

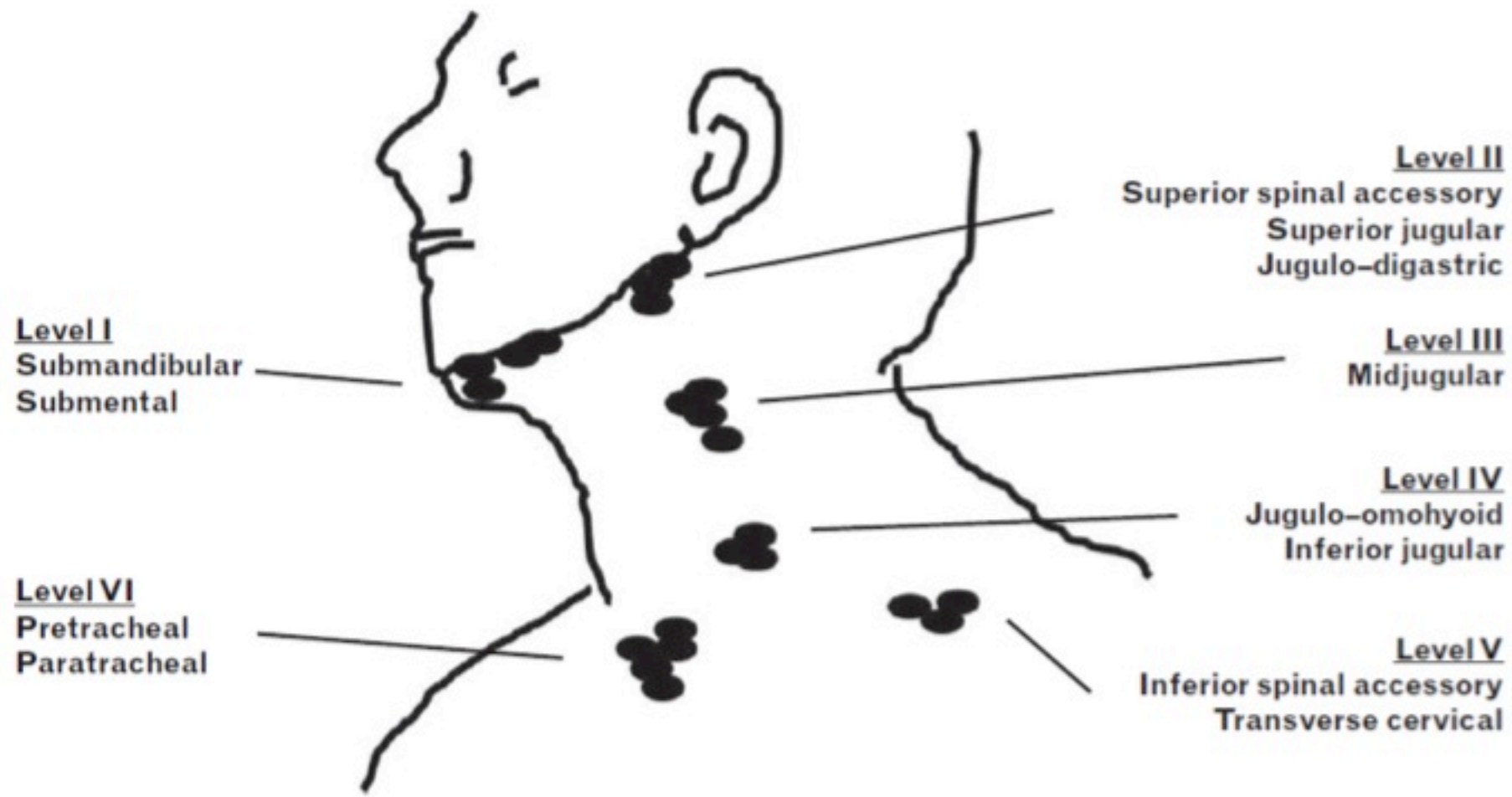


Minicorso 1

Follow-up del carcinoma tiroideo
a rischio intermedio-alto

La sorveglianza loco-regionale

Pierpaolo Trimboli
Ospedale Israelitico, Roma



- ❑ DTC involves cervical lymph nodes in 20-50% of patients
- ❑ Preoperative US identifies 50% of neck metastatic lymph nodes detected at surgery
- ❑ sensitivity of CT, MRI, and PET in neck metastases is low (30–40%)

2013 European Thyroid Association Guidelines for Cervical Ultrasound Scan and Ultrasound-Guided Techniques in the Postoperative Management of Patients with Thyroid Cancer

L. Leenhardt^a M.F. Erdogan^b L. Hegedus^c S.J. Mandel^d R. Paschke^e
T. Rago^f G. Russ^a

"clinical" TNM



Ross T. Sutton, MD • Carl C. Reading, MD • J. William Charboneau, MD
• E. Meredith James, MD • Clive S. Grant, MD • Ian D. Hay, MB, PhD

**US-guided Biopsy of Neck Masses
in Postoperative Management
of Patients with Thyroid Cancer¹**

Role of Neck Ultrasonography in the Follow-up of Patients Operated on for Thyroid Cancer

ALESSANDRO ANTONELLI,¹ PAOLO MICCOLI,² MARCO FERDEGHINI,³ GIANCARLO DI COSCIO,⁴
BALDASSARE ALBERTI,¹ PIETRO IACCONI,² VITTORIA BALDI,¹ POUPAK FALLAHI,¹ and
LIDIO BASCHIERI¹

or Tg. In this study, we tried to define the role of neck ultrasonography in follow-up of a group of patients with differentiated thyroid cancer (DTC) who had a negative WBS after surgery.

