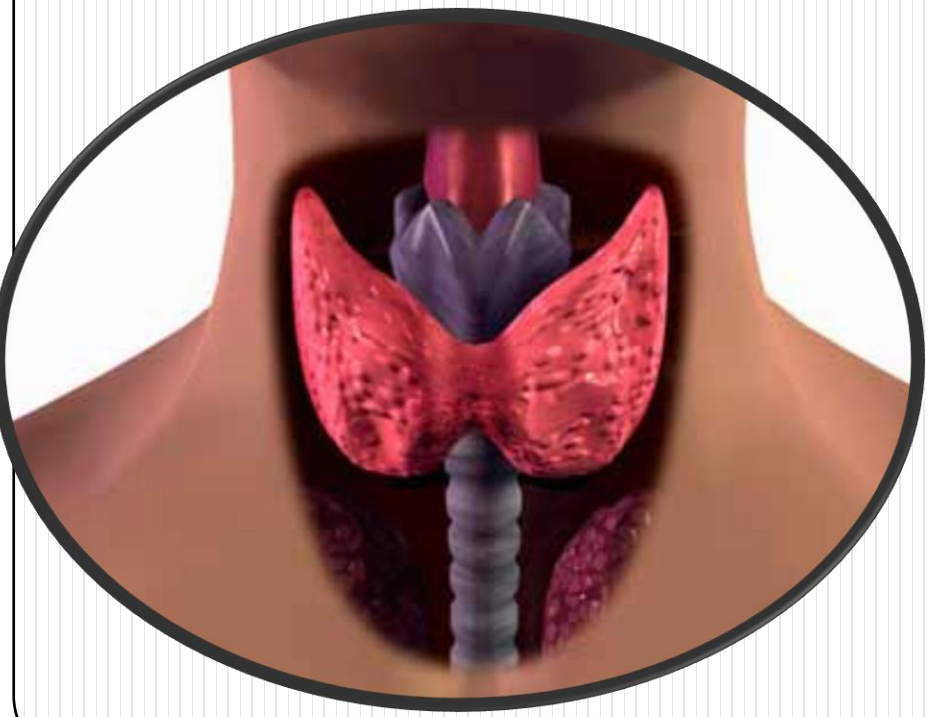
HINTS IN THYROID US

Post Seminar Notes



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- MANY THANKS DR. AHMAD REF'AY , AS HIS LECTURE IS THE MAIN SOURCE OF THIS TOPIC

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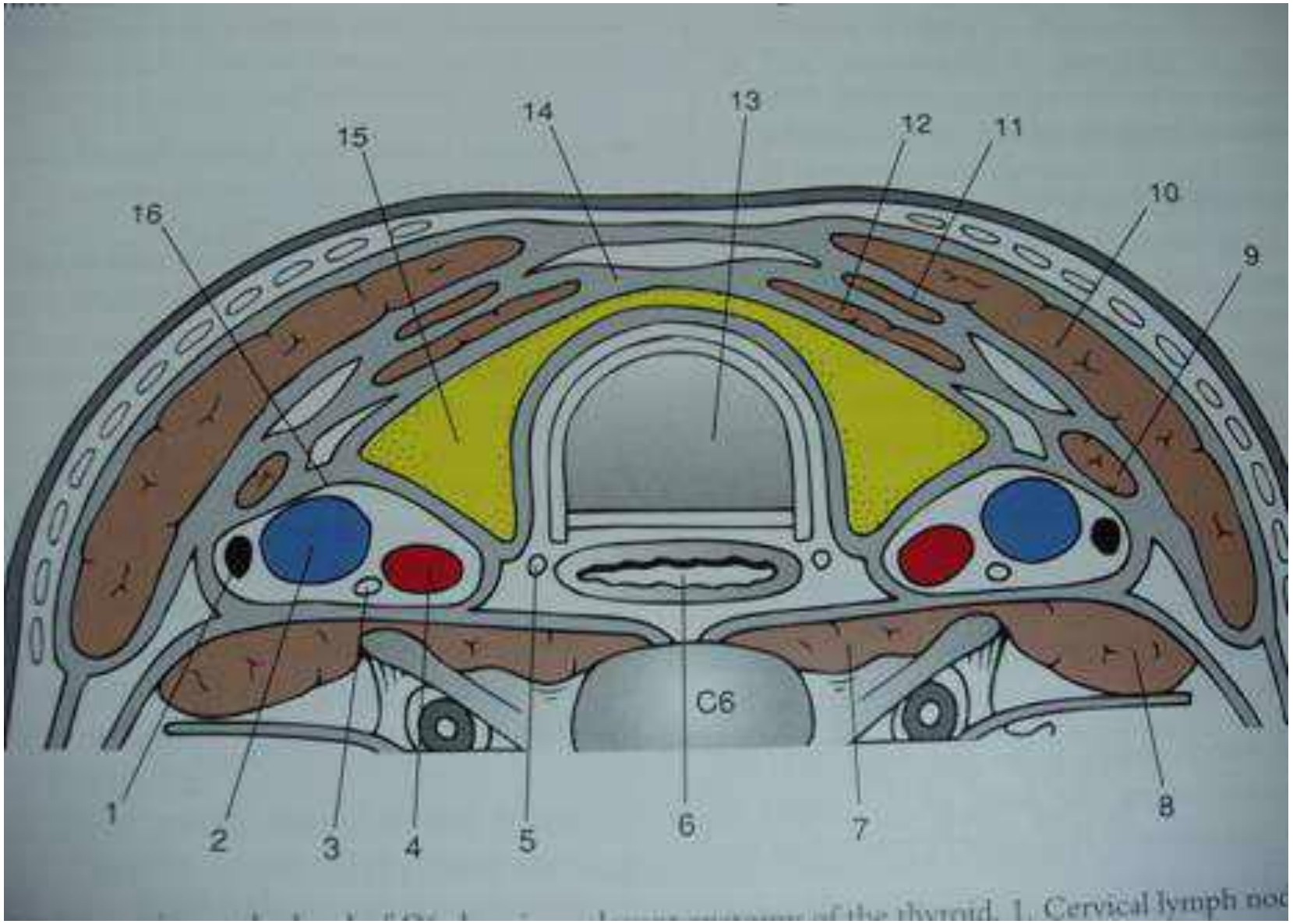
APRIL 2015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15
14
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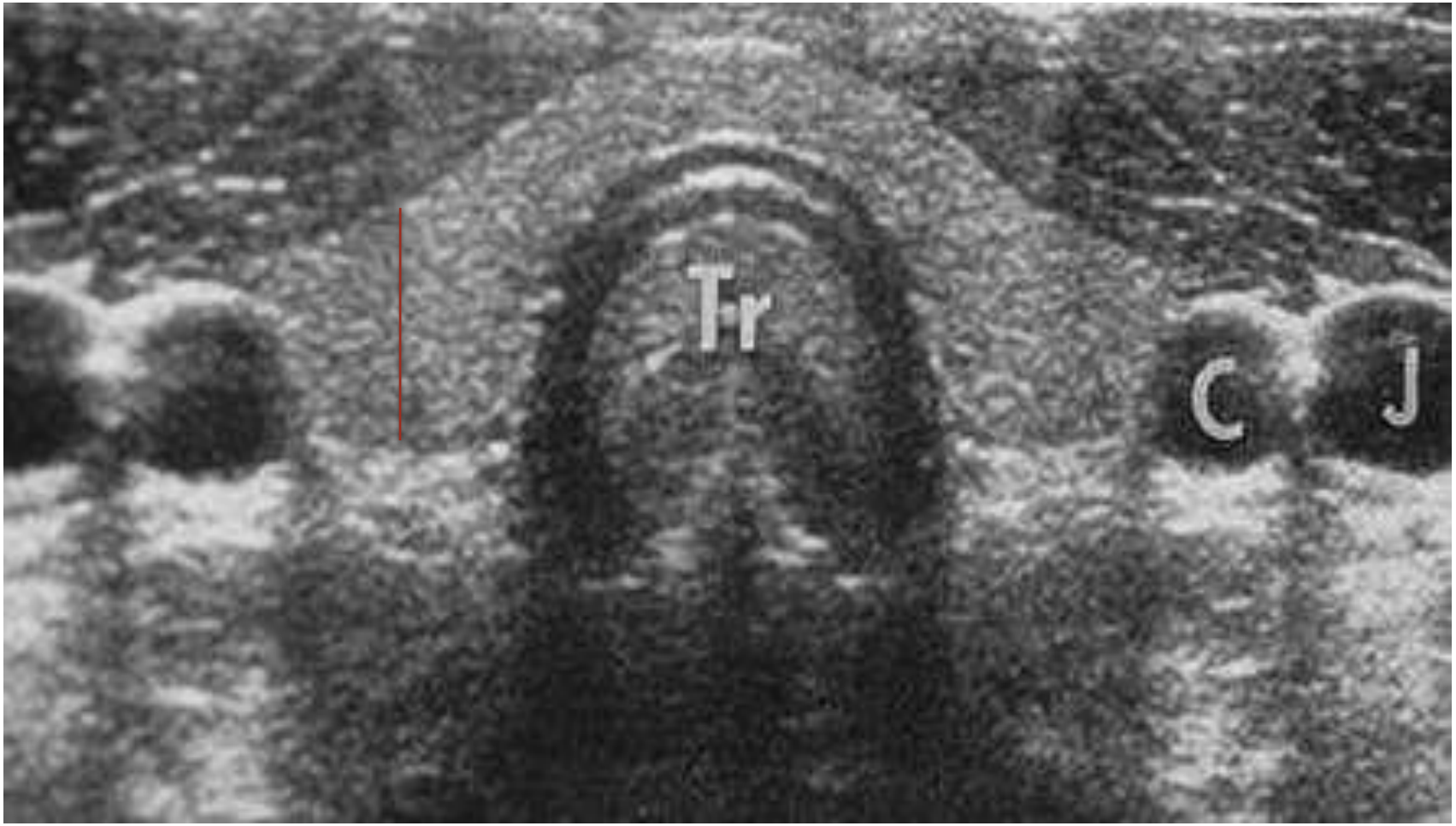
SIZE

