

CONGRESSO NAZIONALE AME
ROMA, 8-11 NOVEMBRE 2018

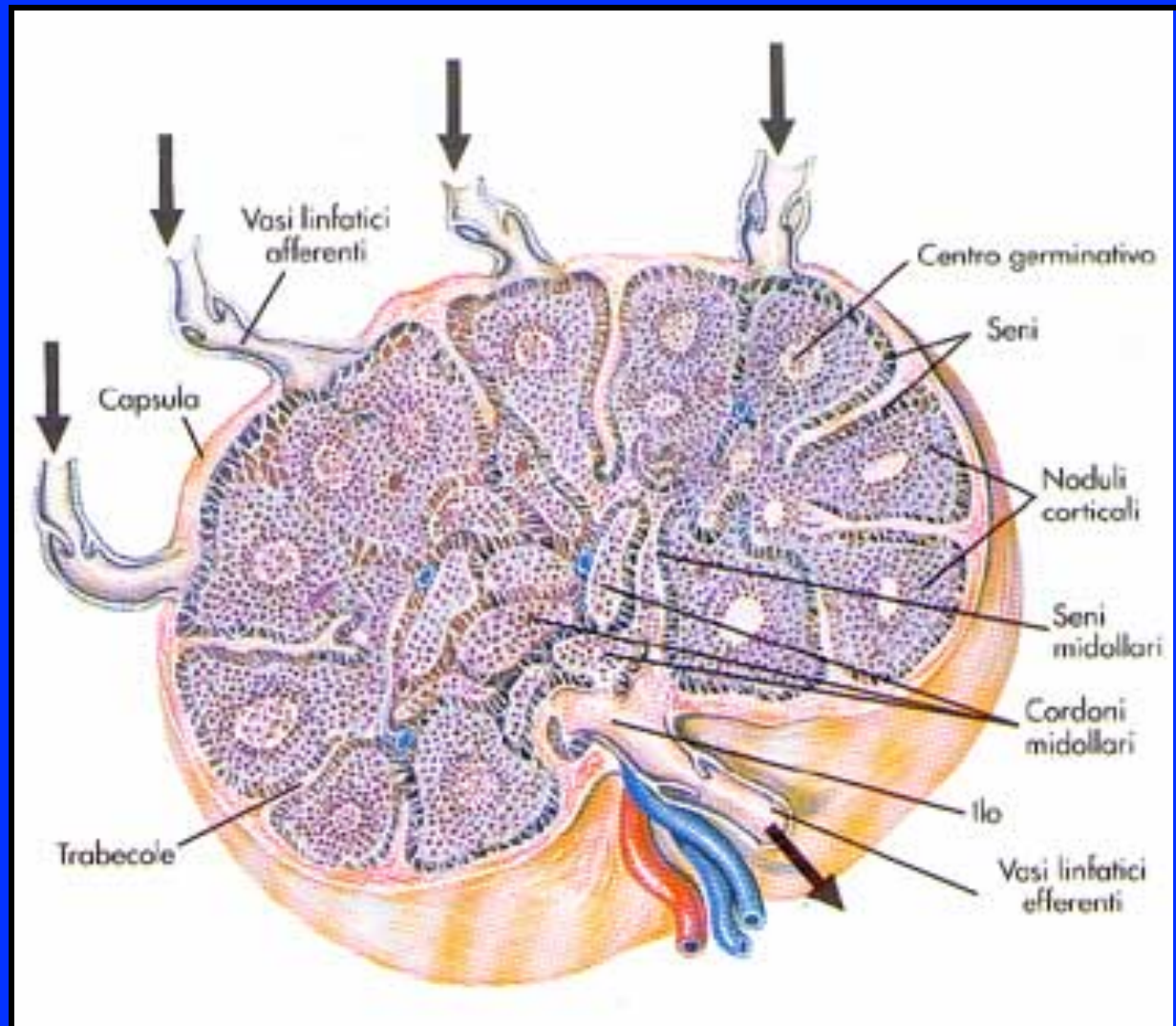
CORSO ECOGRAFIA DEL COLLO

CON SIUMB

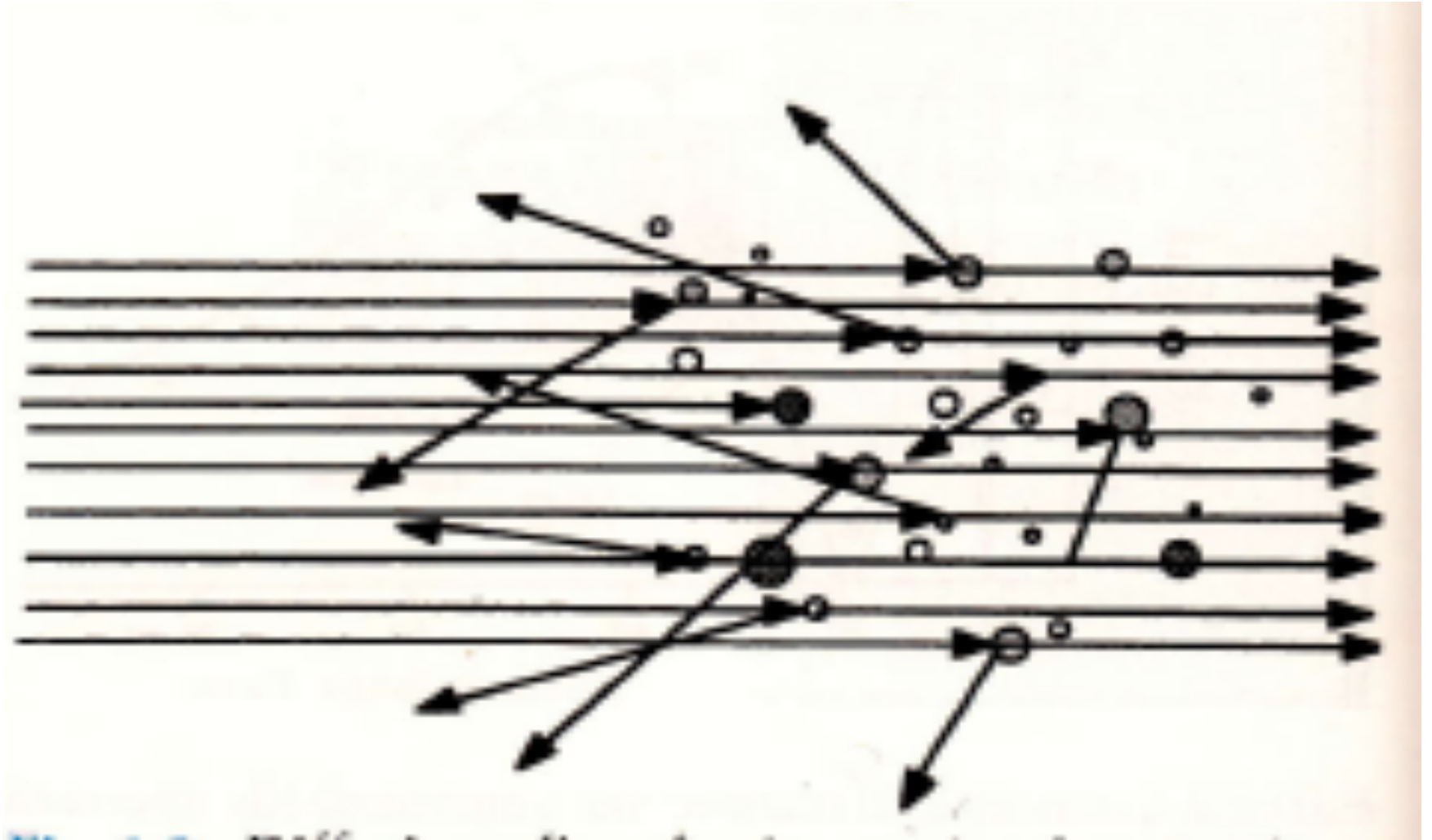
Adenopatie cervicali
Criteri di malignità e diagnosi
differenziale