16 cases with lymph nodes suspicious at US

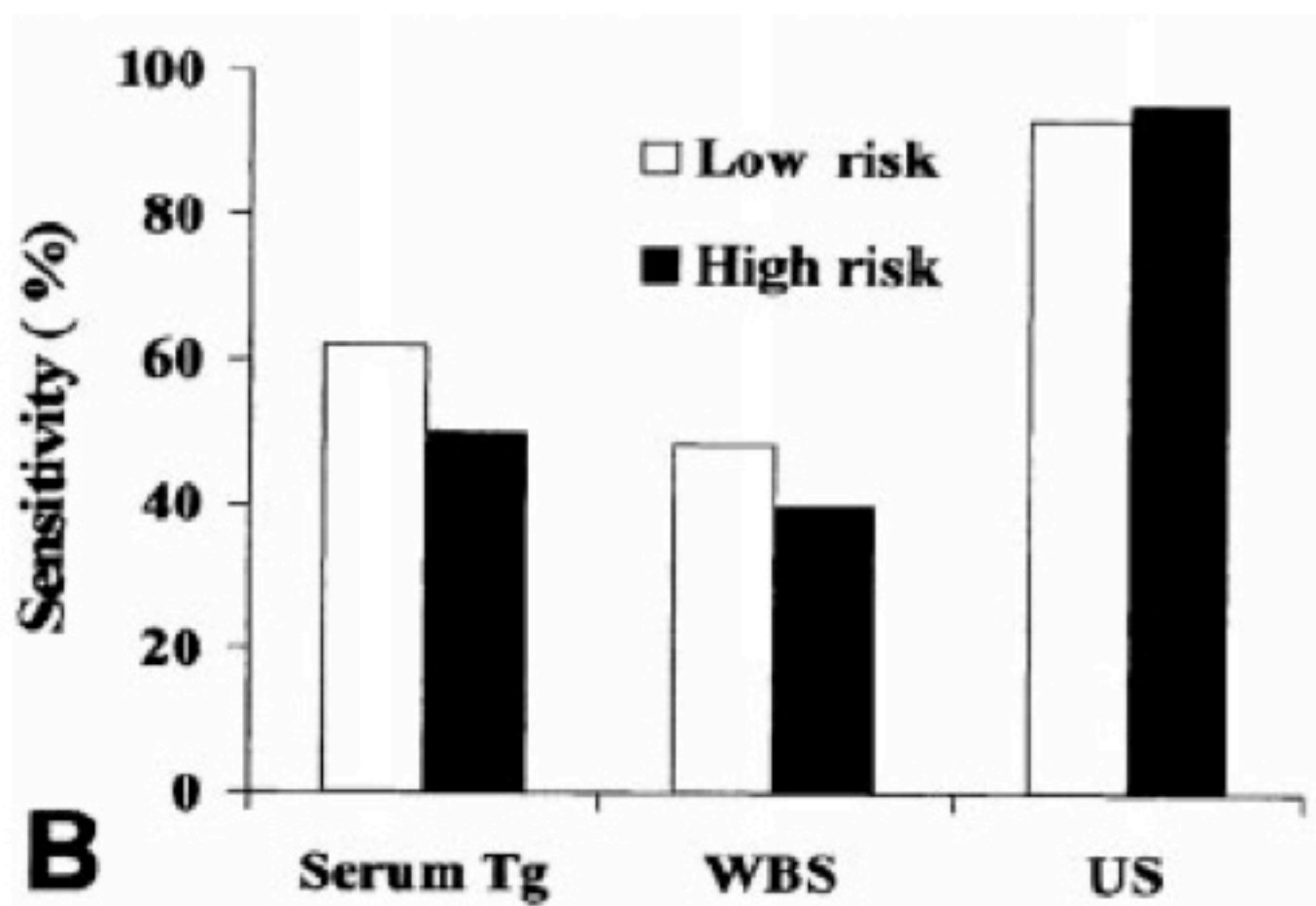
<i>Lymph node number</i>	<i>Lymph node max diameter (mm)</i>	<i>Metastasis or lymphadenitis</i>	<i>Recurrence, site, and dimension (mm)</i>	<i>Thyroglobulin (ng/mL)</i>
5 Bilateral	16	Metastasis	Right: 39 × 31 × 31	>1000
4 Bilateral	40, 1 cystic	Metastasis	Left: 29 × 23 × 21	550
2 Monolateral	15	Metastasis	Left: 15 × 15 × 13	370
—	—	—	Left: 10 × 11 × 9	230
1	10	Metastasis	—	<3
2 Monolateral	12	Metastasis	—	45
3 Bilateral	15, 1 cystic	Metastasis	—	150
2 Monolateral	12	Metastasis	—	23
1	12	Metastasis	—	<3
2 Monolateral	14	Metastasis	—	78
3 Bilateral	17	Metastasis	—	173
4 Bilateral	13	Metastasis	—	134
2 Bilateral	13	Lymphadenitis	—	<3
3 Bilateral	15	Lymphadenitis	—	<3
2 Monolateral	12	Lymphadenitis	—	<3
2 Bilateral	10	Lymphadenitis	—	<3

TABLE 1. Comparison of diagnostic accuracies of different tests in detecting or excluding loco-regional disease

	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
Neck ultrasound	70	97.5	77.7	92.4
Diagnostic ¹³¹ I WBS	20	100	100	91
Stimulated Tg	78.2	100	100	98.6