- If one diameter is dependable in Size → A-P Diameter.
- Not > 2 cm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THYROID
RT
SAG
MID
1
2
B
Frq 14.0 MHz
Gn 32
E/A 2/3
Map E/0
D 4.0 cm
DR 72
FR 8 Hz
AO 100 %
1 L 4.36 cm
2 L 2.32 cm

Thyroid diseases

Diffuse

- Grave's disease
- Hashimoto thyroiditis
- De Quervain's Thyroiditis

Focal

- Solitary
- Multinodular

SOLITARY THYROID NODULE

Benign

Vs

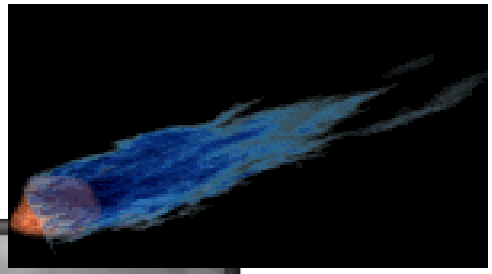
Malignant

Items to Be assessed

- Margins
- Nature
- Echogenicity
- Calcification
- Vascularity

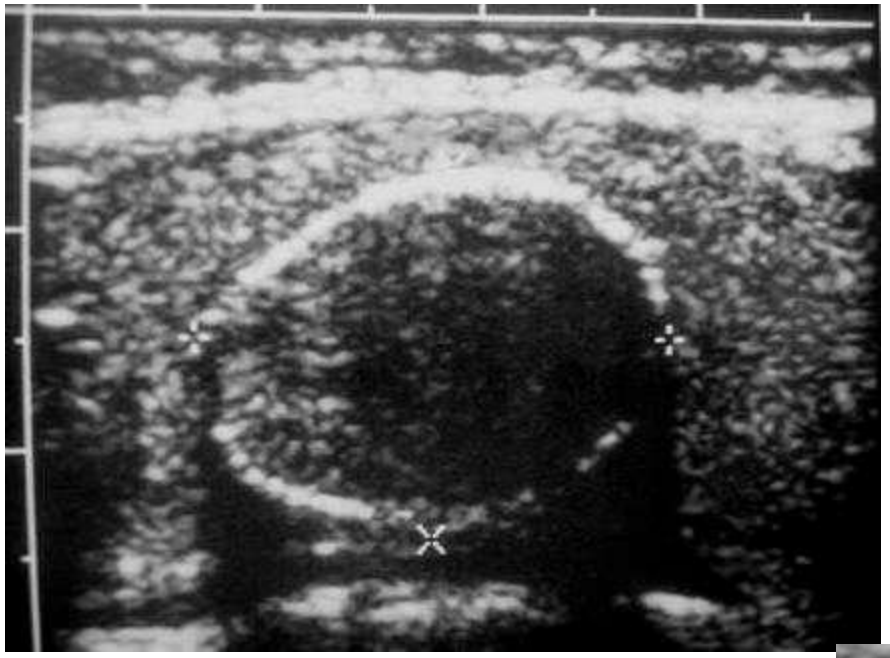
Nodule Criteria	Benign	Malignant
Margin	**Well Defined** "complete hallow = 12 time benign"	•**Ill Defined**
Echogenicity	**Hyperechoic** "malignant in 5 %"	•**Hypoechoic** "malignant in 65 %"
calcefication	*comet tail " 100 % Benign" •**Peripheral Rim** •**Large Areas** •"More e benign"	•**Fine punctuate** "More e Malignant"
Vascularity	•**Absent** •**Peri nodular**	•**Vascular**
Nature	•**CYSTIC** usually benign "but 20:30% papillary carc. Cystic"	More to be • **SOLID**