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Il linfonodo

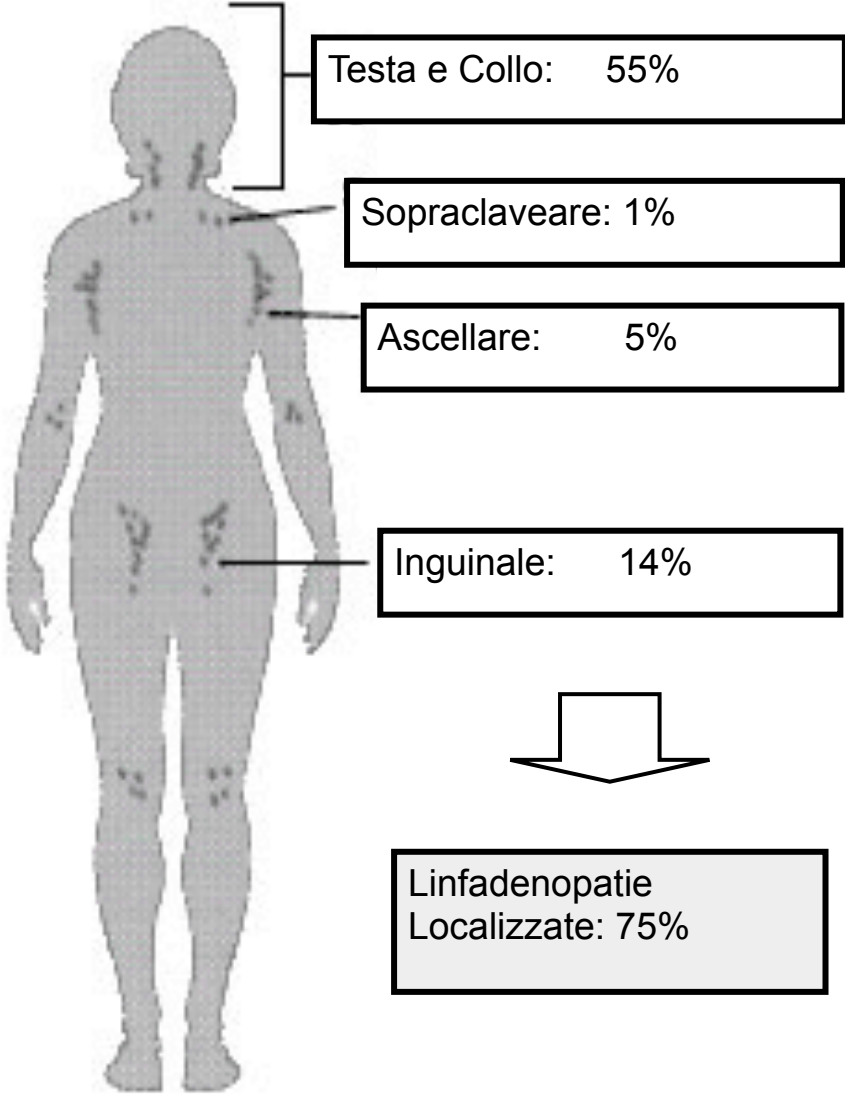


Ultrasonography scattering in etherogenoeus tissue

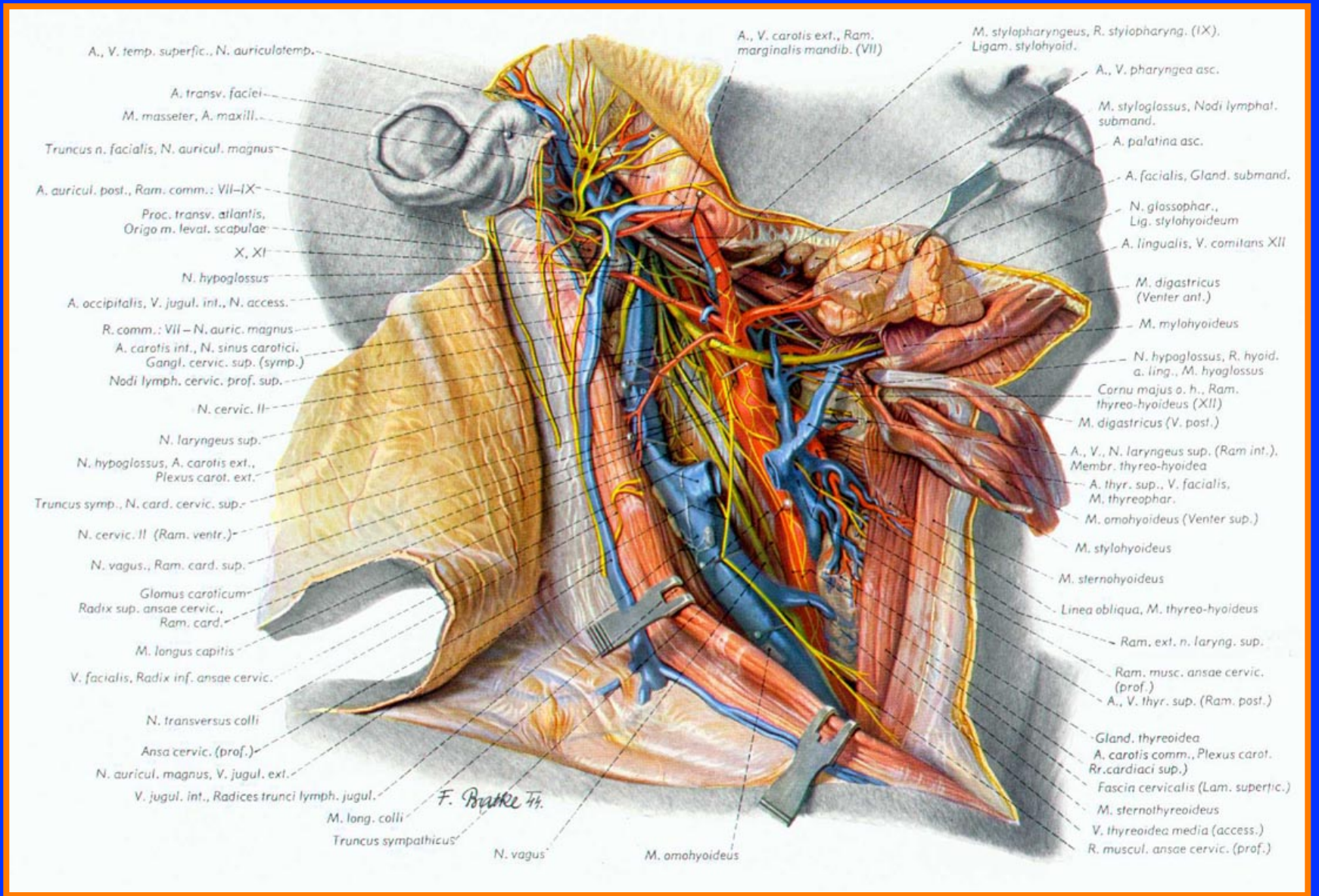




Localizzazioni



Linfadenopatia
Generalizzata: 25%



A., V. temp. superfic., N. auriculotemp.
 A. transv. faciei
 M. masseter, A. maxill.
 Truncus n. facialis, N. auricul. magnus
 A. auricul. post., Ram. comm.: VII-IX
 Proc. transv. atlantis,
 Origo m. levat. scapulae
 X, XI
 N. hypoglossus
 A. occipitalis, V. jugul. int., N. access.
 R. comm.: VII - N. auric. magnus
 A. carotis int., N. sinus carotici,
 Gangl. cervic. sup. (symp.)
 Nodi lymph. cervic. prof. sup.
 N. cervic. II
 N. laryngeus sup.
 N. hypoglossus, A. carotis ext.,
 Plexus carot. ext.
 Truncus symp., N. card. cervic. sup.
 N. cervic. II (Ram. ventr.)
 N. vagus., Ram. card. sup.
 Glomus caroticum
 Radix sup. ansae cervic.,
 Ram. card.
 M. longus capitis
 V. facialis, Radix inf. ansae cervic.
 N. transversus colli
 Ansa cervic. (prof.)
 N. auricul. magnus, V. jugul. ext.
 V. jugul. int., Radices trunci lymph. jugul.
 M. long. colli
 Truncus sympathicus
 N. vagus
 M. omohyoideus

A., V. carotis ext., Ram.
 marginalis mandib. (VII)

M. stylopharyngeus, R. stylopharyng. (IX),
 Ligam. stylohyoid.

A., V. pharyngea asc.
 M. styloglossus, Nodi lymphat.
 submand.
 A. palatina asc.
 A. facialis, Gland. submand.
 N. glossophar.,
 Lig. stylohyoideum
 A. lingualis, V. comitans XII
 M. digastricus
 (Venter ant.)
 M. mylohyoideus
 N. hypoglossus, R. hyoid.
 a. ling., M. hyoglossus
 Cornu majus o. h., Ram.
 thyreo-hyoideus (XII)
 M. digastricus (V. post.)
 A., V., N. laryngeus sup. (Ram. int.),
 Membr. thyreo-hyoidea
 A. thy. sup., V. facialis,
 M. thyreophar.
 M. omohyoideus (Venter sup.)
 M. stylohyoideus
 M. sternohyoideus
 Linea obliqua, M. thyreo-hyoideus
 Ram. ext. n. laryng. sup.
 Ram. musc. ansae cervic.
 (prof.)
 A., V. thy. sup. (Ram. post.)
 Gland. thyroidea
 A. carotis comm., Plexus carot.
 Rr. cardiaci sup.)
 Fascin cervicalis (Lam. superfic.)
 M. sternothyroideus
 V. thyroidea media (access.)
 R. muscul. ansae cervic. (prof.)