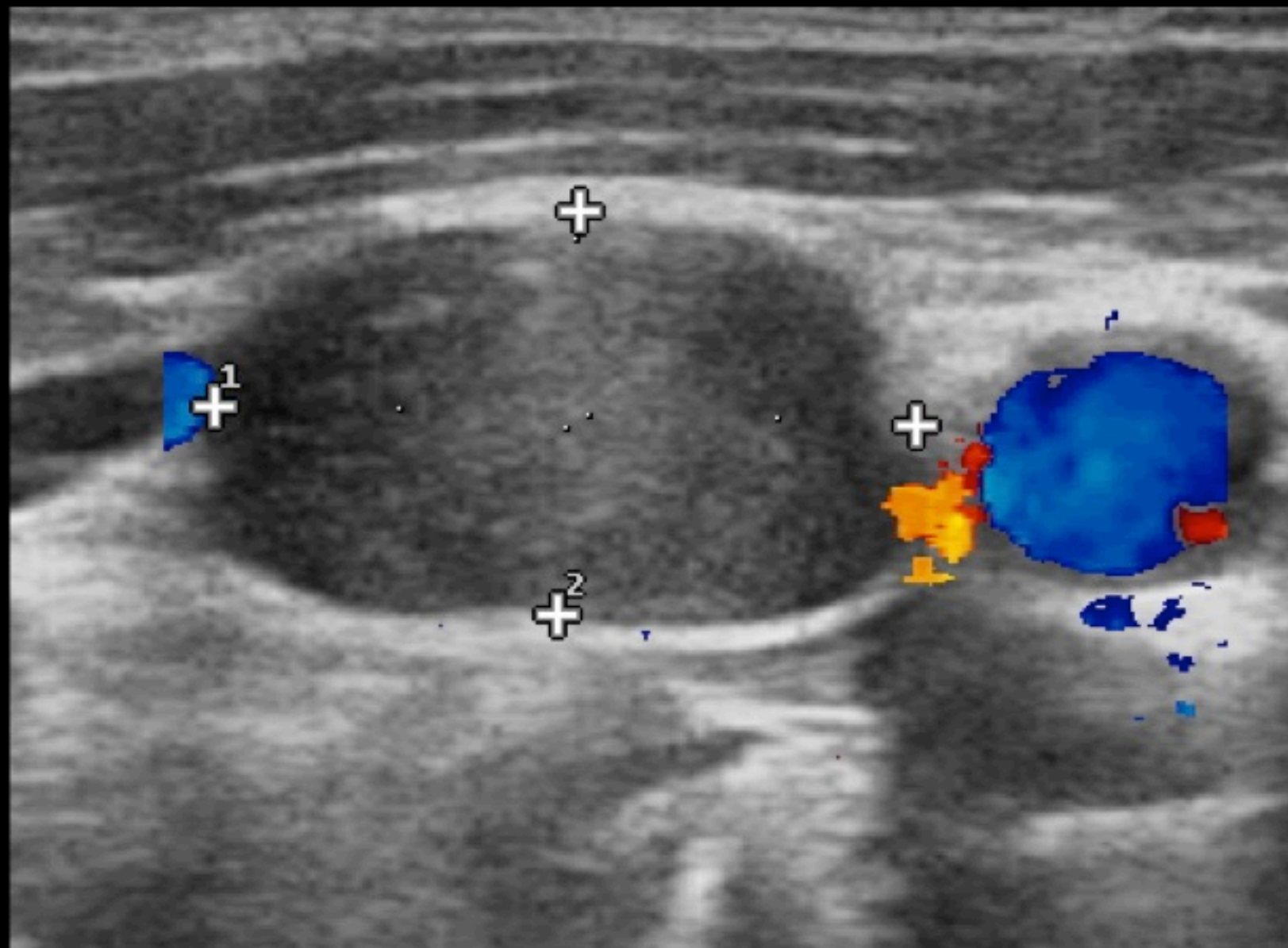
TABLE 2. Diagnostic accuracies of rhTSH-stimulated Tg, TSH ¹³¹I WBS, and neck ultrasound for detecting or excluding metastatic disease in the low and high risk patients