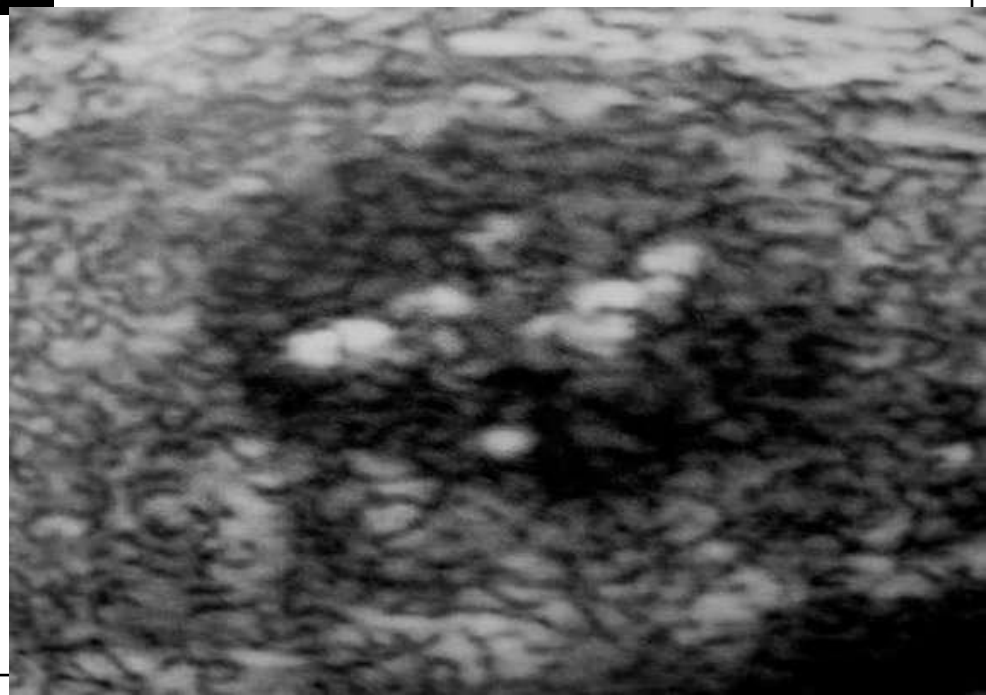
COMET TAIL SIGN



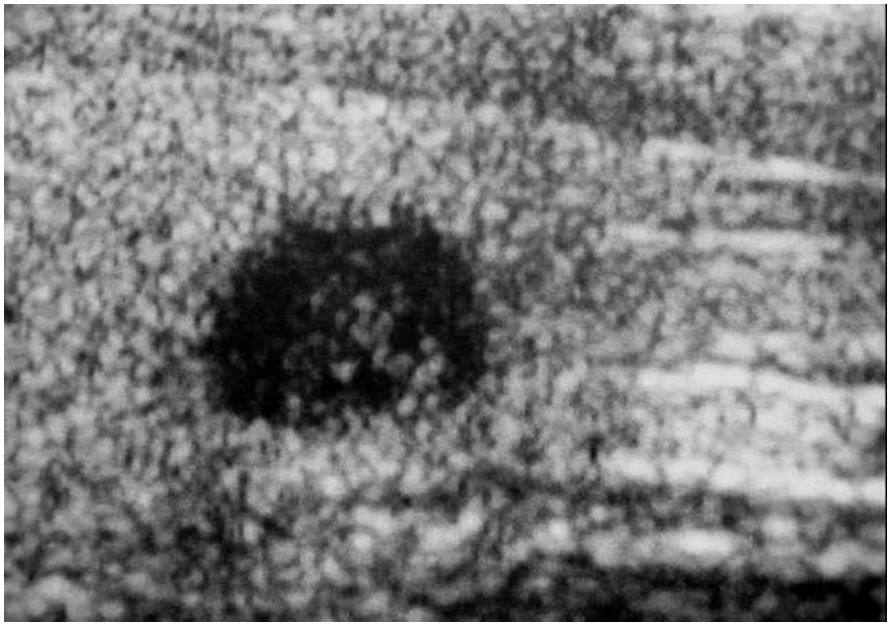
Benign colloid nodule

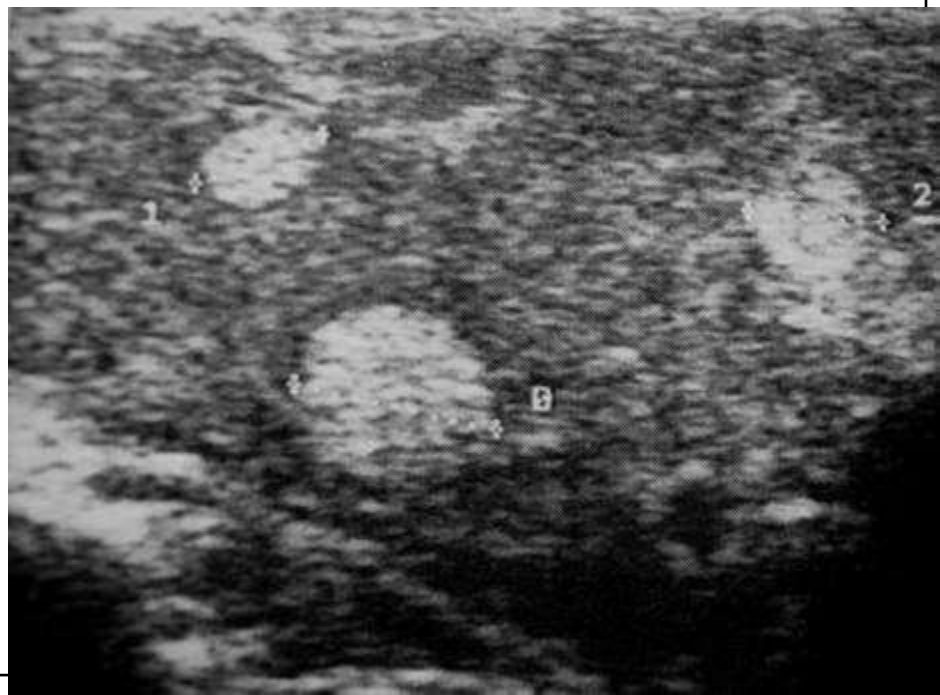
SURE SIGN OF BENIGN LESION

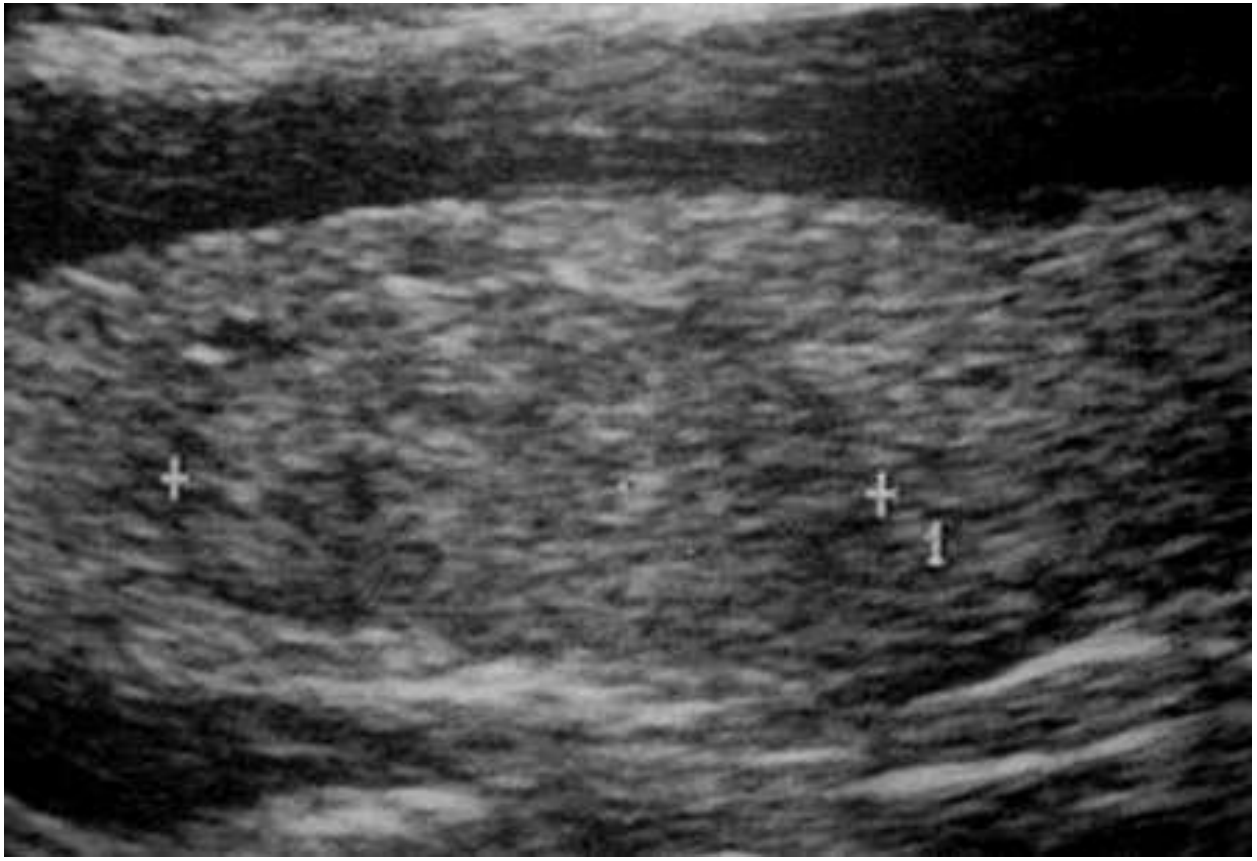




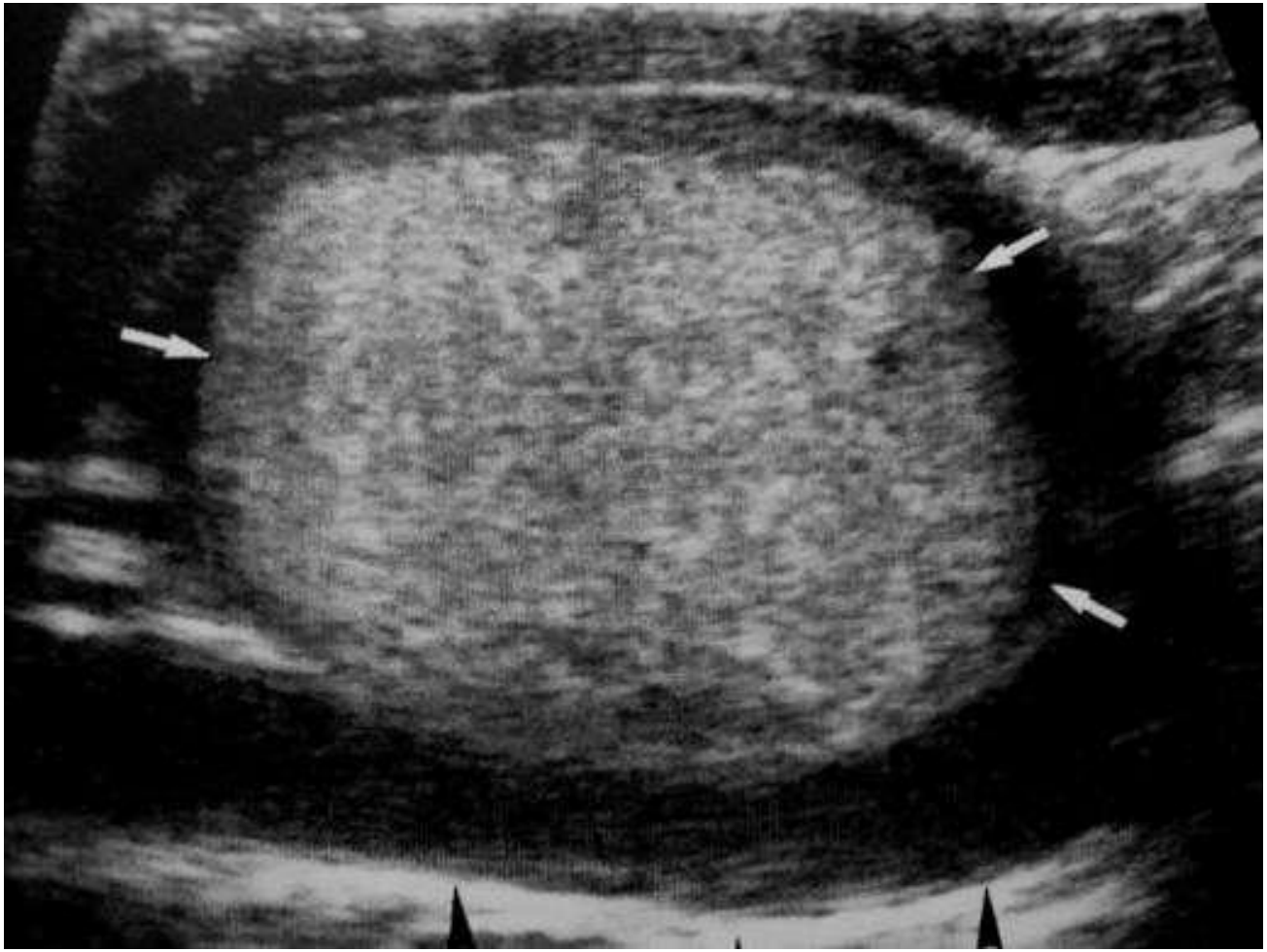
Hyper Vs Hypoechoic





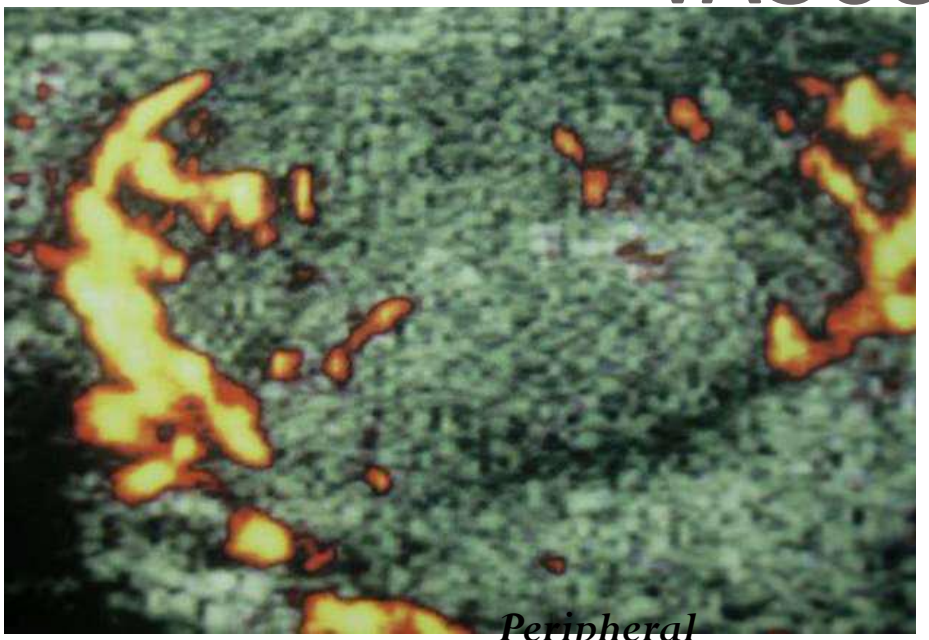


Iso = 25 % Malignant



Complete peripheral hallow = 12 time benign