F. Bratke 77

Classificazione delle Adenomegalie su base EZIOPATOGENETICA

INFETTIVE

- **Mononucleosi infettiva**
- **Rosolia**
- **Citomegalovirus**
- **Piogeni**
- **Coccidiomicosi**
- **Blastomicosi**
- **Sporotricosi**
- **Toxoplasmosi**
- **Tularemia**
- **Istoplasmosi**
- **Tubercolosi**
- **Sifilide secondaria**
- **Brucellosi**
- **Epatite**
- **AIDS**

Classificazione delle Adenomegalie su base EZIOPATOGENETICA

NEOPLASTICHE

- *ematologiche*

Linfomi non-Hodgkin

Malattia di Hodgkin

Leucemia linfatica acuta

Leucemia linfatica cronica

Malattia di Waldenstrom

- *non ematologiche*

Carcinomi testa-collo

Carcinomi polmone

Carcinomi mammella

Carcinomi rene

Melanomi

Tumori del testicolo

Classificazione delle Adenomegalie su base EZIOPATOGENETICA

MISCELLANEA

Malattie Autoimmuni

Disordini endocrinologici

Lipidosi

Farmaci (ipersensibilizzazione)

Terapia immunosoppressoria

Dermatite esfoliativa

Sindrome di Kawasaki

Granulomatosi linfomatoide

Sindrome di Castleman

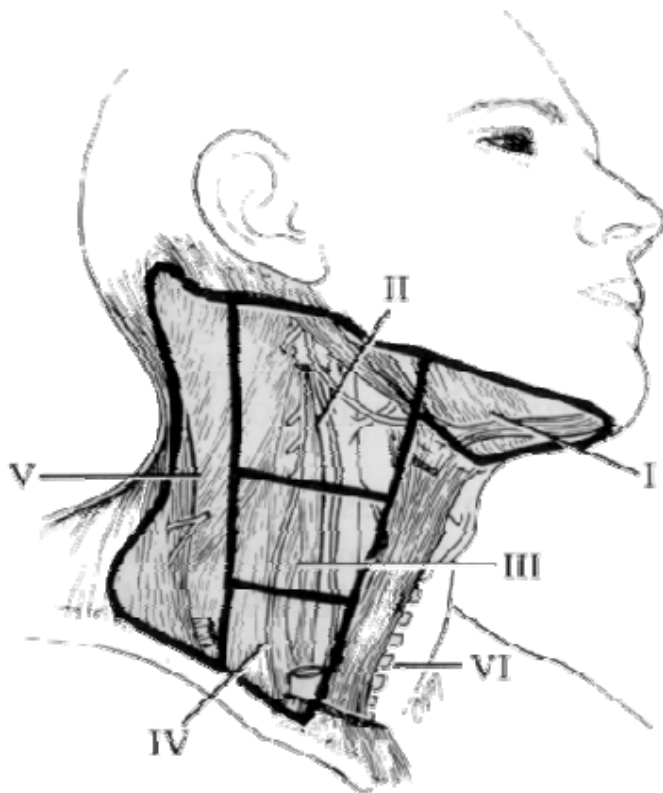
Adenopatia angioimmunoblastica

Sarcoidosi

Istiocitosi

Anatomia topografica dei Linfonodi

American Academy of Otolaryngology – Head and Neck Surgery



I--Submental and submandibular nodes

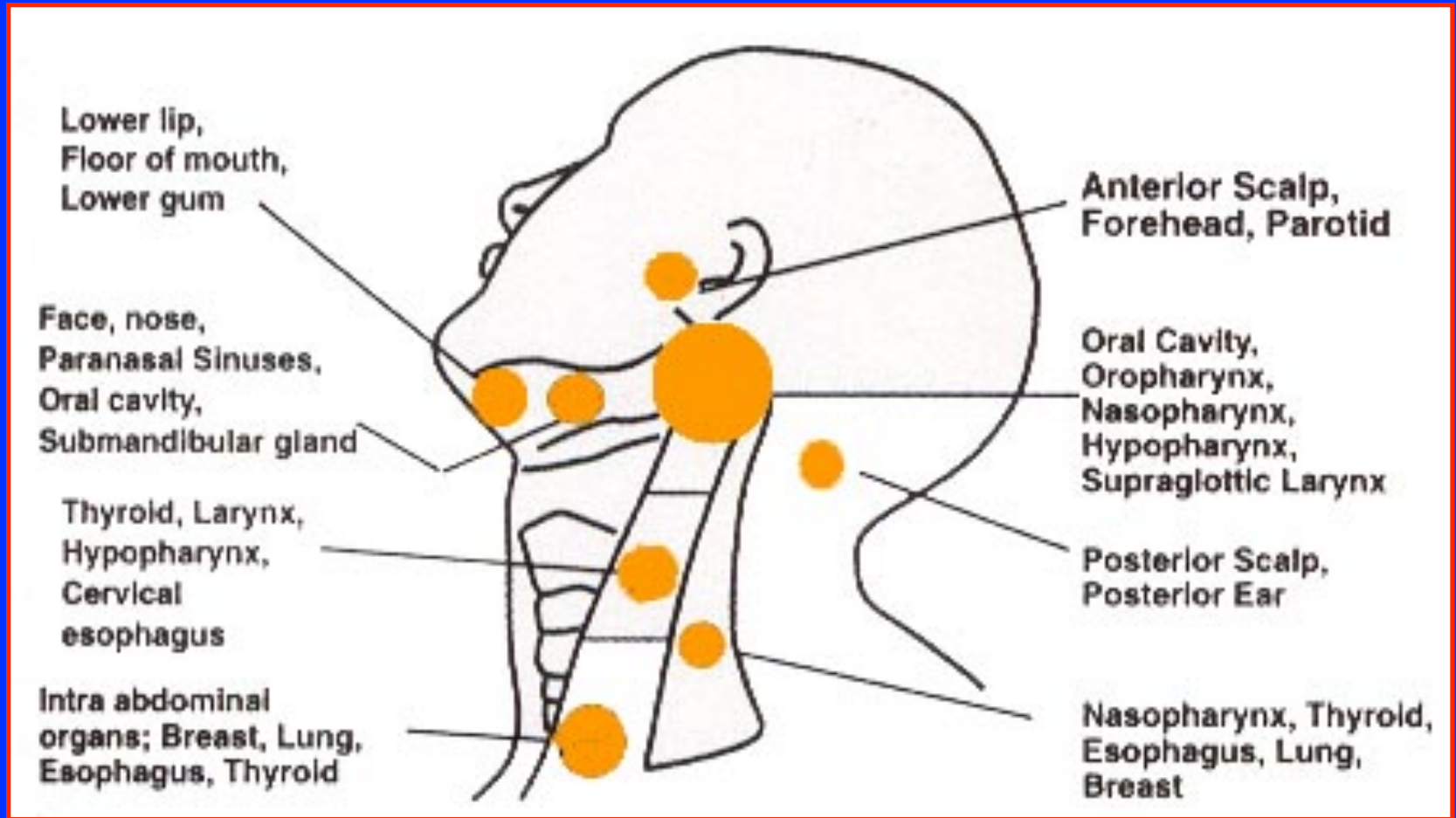
II--Upper jugulodigastric group

III--Middle jugular nodes draining the naso- and oropharynx, oral cavity, hypopharynx, larynx.

IV--Inferior jugular nodes draining the hypopharynx, subglottic larynx, thyroid, and esophagus.