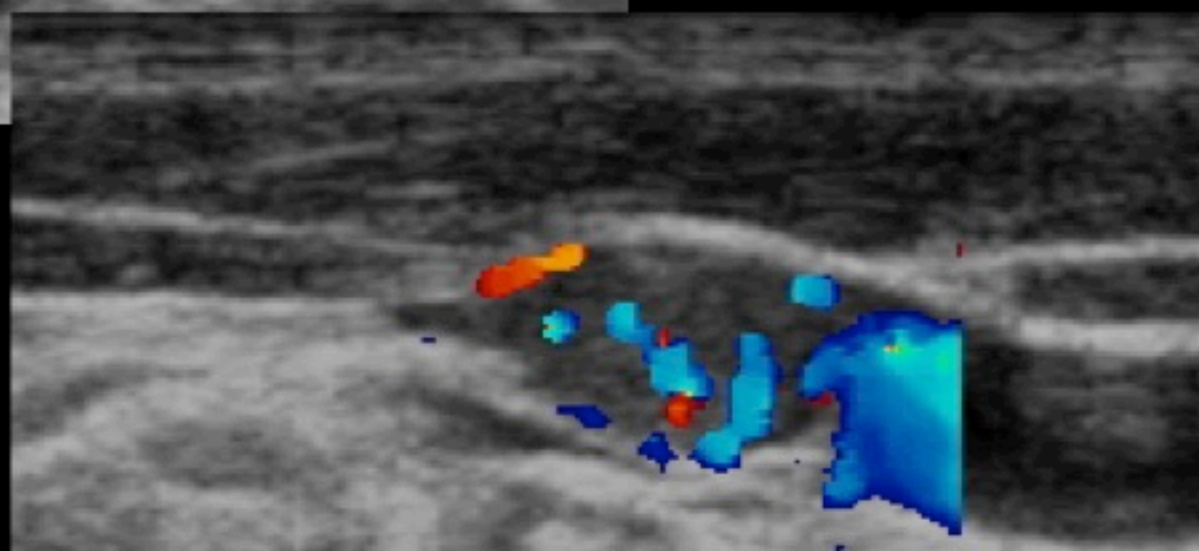
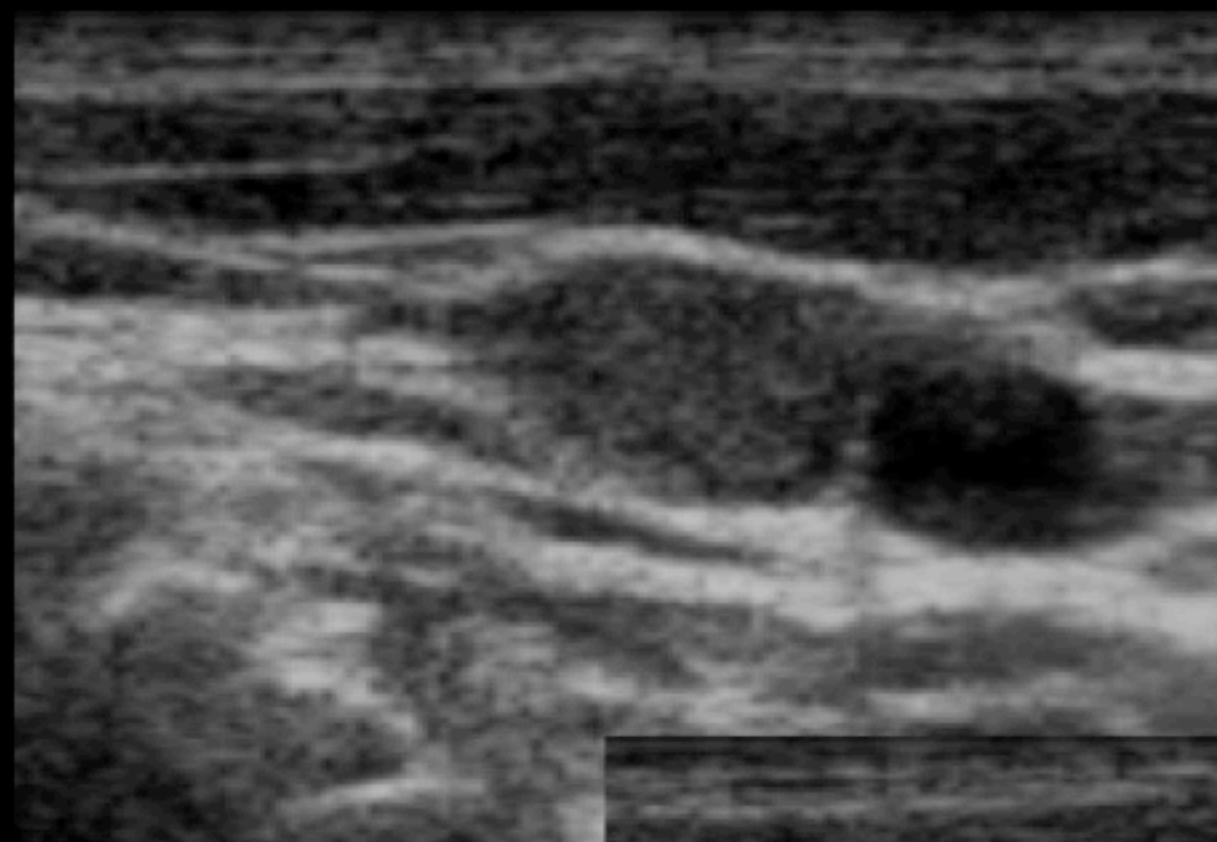
	rhTSH-Tg (%)	Diagnostic WBS (%)	rhTSH-Tg + US (%)	rhTSH-Tg + WBS (%)
Low risk	85.7	4.7	100	85.7
High risk	84.6	88.8	92.3	100