VASCULARITY



Peripheral

Hyper vascular

FEATURES OF BENIGN THYROID NODULE

1- Comet tail ***

2- Cystic, Total or Near Total

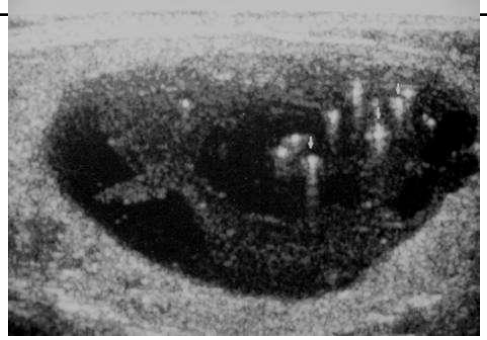
3- Calcifications : Rim or Large coarse

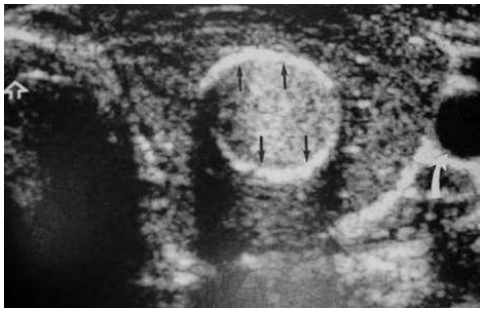
4- Complete halo

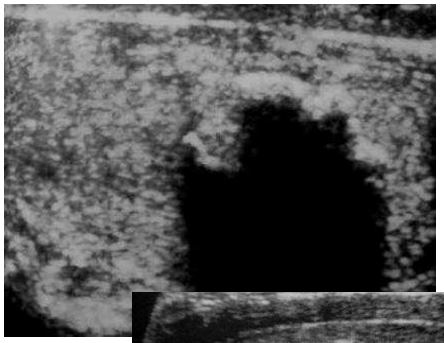
5- Defined Well

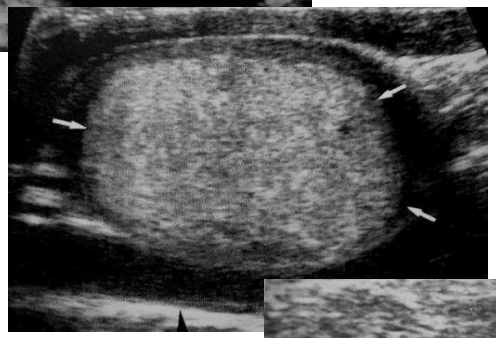
6- Echogenic or Isoechoic to normal tissue