V-- Posterior triangle group

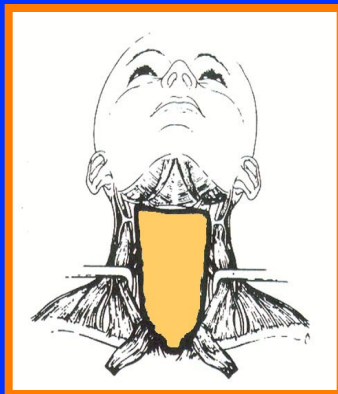
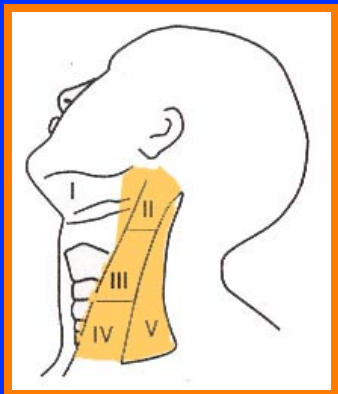
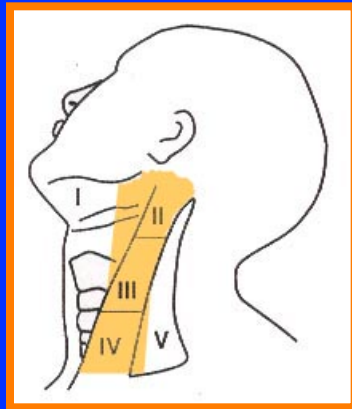
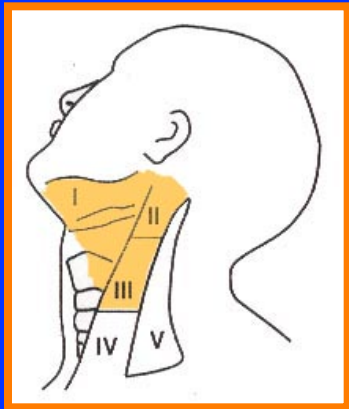
VI--Anterior compartment group



**Linfonodi regionali del distretto testa-collo
(+ gruppi parafaringei, retrofaringei, mediastinici)**

Anatomia topografica dei Linfonodi

American Academy of Otolaryngology – Head and Neck Surgery



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VI--Anterior compartment group

- Stabilire criteri di normalità-indeterminatezza-sospetto
- Capire se vi sono criteri di sospetto specifici per diversa patologia
- Capire l' utilità clinica della ricerca di linfonodi patologici
- Ruolo del FNA

→ Criteri di normalità:

- ilo identificabile, forma ovoidale, normale dimensione e morfologia (ed asse corto < 5 mm), vascolarizzazione assente o esclusivamente ilare

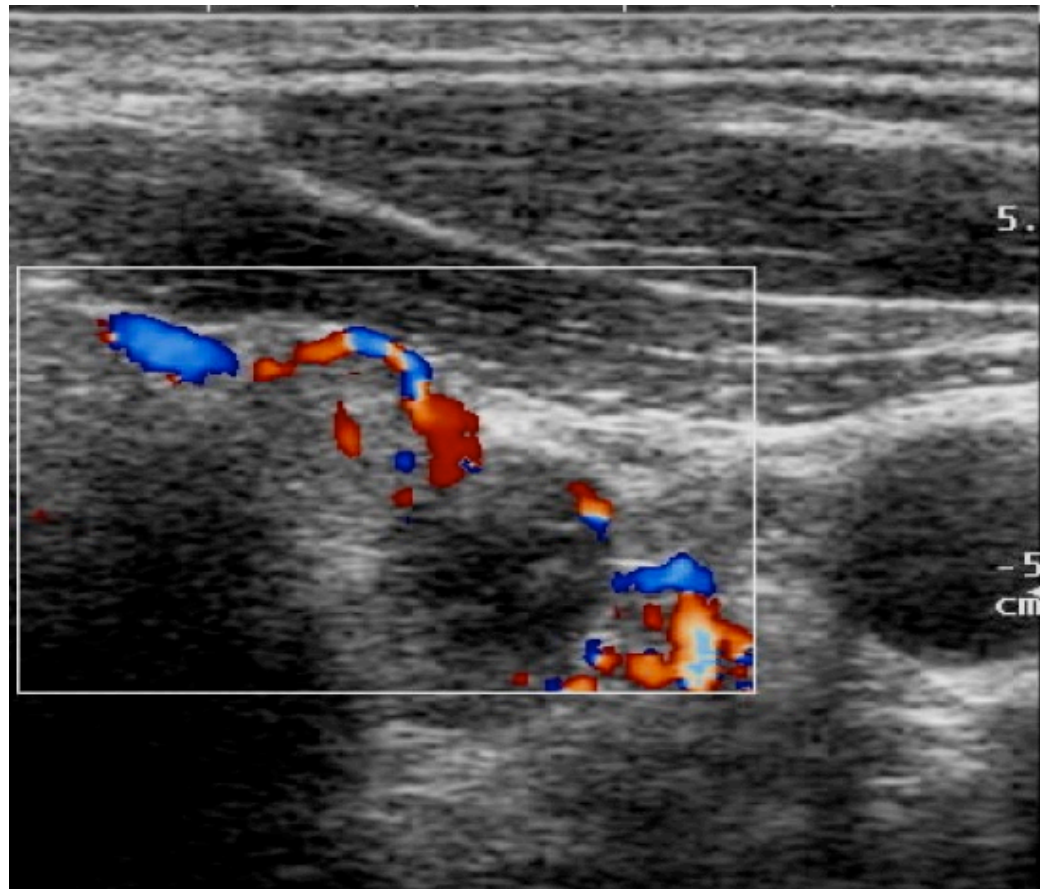
→ Criteri di indeterminazione/sospetto:

- assenza di ilo, forma rotondeggiante, aumento dell'asse corto > 5 mm, aumentata vascolarizzazione periferica, ecogenicità "tiroidea", microcalcificazioni e pattern cistico o misto.