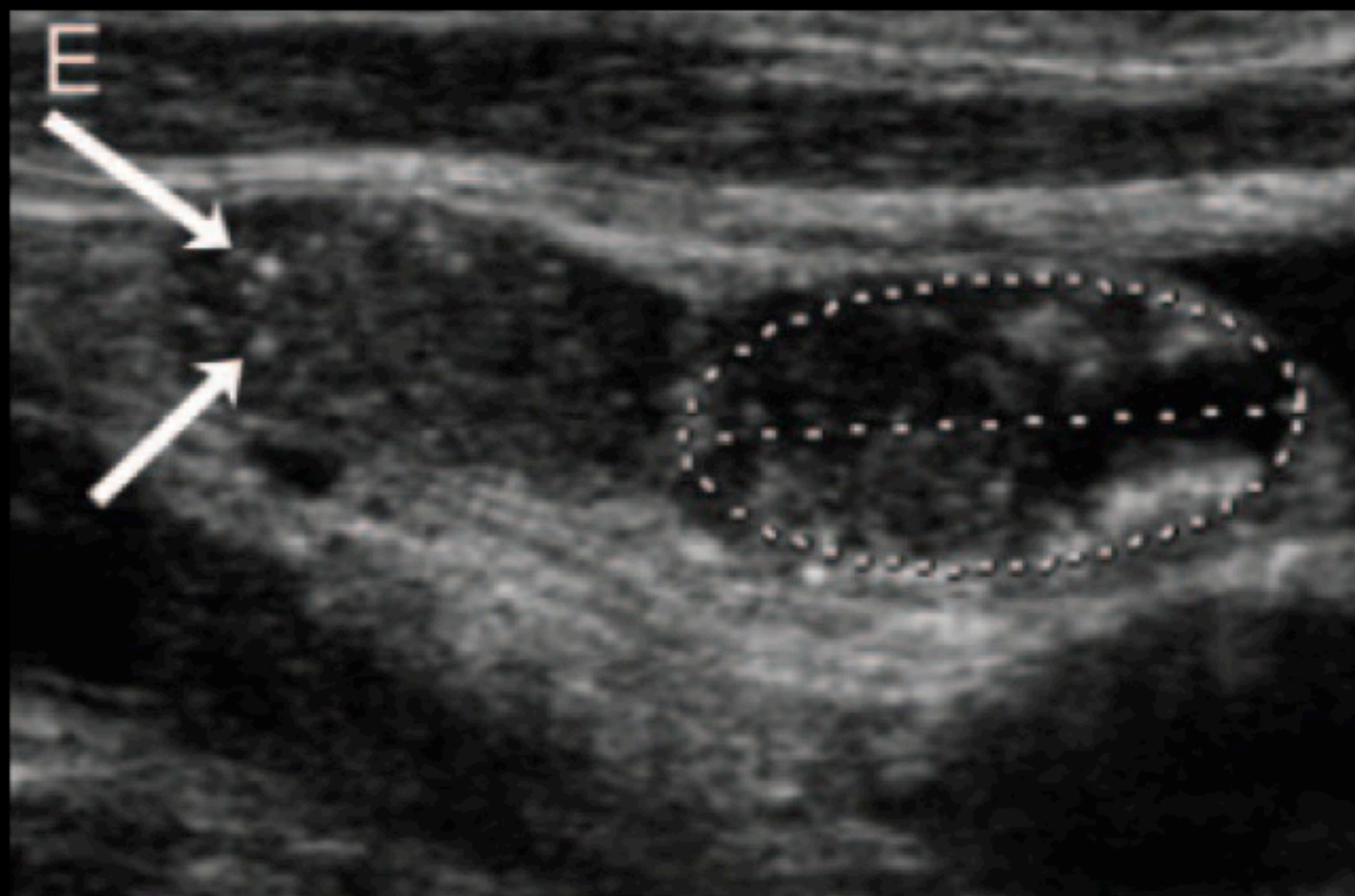


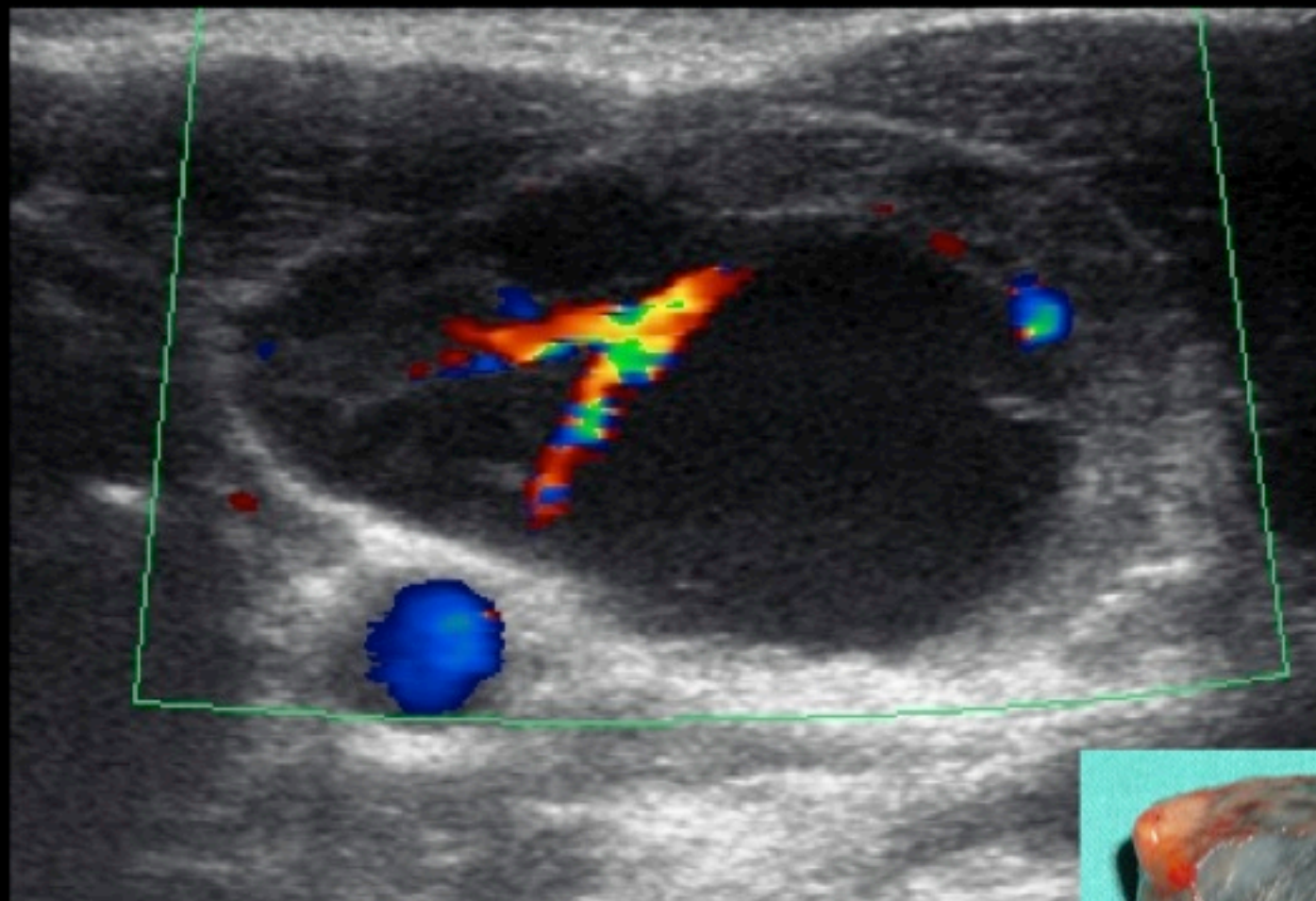
In conclusion, neck US detects recurrences in patients with undetectable serum Tg levels and negative WBS. It should be performed as the first-line test in the follow-up of all DTC patients.