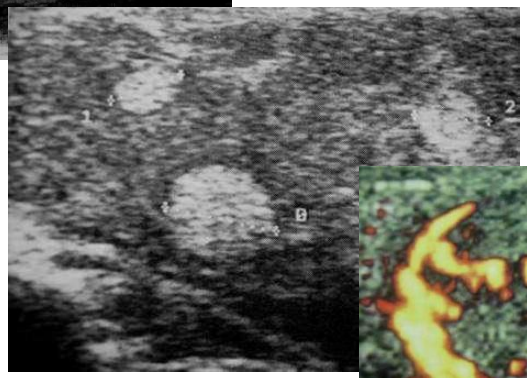
7- A Vasculr or Hypo

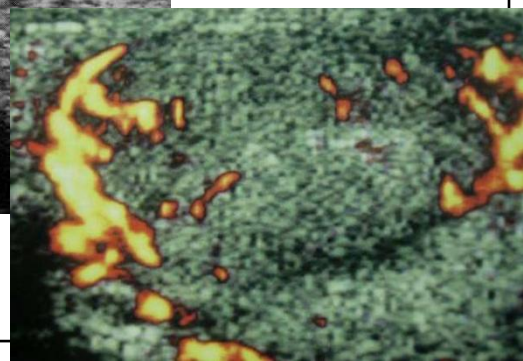












FEATURES OF MALIGNANT NODULE

1- Micro calcifications

2- Margin Irregular

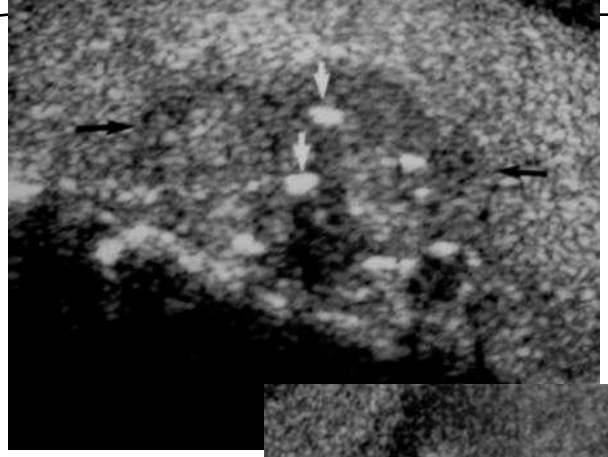
3- Marked hypoechogenecity

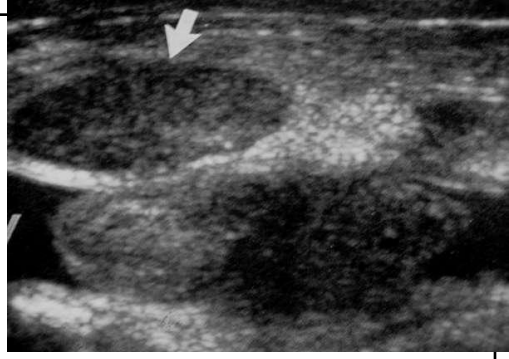
4- Marked vascularity

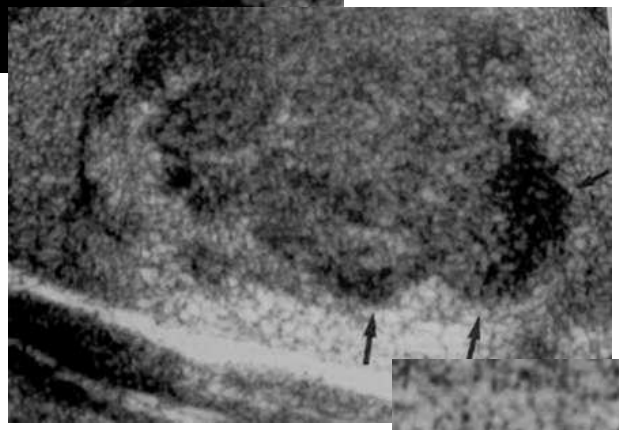
5- Adjacent Vessel Thrombosis

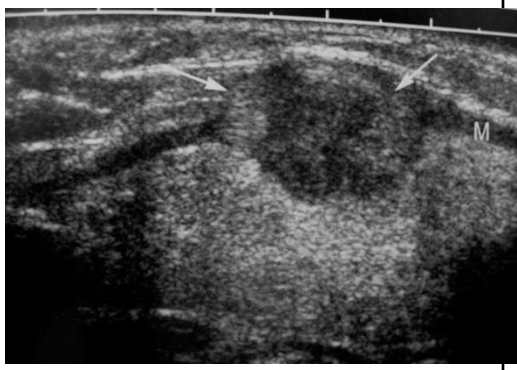
6- Adjacent Structures spread

7- Adjasent Lymphadenopathy





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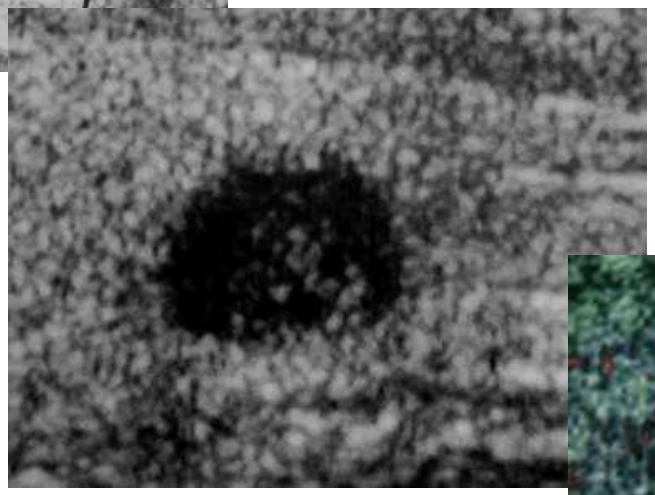
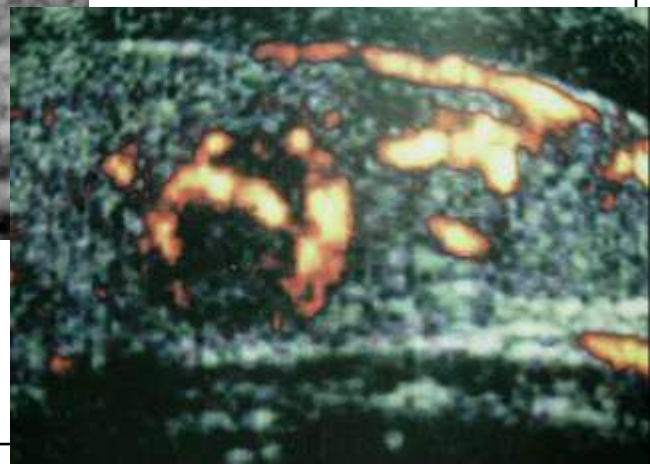
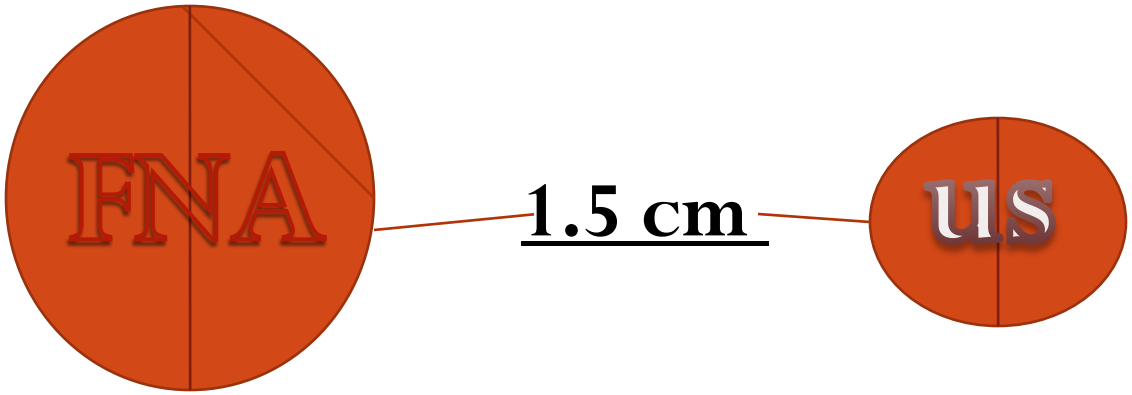