Aperto isoecogeno e ilo assente

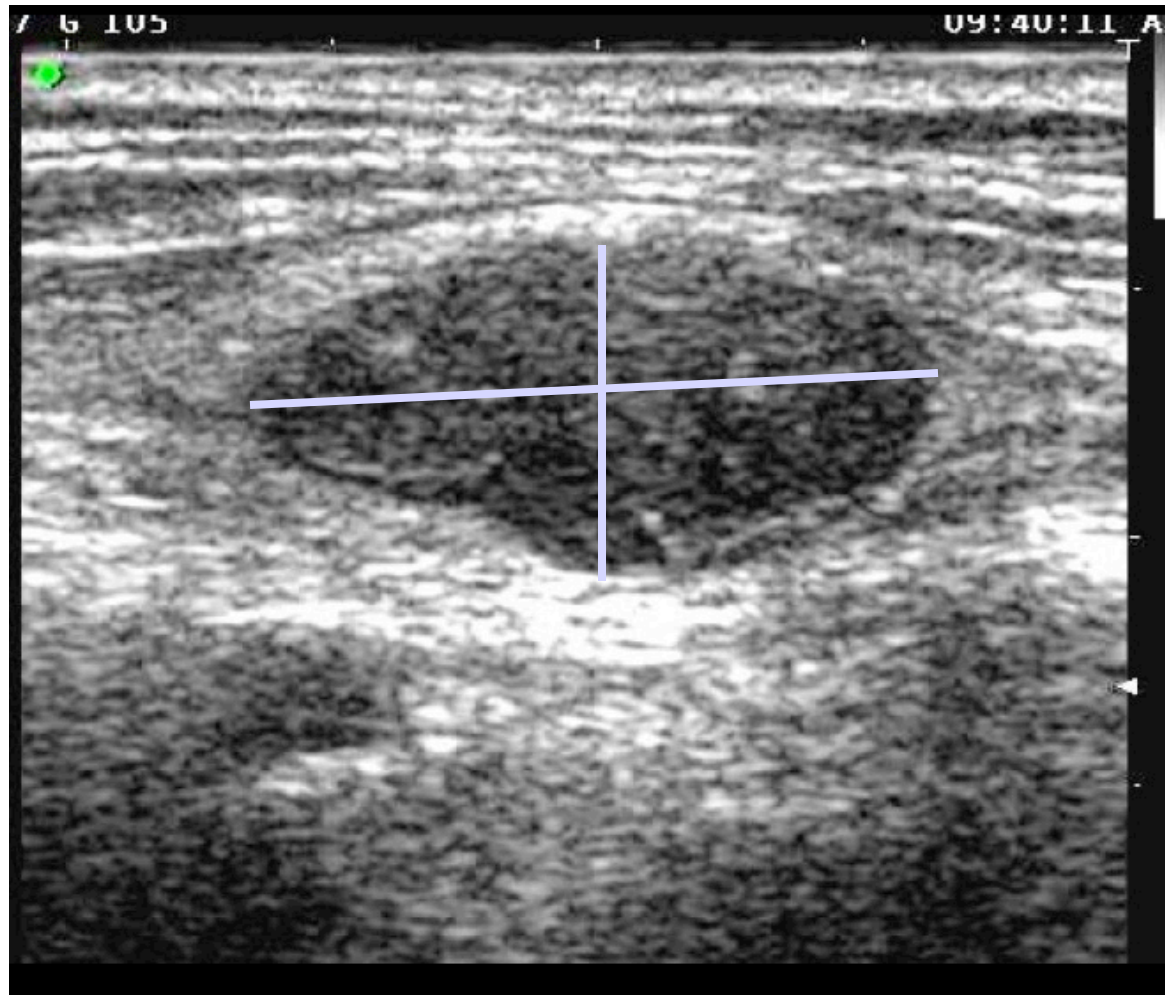


Vascularizzazione irregolare



Forma tondeggiante

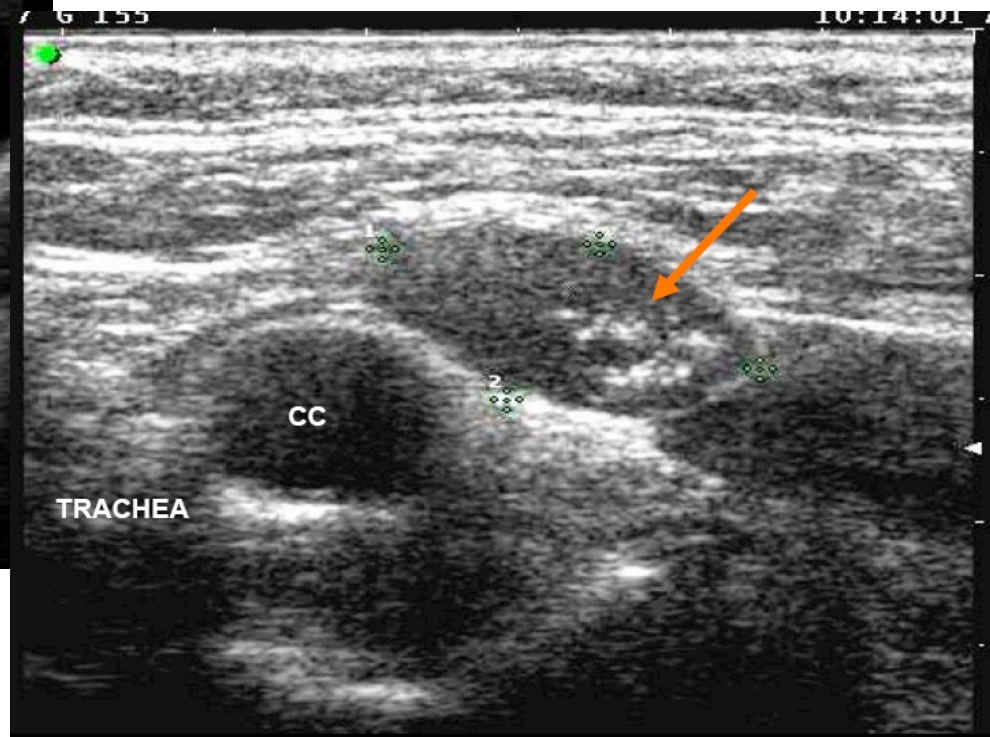
Margini irregolari



$S:L > 0.5$

$L:S > 2$

Struttura cistica e calcificazioni



Diagnosi di recidiva linfonodale del collo

ULTRASONOGRAPHIC FINDINGS

- **Size:** short axis diameter \geq 5-8 mm
- **Shape:** round, convex (short/long axis ratio \geq 0.5)
- **Echogenicity:**
 - usually hypoechoic
 - Iso-hyperechoic (PTC)
 - cystic pattern
- **Echogenic hilum:** absent
- **Calcifications:** fine or punctate
- **Vascular features:** peripheral and/or diffuse pattern

US patterns of pathological LNs: sensitivity

	No ilo	Ratio Asse corto/ lungo	Ecogen	Vascol.	Calcif.	Conten. Cistico
Rosario et al., 2005	88	80.0	86.0	NA	49.5	20.0
Kuna et al., 2006	99.5	65.6	NA	NA	5.4	21.3
Lebulleux et al., 2007	100	46.0	NA	86.0	46.0	11.0
Lyschik et al., 2007	72	75.0	58	47.0	3.0	NA
Sohn et al., 2010	100	55.0	59.0	NA	45.0	34.0

US patterns of pathological LNs: specificity

	Calcif.	Conten. cistico	Ecogen.	Vascol.	Ratio Asse corto/ lungo	No llo
Rosario et al., 2005	100	100.0	95.5	NA	86.0	90.0
Kuna et al. 2006	NA	NA	NA	NA	NA	NA
Lebulleux et al., 2007	100	100	NA	82.0	64.0	29.0
Lyschik et al., 2007	100	NA	91.0	89.0	81.0	54.0
Sohn et al., 2010	93.0	96.0	85.0	NA	89.0	48.0

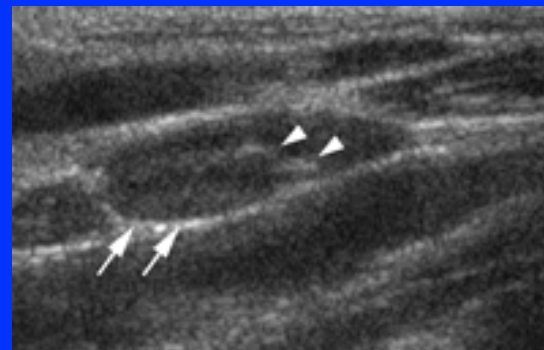
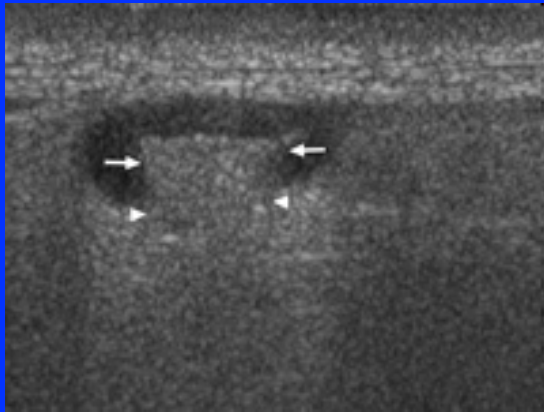
2013 European Thyroid Association Guidelines for Cervical Ultrasound Scan and Ultrasound-Guided Techniques in the Postoperative Management of Patients with Thyroid Cancer

Table 2. Reported range of the diagnostic value of US signs for the detection of cervical metastatic lymph nodes from thyroid carcinoma

Sign	Sensitivity, %	Specificity, %	NPV, %	PPV, %	Accuracy, %	% of normal LN with the sign
Microcalcifications	5–69	93–100	33–60	88–100	56–72	0
Cystic aspect	10–34	91–100	30–66	77–100	48–65	0
Peripheral vascularization	40–86	57–93	31–70	77–80	54–71	1–18
Hyperechogenicity	30–87	43–95	38–84	66–96	56–90	4–17
Round shape	37	70	45	63		4–36
Hilum present	0–0.5					29–48
Absent vascularization	0					33–36

