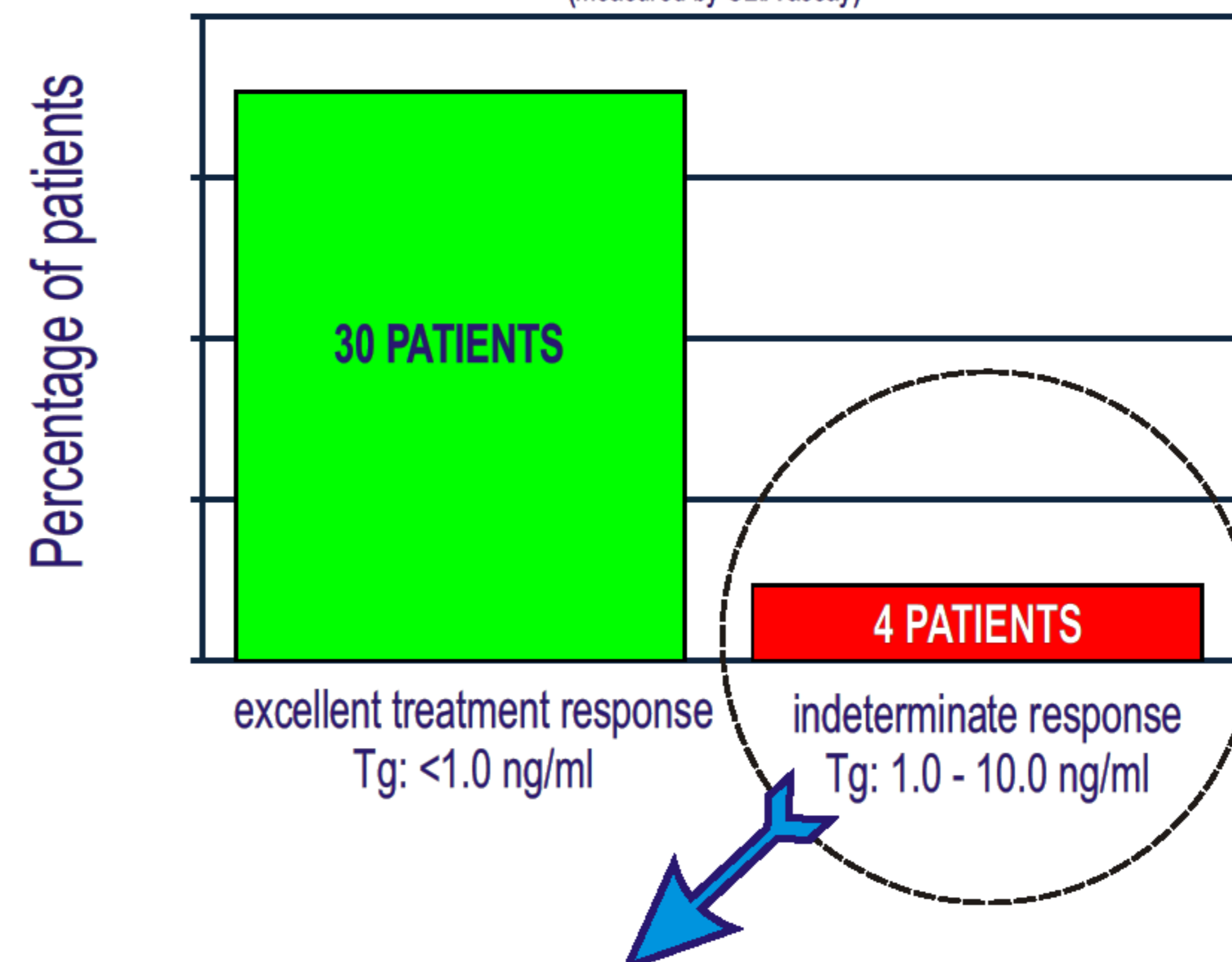
### METHOD

Tg measurement was performed in patients during L-T4 treatment at 2 time points: before administration of rhTSH and 5 days after the first injection, using both tests: Tg detection with CLIA (analytical sensitivity 0.2 ng/ml and functional sensitivity of 0.9 ng/ml) and Tg by TRACE (analytical sensitivity of 0.09 ng/ml and functional sensitivity 0.15 ng/ml).

### RESULTS



Tg/rhTSH concentration after rhTSH administration (measured by CLIA assay)



	PATIENT			
	1	2	3	4
Tg/rhTSH concentration after rhTSH administration (measured by CLIA assay) [ng/ml]	1.02	1.83	2.20	9.24
Tg/L-T4 concentration before rhTSH administration (measured by TRACE assay) [ng/ml]	0.09	0.1141	0.1629	0.09

### CONCLUSIONS

1. None of the four cases with indeterminate response to ablation showed elevated Tg/L-T4 concentrations according to the ultrasensitive TRACE assay.
2. Results in our trial group do not entitle us to recommend determinations of Tg/L-T4 with the TRACE method instead of the Tg/rhTSH in assessing the ablation efficacy.
3. It is necessary to validate the method on a larger group of patients.