Evaluation of nodules incidentally detected by U/S

- <1.5 cm → follow up by us
- > 1.5 cm → further e 1.5 cm valuated by FNA



Solitary Vs Multinodular

- Malignancy is common in a solitary nodule .
- ***Multinodularity*** is usually ***Benign*** .

HOWEVER

10 – 20 % of

papillary carcinoma *may be Multicentric*

GRAVE'S DISEASE

- Diffuse enlarged gland
- Color Doppler → ***pathognomonic*** for the disease

, → **hypervascularity**

- = **"Thyroid inferno".**
- peak systolic velocity is **> 100 cm/sec**

"normal up to 25 cm / sec"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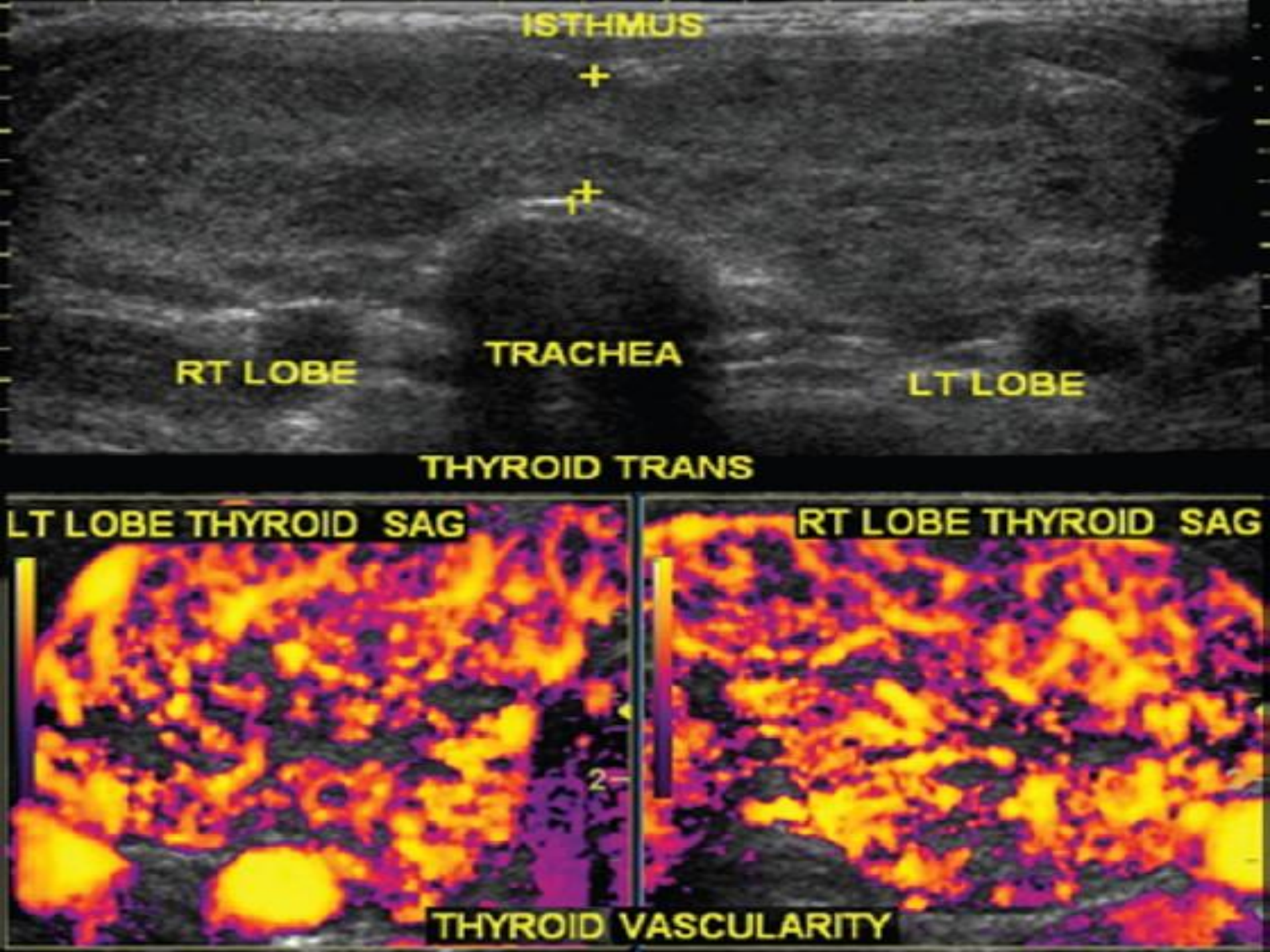
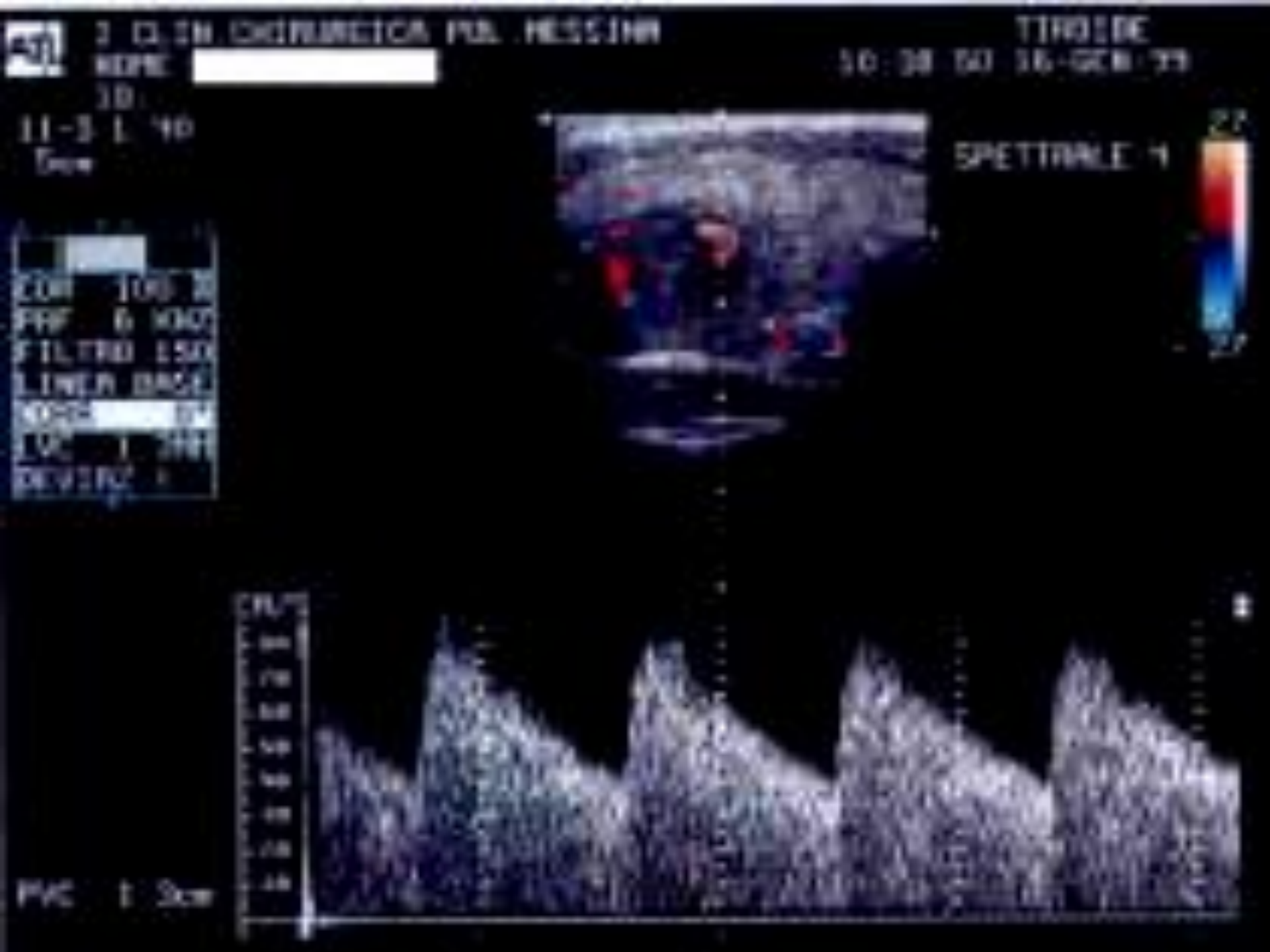