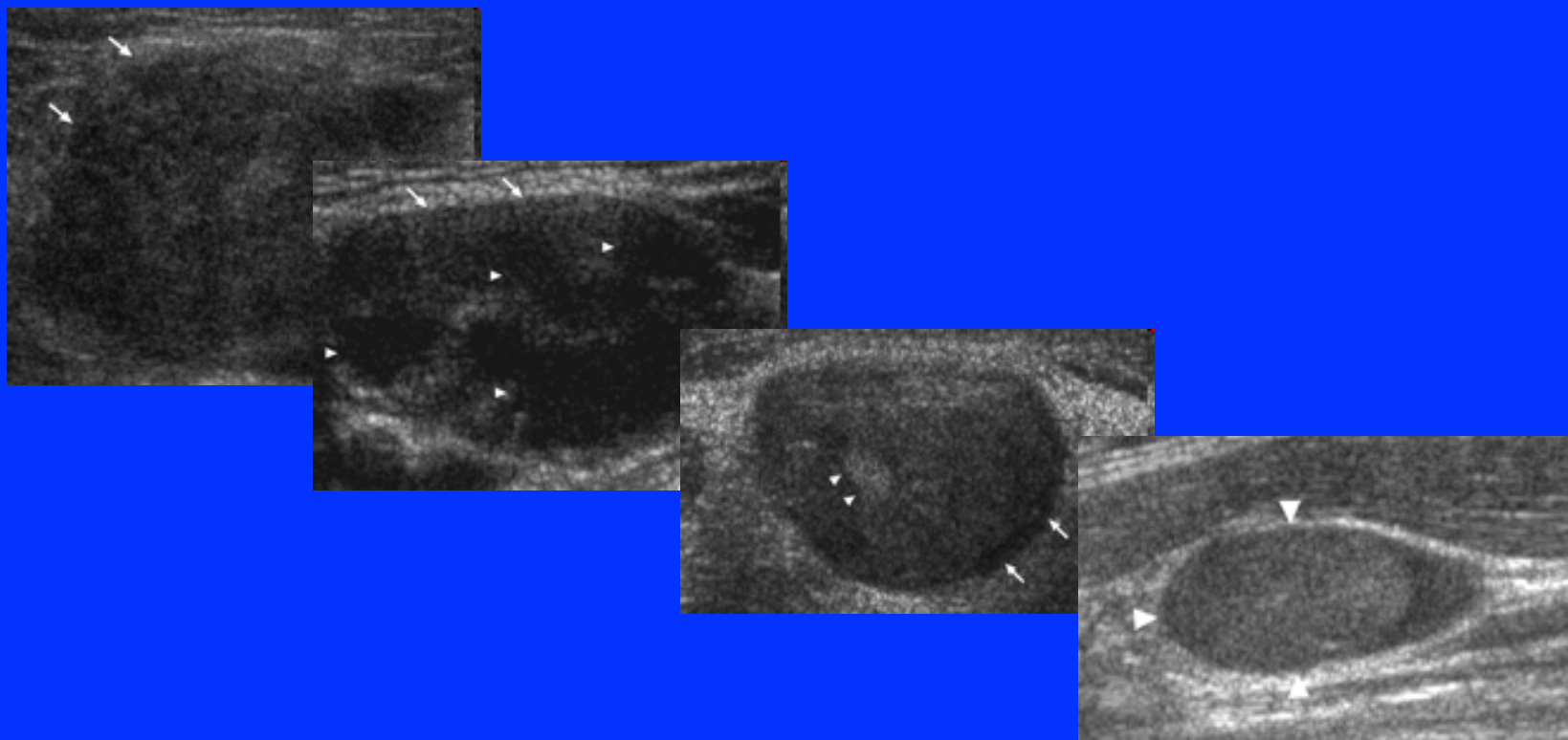
Cause di linfadenopatia cervicale

LINFOADENOPATIA REATTIVA



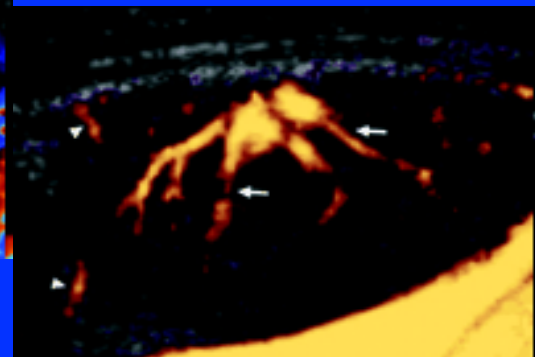
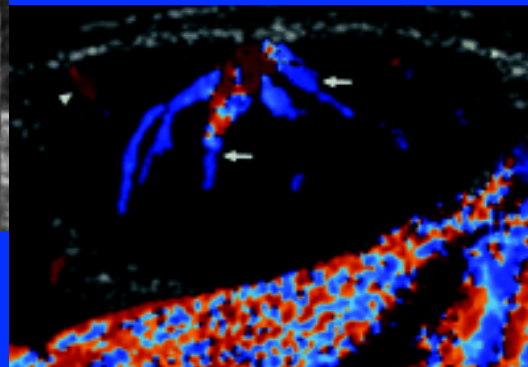
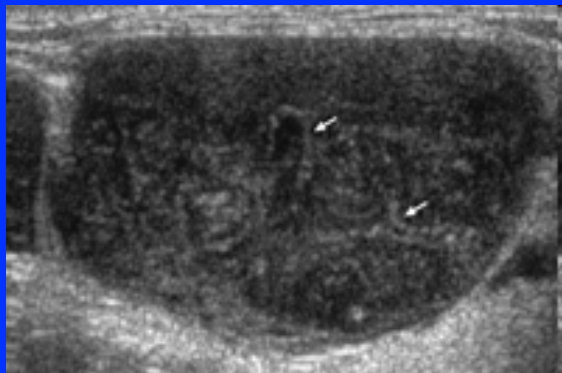
Cause di linfadenopatia cervicale

mts di neoplasie di orofaringe, laringe, polmone, mammella



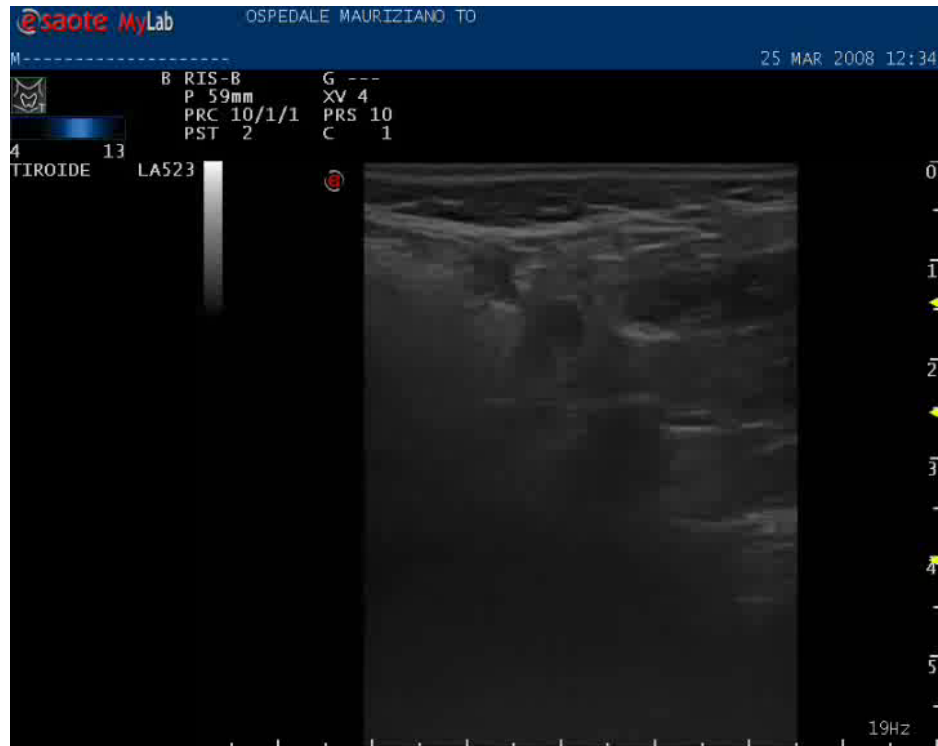
Cause di linfadenopatia cervicale

linfoma



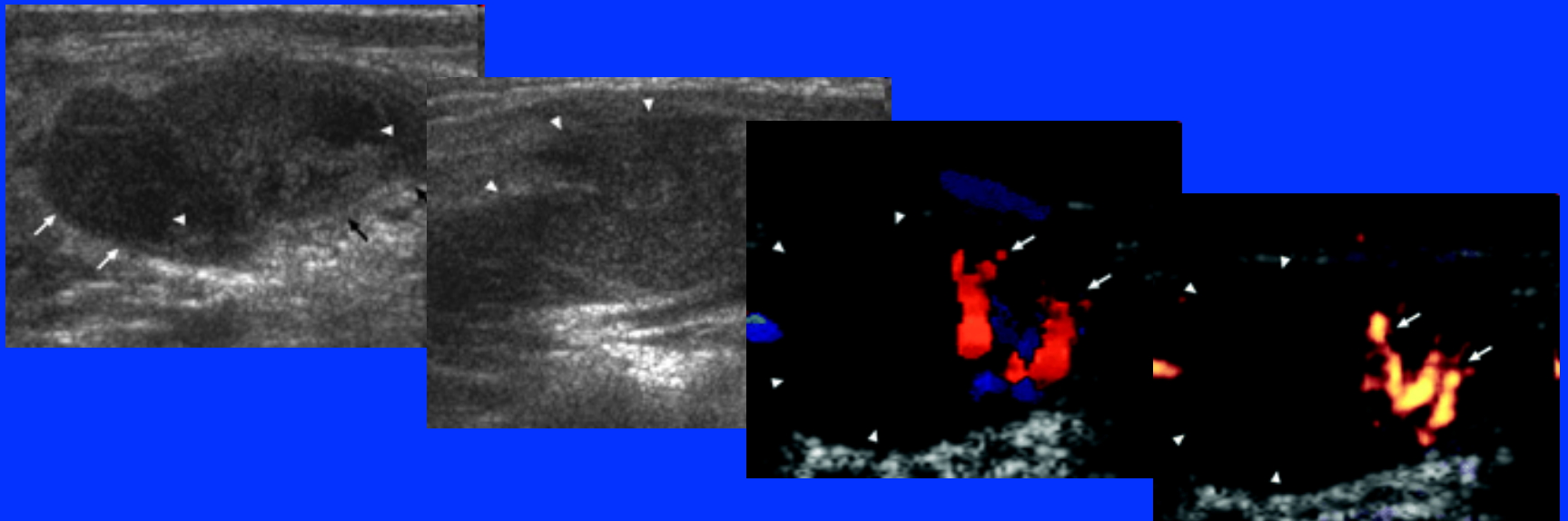
Cause di linfadenopatia cervicale

mts di carcinoma tiroideo (papillare o midollare)



