SONOGRAPHIC EVALUATION OF CERVICAL LYMPH NODES

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2015 American Thyroid Association Management Guidelines for Adult Patients with Thyroid Nodules and Differentiated Thyroid Cancer

The American Thyroid Association Guidelines Task Force on Thyroid Nodules and Differentiated Thyroid Cancer

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Role of preoperative imaging for staging in cytological malignant or suspicious for malignancy

- Preop neck US for all patients
  - Evaluate central and lateral neck nodes
- Preop US FNA of suspicious nodes
  - Lateral neck nodes if would alter management
- Preop CT/MRI for advanced disease
  - Invasive or grossly metastatic
- Preop PET not recommended
Role of post-treatment US Surveillance

- Neck US of the central and lateral compartments should be performed at 6-12 months
  - ...and then periodically based upon risk of recurrence and Tg

- Sonographically suspicious nodes > 0.8-1.0cm (short axis / smallest dimension) should have US FNA for cytology and Tg wash
  - ...if it would change management

- Sonographically suspicious nodes <0.8-1.0cm may be followed with US
  - US FNA or intervention for growth or threat to vital structures

ATA Thyroid Nodule and Cancer Guidelines 2016
Cervical Nodal Levels
Central Neck Compartment: Lymph Node Basins

- Prelaryngeal nodes (Delphian)
- Pretracheal nodes
- Paratracheal nodes
  - Right
  - Left
- Others
  - Retropharyngeal
  - Retroesophageal
  - Parapharyngeal
Lateral Node Distribution in Therapeutic Neck Dissection

IIb involved only
If IIa involved

Farraq T, Tufano RP
*World J Surg* 2009

Koo BS
*Ann Surg Oncol* 2009
Normal Hilar Node Structure
Hodgkin's lymphadenopathy, power doppler
metastatic papillary carcinoma
papillary carcinoma, metastatic
s/p previous total thyroidectomy

A=1.13 cm
B=0.64 cm

TIS<0.4 MI=1.4 AO=100%
cystic lymph node
papillary carcinoma
IJ indentation

H/W > 0.7 (round)
26 yr old Male
Incidental thyroid nodule on work physical – FNA possible PTC
Lateral Cervical Lymph Node Cine

Right Transverse/Axial

Left Transverse/Axial
Left Level VI Nodal Mets PTC
Left Level IV Nodal Met PTC
Gross Nodal Metastases
Commonly Missed Neck Nodes in Metastatic Thyroid Carcinoma

- **Level III / VI**
  - Superior thyroid artery nodes
    - Under omohyoid / sternohyoid

- **Level IV**
  - Transverse cervical nodes
  - Subclavian nodes

- **Level IV / VI**
  - Inferior thyroid artery nodes
    - Posterior to carotid artery
Commonly Missed Neck Nodes in Metastatic Thyroid Carcinoma

- Level VI
  - Prelaryngeal (Delphian) nodes
  - Paratracheal nodes posterior to RLN
- Level VI / VII
  - Para-innominate artery nodes
Cervical Lymph Nodes

Levels I - VI
Boundaries of Neck Dissection

Radical dissection  Modified dissection
Level II

digastric

XII

IJ

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NOT FOR REPRODUCTION – FOR ATA ULTRASOUND COURSE USE ONLY
Level II/III

XI

Level IIb
Cervical LN US Summary

1. Office based ultrasound is sensitive and specific for detection and localization of differentiated thyroid cancer nodal mets

2. Lymph node location significantly correlates with the likelihood of metastasis

3. Certain sonographic features are significantly correlated with positive histopathology
Thank you!
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