ISTHMUS
RT LOBE
TRACHEA
LT LOBE
THYROID TRANS
LT LOBE THYROID SAG
RT LOBE THYROID SAG
THYROID VASCULARITY



HASHIMOTO THYROIDITIS

- **Three stages:**

– **Acute**:

Enlarged in size / increased vascularity.

– **Chronic**:

Enlarged gland

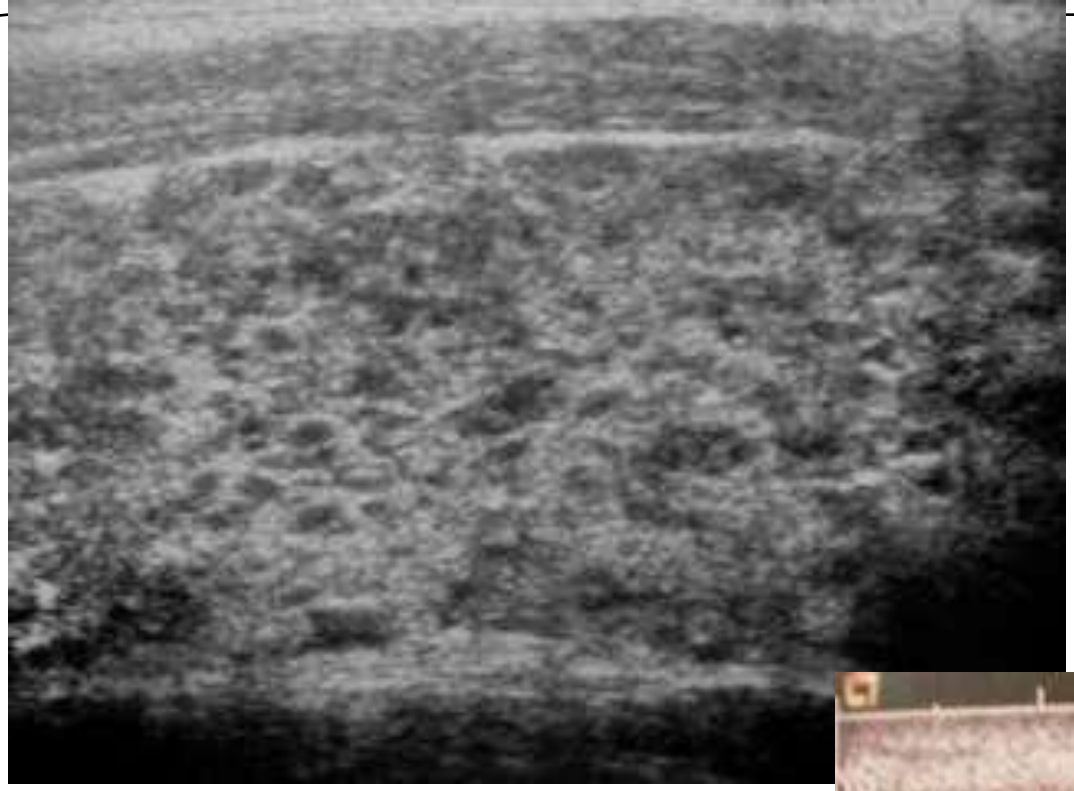
Multiple linear bright echoes throughout the hypoechoic parenchyma

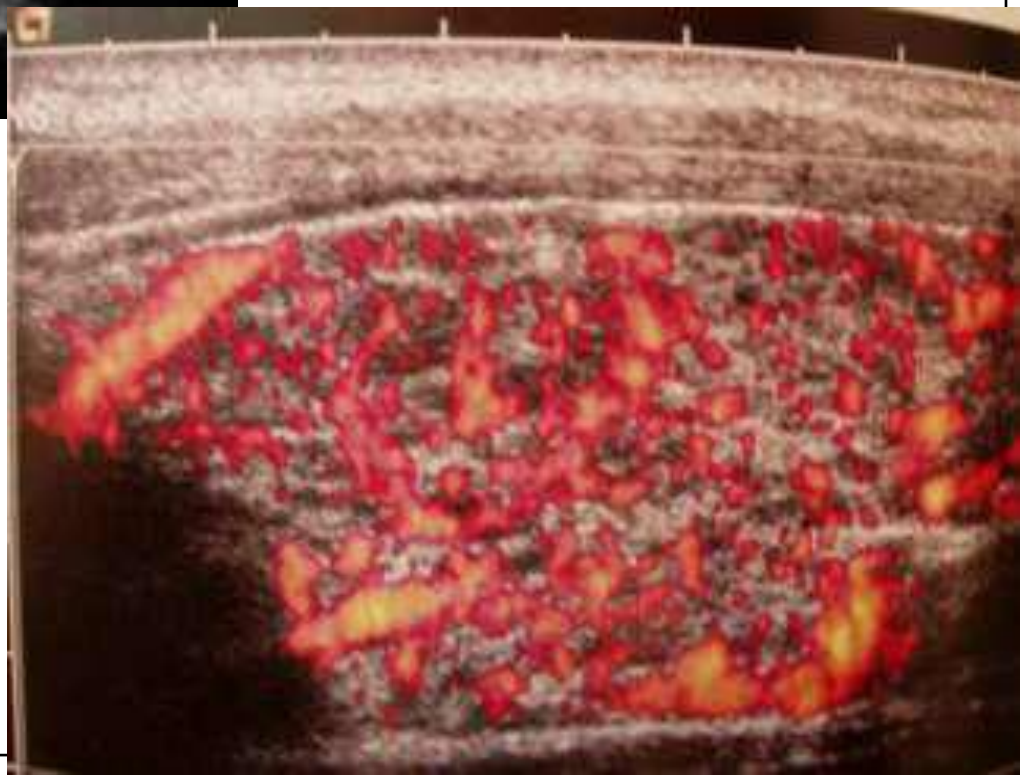
Multiple small hypoechoic nodules.