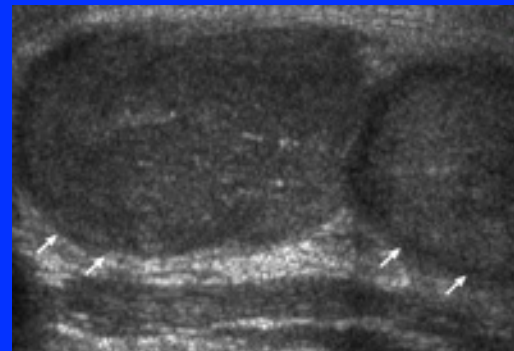
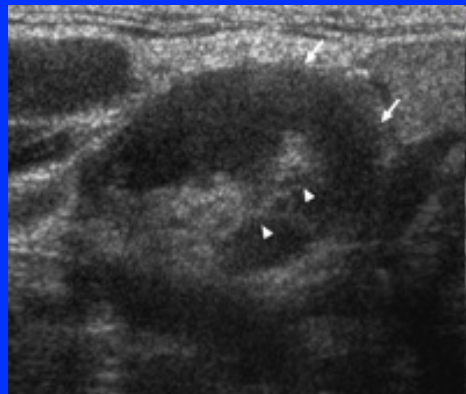
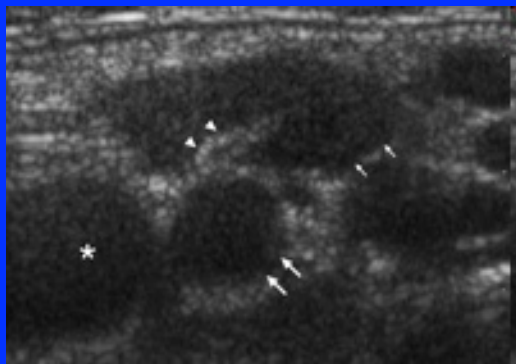
Cause di linfadenopatia cervicale

TBC

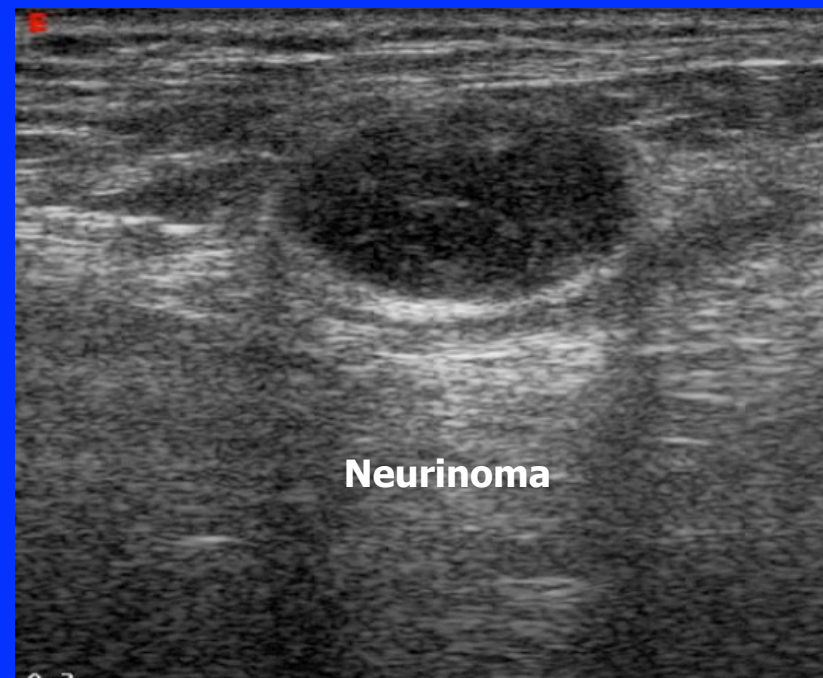
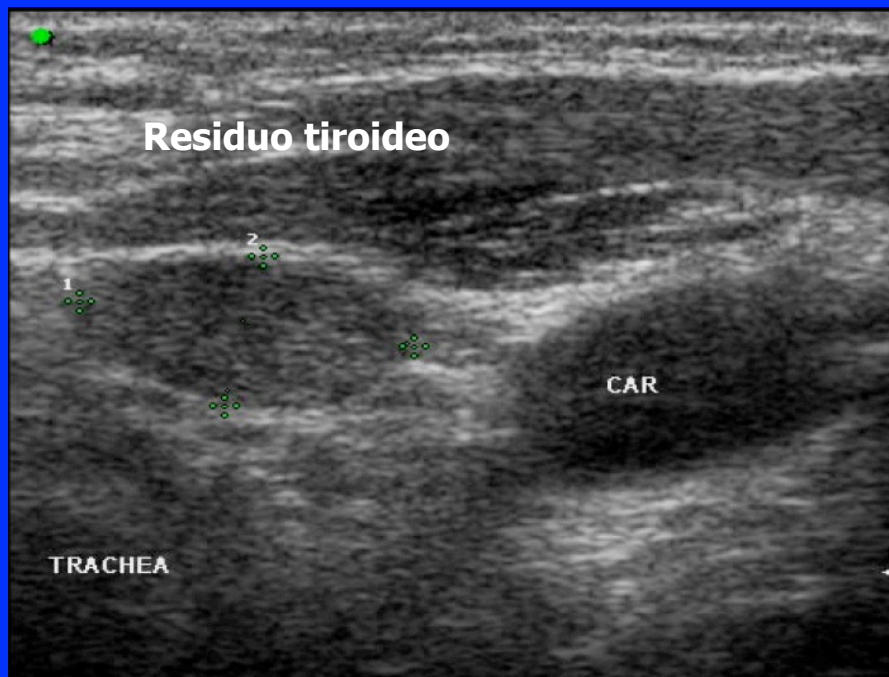


Cause di linfadenopatia cervicale

Sarcoidosi e malattie infiammatorie (Kikuki, Kimura, Rosai)



Errori diagnostici nel sospetto di linfadenopatia cervicale



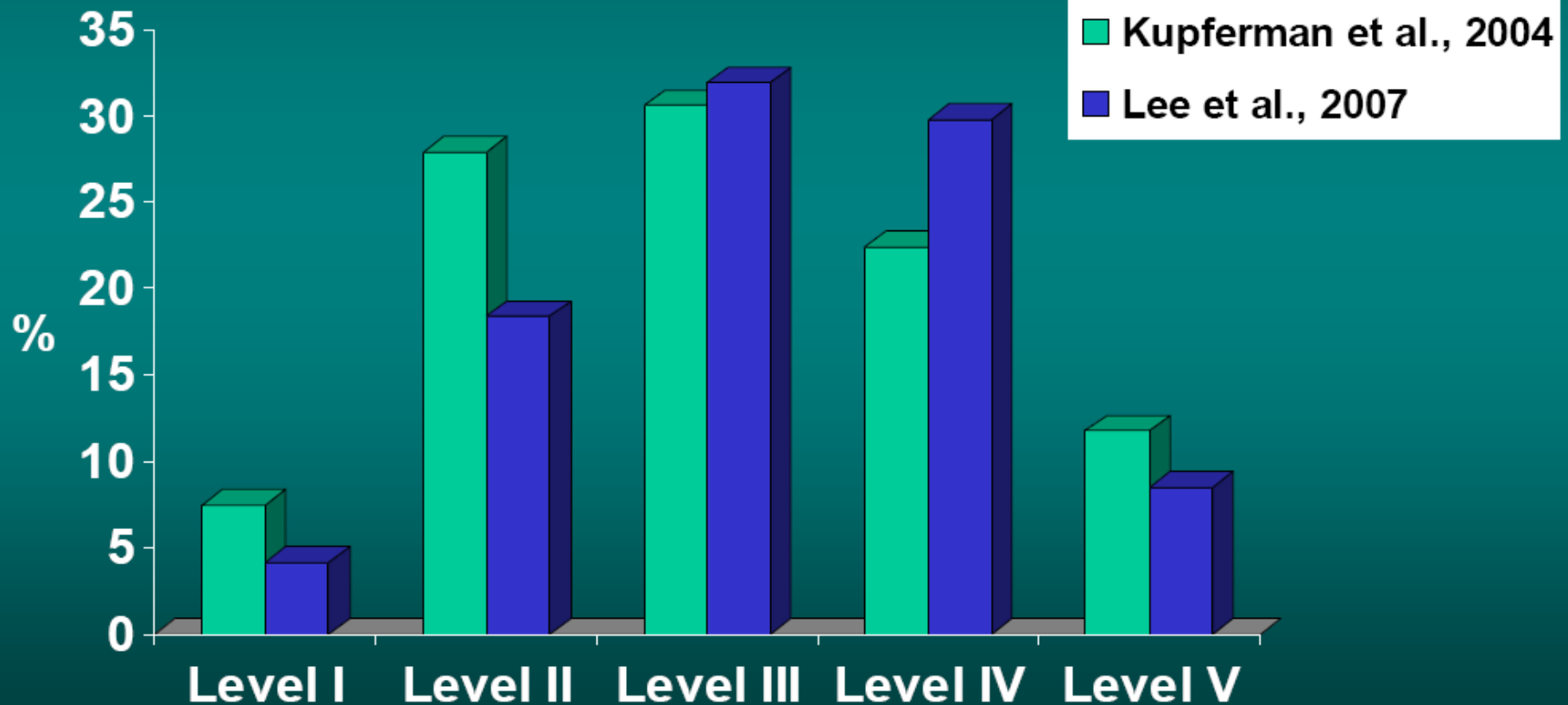
- Cervical lymph–node in primary thyroid lymphoma are rounded (as for other metastatic lesions) but enlarged lymph-nodes are usually larger and greater in number.
- Large lymph-node involvement is usually present in ATC
- No specific criteria between metastasis from different malignancy apart from microcalcification