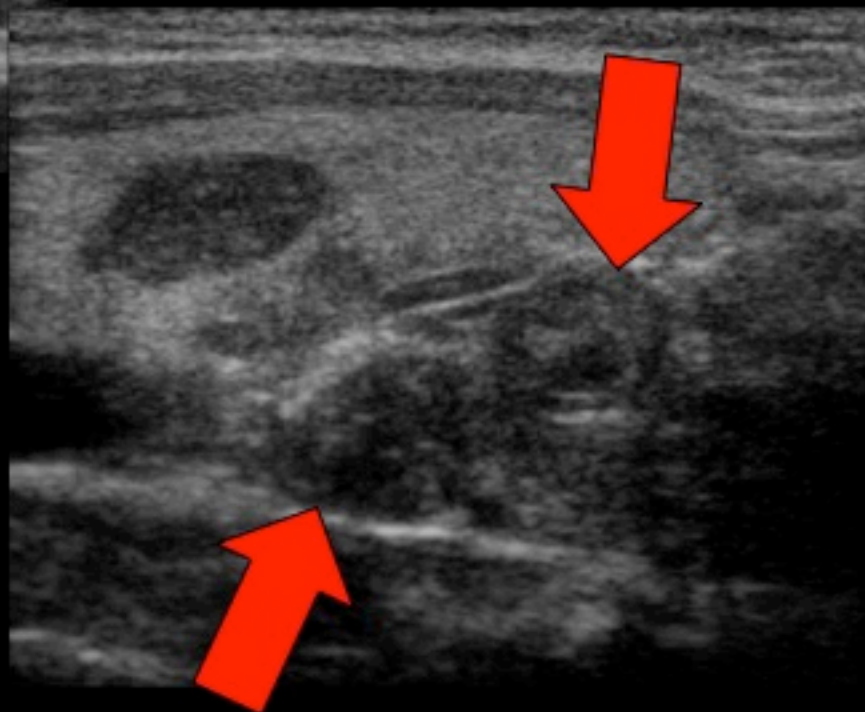
Sign	Sensitivity, %	Specificity, %
Microcalcifications	5–69	93–100
Cystic aspect	10–34	91–100
Peripheral vascularization	40–86	57–93
Hyperechogenicity	30–87	43–95
Round shape	37	70
Hilum present	0–0.5	
Absent vascularization	0	