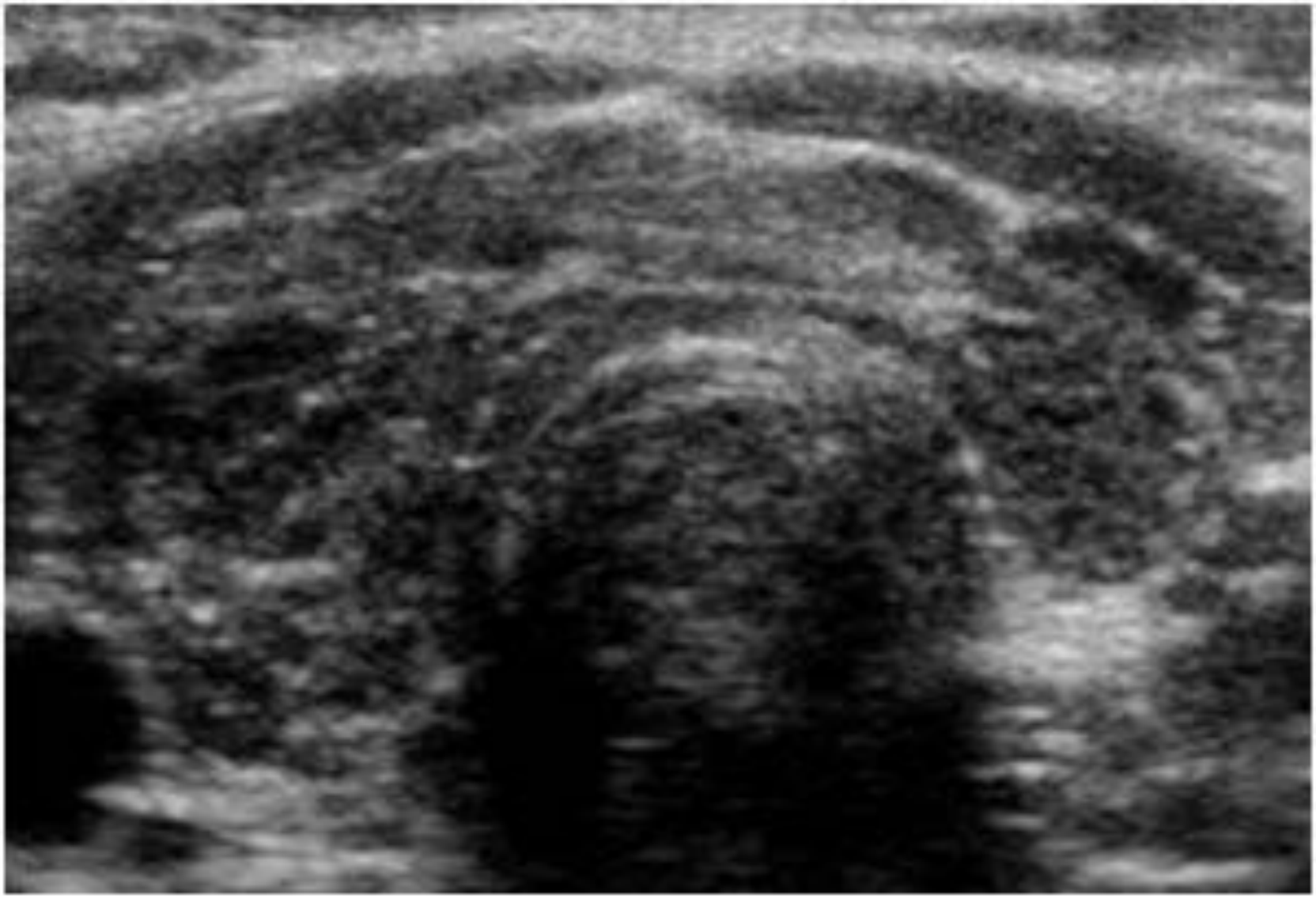
– **Atrophic**; end stage :

Small atrophic gland.

Avascular with **Heterogenous** echoes.







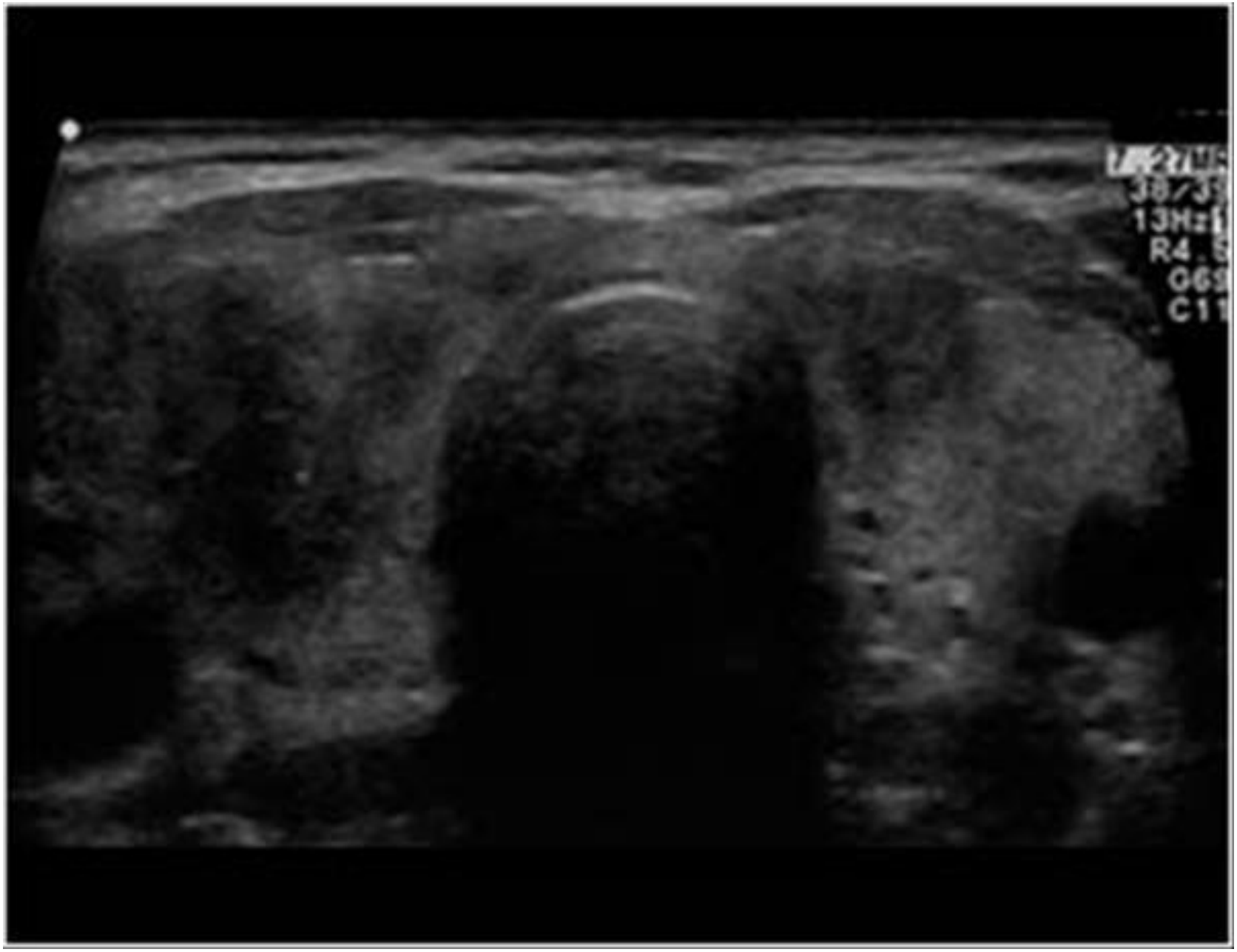
DE QUARVAN'S THYROIDITIS

- Inflammation not involve entire gland

  But

  infiltrates the gland in a non homogenous pattern.

- ***US*** **:** disordered pattern of hypoechoic and hypervascular areas



THANK YOU

Ahmad Mokhtar Abodahab

April 2015