Consider thyroid

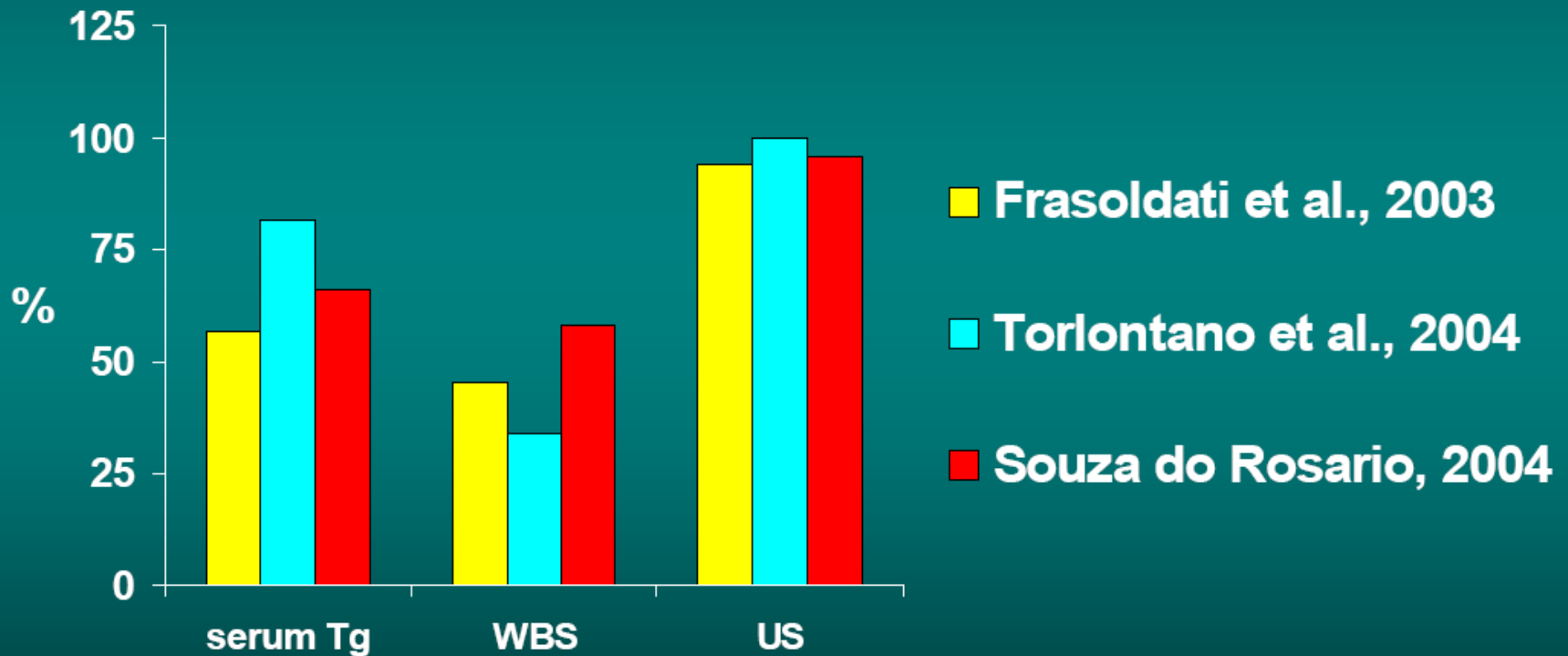
Frequenza di recidiva locoregionale nel DTC

Simon , 1996	DTC	252	31%
Proye, 1997	DTC	589	4%
Tsang, 1998	DTC	382	14%
Hay, 1999	DTC	300	13%
Frasoldati, 2003	DTC	494	10%
Mazzaferri, 2003	Low risk PTC	728	8%
Kouvaraki, 2003	DTC/MTC	207	8%
Torlontano, 2004	Low risk PTC	456	8%
Souza de Rosario, 2005	Low risk PTC	122	8%

Distribuzione delle mts lfn da PTC nel collo



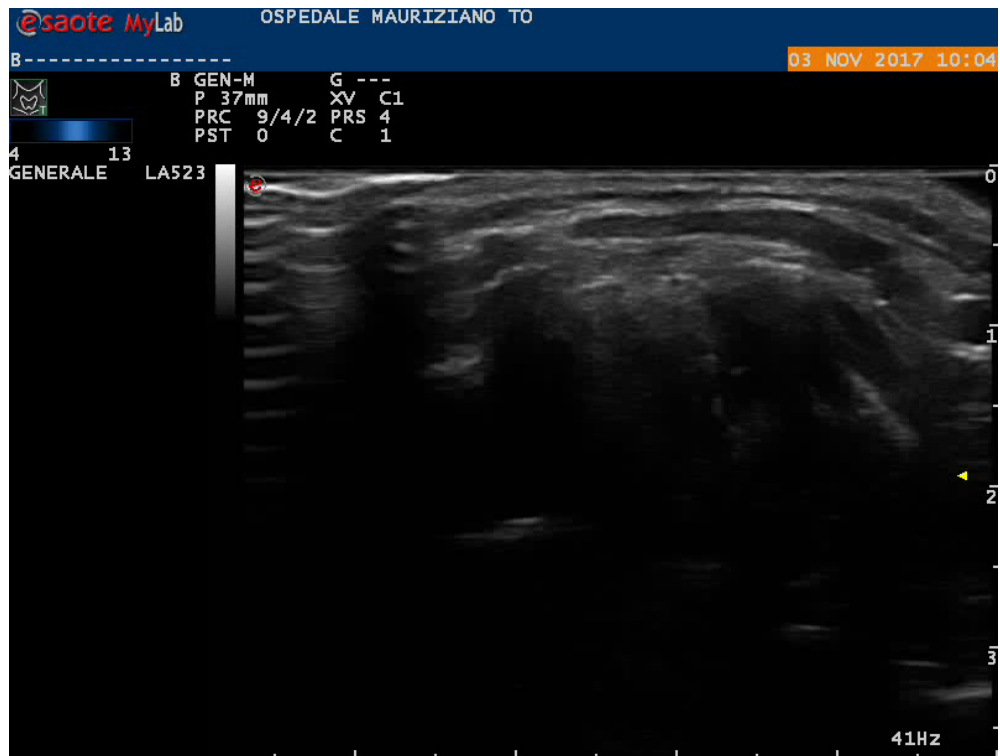
Diagnosi di recidiva linfonodale del collo



US scan and Neck

- **Cervical US** (and US- guided FNA) is the dominant imaging modality to evaluate regional lymph node metastasis

- *Cheap*
- *Easy*
- *Well tolerated*
- *Wild available*
- *Effective*



Quando eseguire una FNAB

Ultrasound Criteria of Malignancy for Cervical Lymph Nodes in Patients Followed Up for Differentiated Thyroid Cancer

THE JOURNAL OF
CLINICAL
ENDOCRINOLOGY
& METABOLISM

Operative schedule

1. Hilum

- Fatty → benign
- Absent → evaluate **vascularization**.
if peripheral → FNAB ■

2. **Round shape, hilum absence, hypoechogenicity**
as a single criteria do not justify FNAB

3. **Cystic appearance and hyperechoic punctuations**
in DTC patients → metastasis

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

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Conclusioni

L'ecografia ha un ruolo di primo piano nello studio delle linfadenopatie del collo, con una sensibilità e specificità che sono in continua crescita anche grazie al miglioramento tecnologico

Conclusioni 2

L'ecografia rimane comunque una metodica operatore-dipendente, che richiede esperienza ed accuratezza nella conduzione dell'esame anche mediante l'uso di apparecchiature tecnologicamente aggiornate; l'aggiunta del FNA è un completamento spesso indispensabile