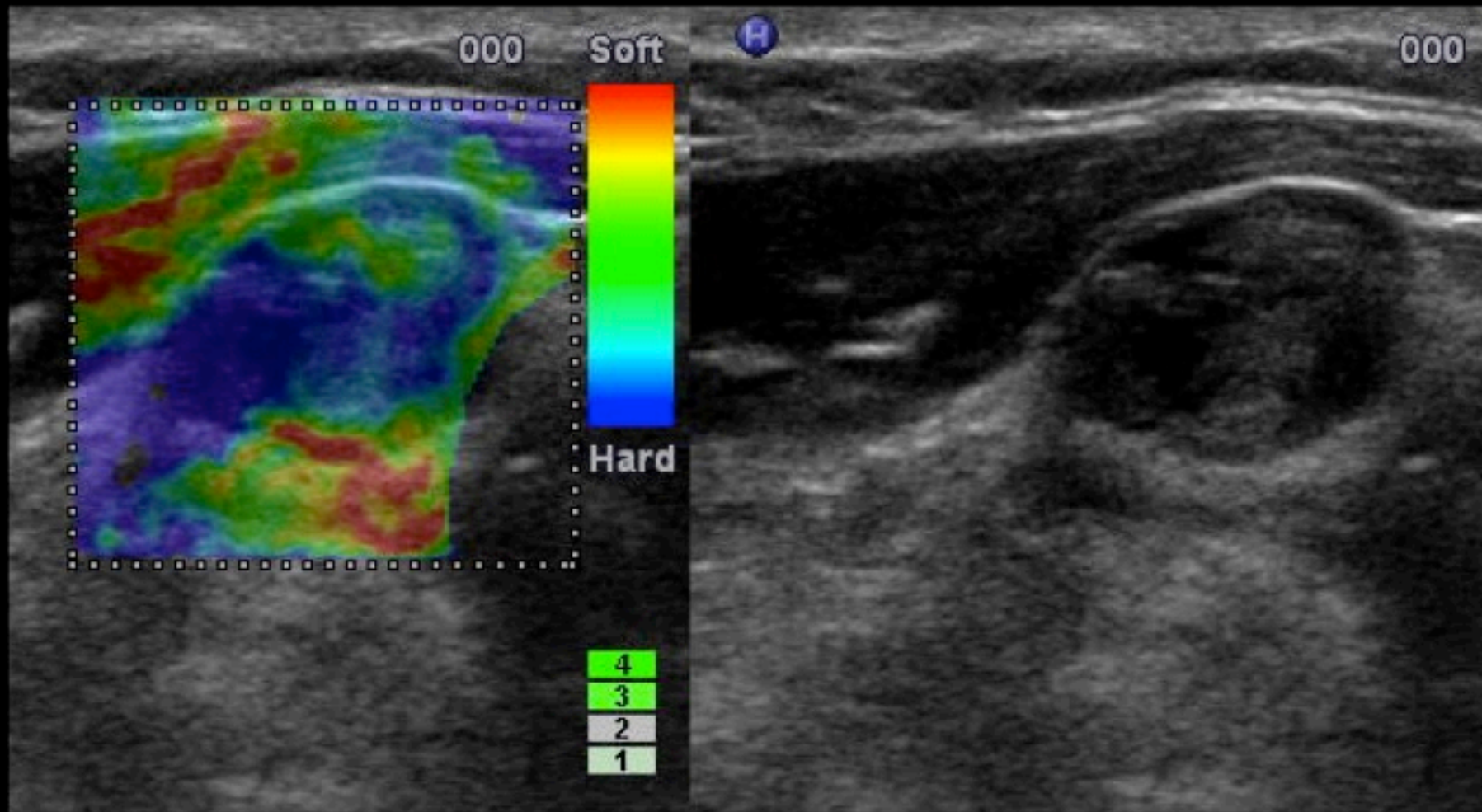








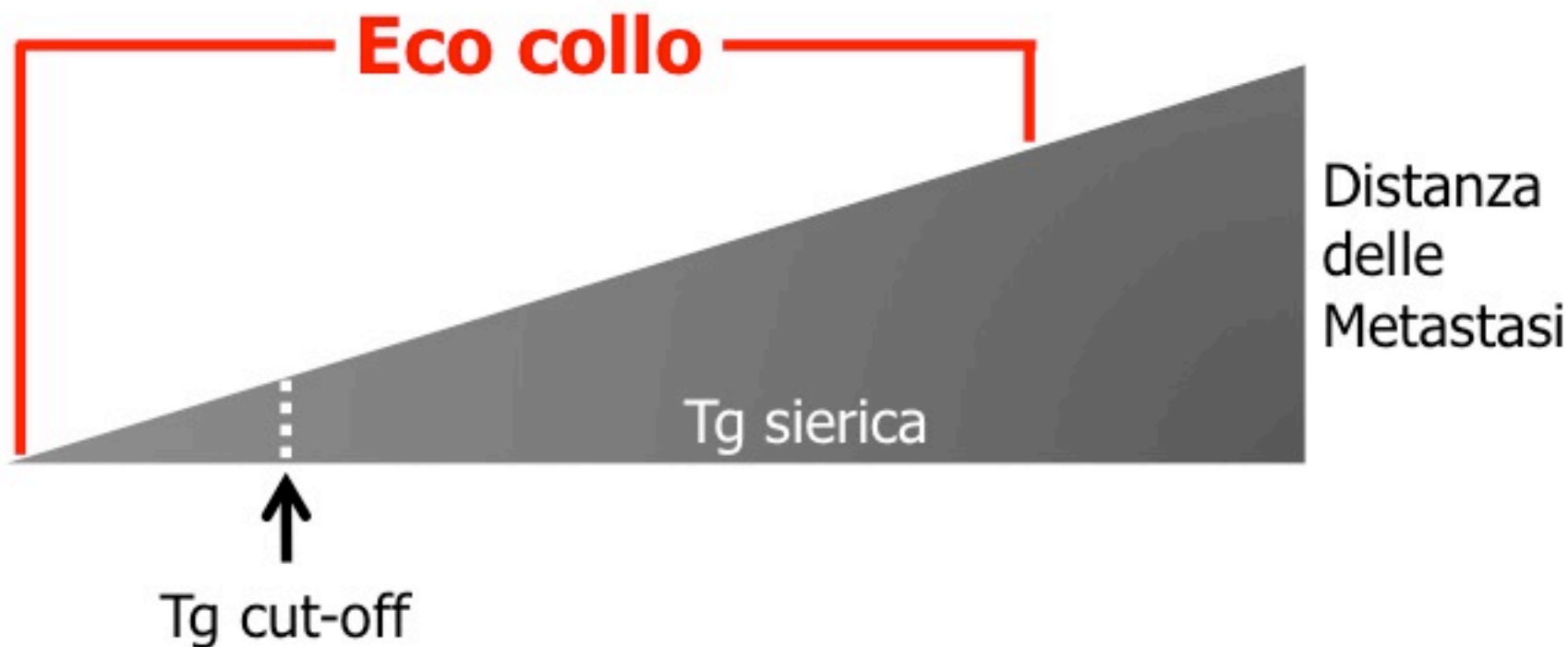




	% of normal LN with the sign
Microcalcifications	0
Cystic aspect	0
Peripheral vascularization	1–18
Hyperechogenicity	4–17
Round shape	4–36
Hilum present	29–48
Absent vascularization	33–36

- ❑ Neck US results must be interpreted in combination with serum Tg
- ❑ FNA should take into account stage and histology

➔ 10-20% dei pazienti con metastasi linfonodali ha Tg "indossabile"



