

AIM:

Investigate, in patients with differentiated thyroid cancer (DTC) if thyroglobulin values, immediately before and six months post radioiodine ablation are good predictors of disease progression.

MATERIALS AND METHODS:

Basal thyroglobulin values (Tg-B) and rhTSH stimulated thyroglobulin (Tg-S) before ablation (0) and six months later (6) from 142 DTC patients, with post-surgical ablation therapy between 2003 and 2009 with a follow up of five years, were analyzed.

RESULTS:

After 5 years of follow up

FD (free of disease): 121 patients (85.2%)
 PD (persistent disease): 15 (10.6%)
 Died: 6 patients (4.2%)

BASAL TIME:

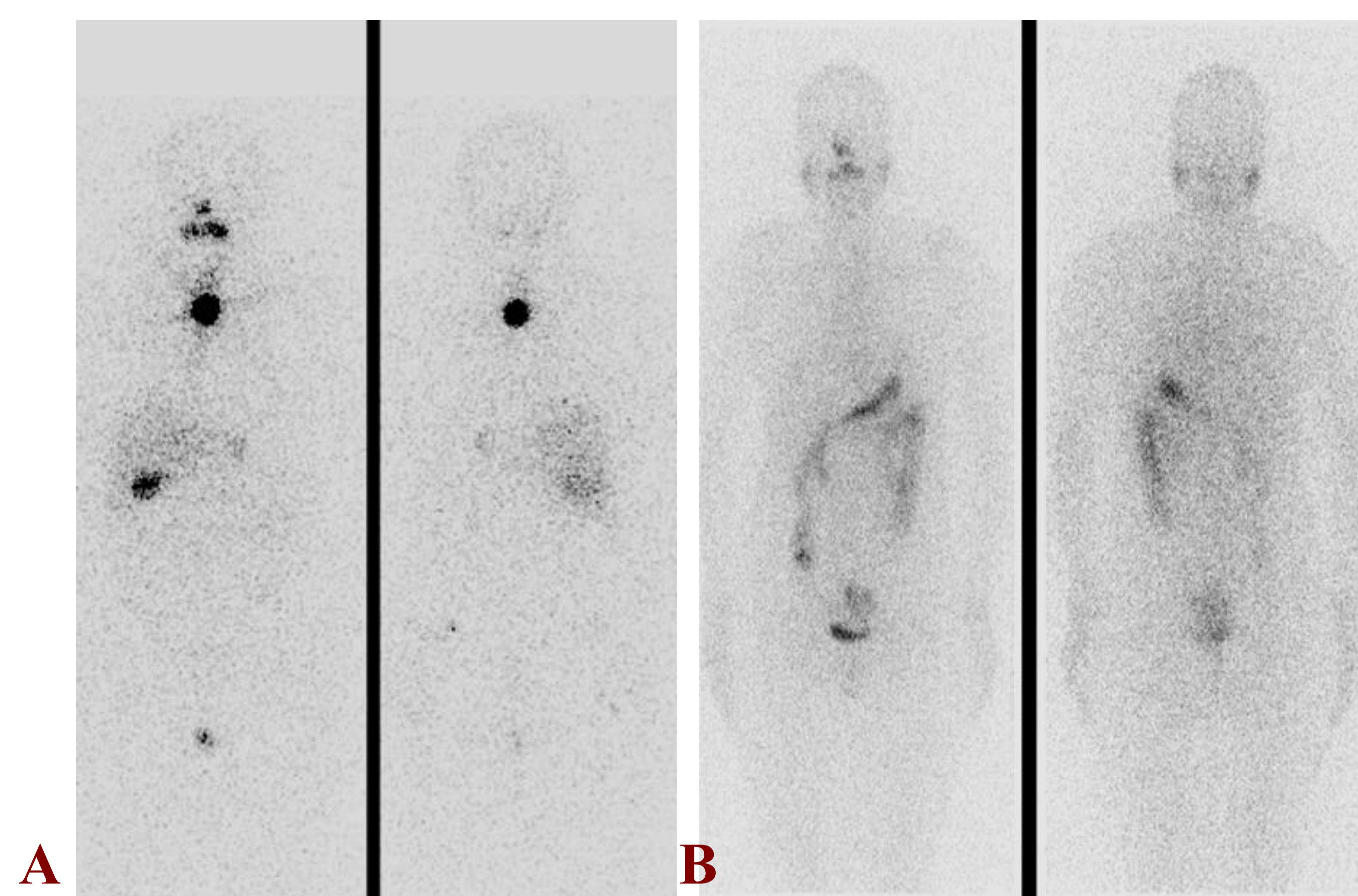
- A Tg-B-0 <0.2 ng / ml. was present in 39 patients (27.5%)
 - only one (2.5%) has ED because of positive antibodies
 - only one (2.5%) needed retreatment.
- A Tg-B-0 > 0.2 ng / ml, was present in the 103 patients (72.5%)
 - 21 patients (20.4%) had ED
 - 27 (26.2%) needed retreatment
- A Tg-S-0 <1 ng / ml was found in 34.8%
 - one (2.6%) was ED
 - one (2.6%) required retreatment.
- A Tg-S-0 > 1 ng / ml was in 65.2%
 - 22.5% was considered ED
 - 26.7% have required retreat.

6 MONTH LATER

- Tg-B-6 ablation > 0.2 ng / ml, 40% was ED and 46.7% required retreatment and when
- Tg-S-6-ablation > 1 ng / ml, 56% was ED, and 67% required retreatment

Criteria for Persistence Disease (PD):

- death because of DTC
- persistence of anti-Tg antibodies
- clinical / biochemical evidence
 - Tg-B > 0.2ng/ml
 - Tg-S > 1ng/ml



A 54-years-old woman with DTC in the WBS at the fifth day after ablation (A) and in the control of therapeutic efficacy at the 6 months (B). Tg-B-0 <0,2ng/ml; Tg-S-0 <1ng/ml; Tg-B-6<0,2ng/ml; Tg-S-6 <1ng/ml. After 5 years this patient was free of disease.

	Tg-B-0	Tg-S-0	Tg-B-6	Tg-S-6
SENSITIVITY	31	42	77	87
SPECIFICITY	95	94	94	86
NPV	97	97	95	97
PPV	20	27	75	56

- Tg-B-0 lower than 0,2 is the parameter that shows a higher specificity (95%) with a high NPV (97%), while Tg-S-6 lower than 1ng/ml is the one that has higher sensibility(87,2%) with a PPV of 56%.

CONCLUSION:

- ✓ The Tg-B-0 has a high specificity but low sensibility in predicting the evolution of disease.
 - When Tg-B-0<0,2mg/ml only 5% of the patients are PD after first ablation.
- ✓ The Tg-S-0: has not provides additional information.
- ✓ After radioiodine ablation, Tg-S-6 has the higher sensibility (87%) and high specificity (86%).