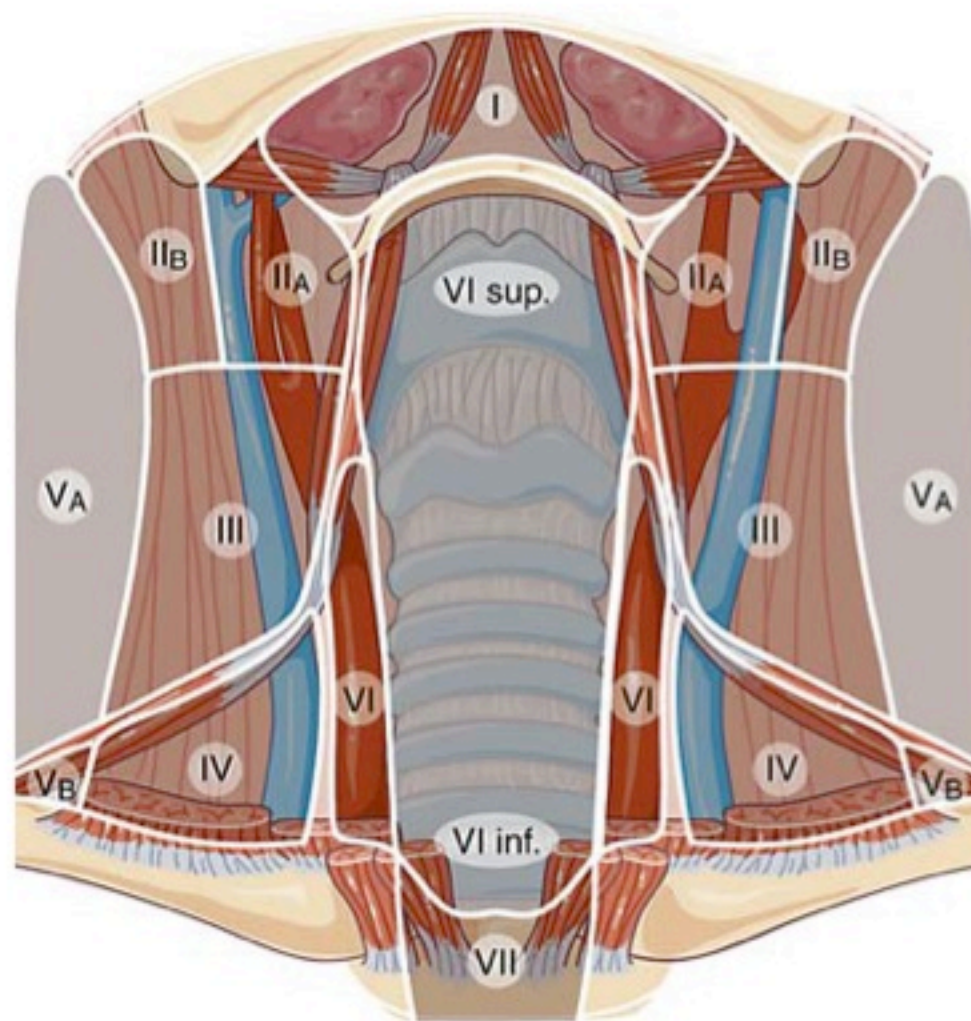
High Sensitive Thyroglobulin Assay on Thyroxine Therapy: Can it Avoid Stimulation Test in Low and High Risk Differentiated Thyroid Carcinoma Patients?

- ❑ 68 patients (high and low risk) with negative WBS
- ❑ 59 patients with Tg <0.15 ng/ml
 - 58 disease free
 - 1 (pT3N1) had lymph node metastasis

The US report should document:

The thyroid bed: presence and size of remnants and description of any potentially abnormal lesions (size in 3 dimensions, shape, borders, echogenicity, internal consistency, and vascularization).

All LN compartments: description of any indeterminate or suspicious LNs (see definitions below), including anatomic location (level), size in 3 dimensions, gray-scale (internal consistency, echogenicity, presence of calcifications) and Doppler US features. Anatomic location is best described using the terminology and classification used for neck dissection [13]. The location of suspect LNs can be drawn on a diagram indicating levels (fig. 1) [14].



- ❑ preparazione del campione di FNA-Tg
- ❑ soluzione (salina, buffer, etc.)
- ❑ diluizione (0.5, 1 o 2 cc)
- ❑ metodo di dosaggio di Tg
- ❑ standard di riferimento (citologia, istologia, WBS)

Diagnostic value of thyroglobulin assay in cervical lymph node fine-needle aspirations for metastatic differentiated thyroid cancer

Luca Giovanella^{a,b}, Massimo Bongiovanni^c, and Pierpaolo Trimboli^d

Issue	Procedure
Washing fluid	Saline solution
Washing volume	1 ml
Collection	Plain tube
Cutoff value	1 ng/ml
Hook effect	Serial dilution if FNA-Tg < 1 – 10 ng/ml

FNA-Tg

- <1 ng/FNA: normale
- 1-10 ng/FNA: utile confronto con citologia
- >10 ng/FNA: metastasi



Conclusioni

L'US del collo

- ❑ sensibilità 70%, specificità >95%
- ❑ deve essere eseguita di routine in tutti i pazienti, sin da prima del trattamento, anche quando la Tg sierica è indosabile



Conclusioni

L'US del collo

- ❑ report sintetico, con descrizione di eventuali condizioni di sospetto
- ❑ l'indicazione al FNA deve tenere in considerazione le caratteristiche clinico-patologiche del paziente