

## [A1] THYROID NODULE GUIDELINES

Thyroid nodule = discrete lesion within the thyroid gland is radiologically distinct from the surrounding thyroid parenchyma.

Some palpable lesions may not correspond to distinct radiologic abnormalities ie not thyroid nodules

Nonpalpable nodules US etc are "incidentalomas."

Nonpalpable nodules have the same risk of malignancy as do sonographically-confirmed palpable nodules of the same size

Generally, only nodules >1 cm should be evaluated (greater malignant potential)

nodules <1 cm require evaluation because if: suspicious US, lymphadenopathy, high-risk clinical factors

### Thyroid cancer screening in familial follicular-cell derived differentiated thyroid cancer

No evidence for ultrasound screening

### Investigations for clinical/incidentally discovered thyroid nodules

1. TSH – if low, 123I scan; if normal or high, not for radionuclide scan initially

### History

H&N radiation (esp in childhood), all irradiation exposure, familial thyroid cancer FAP, Carney complex, Wener syndrome, MEN 2 etc

Rapid growth hoarseness

### Examination

cervical nodes, vocal cord paralysis, nodular

#### ■ RECOMMENDATION 3

Serum thyroglobulin (Tg) elevated in many thyroid diseases so not specific in thyroid cancer; not recommended

#### ■ RECOMMENDATION 4

No evidence for/against routine calcitonin measurement

#### ■ RECOMMENDATION 5 : INCIDENTAL 18FDG-PET uptake (when done for other reasons)

A) Focal 18FDG-PET uptake in US confirmed thyroid nodule = cancer risk → TSH + FNA if >1cm

If TSH raised, radionuclide scan (hyperfunction, isofunctioning, non-functioning)

hot rarely malignant so no FNAC;

Higher TSH = higher malignancy risk and more advanced stage

B) Diffuse 18FDG-PET uptake, in chronic lymphocytic thyroiditis → TSH and no further investigation

#### ■ RECOMMENDATION 6

Thyroid US (including cervical lymph nodes) for all/suspected thyroid nodules

[A9] Ultrasound (US) for FNA decision-making.

FNA is the procedure of choice in the evaluation of thyroid nodules

Thyroid nodule diagnostic FNA is recommended for

Nodules > 1cm with high/intermediate US pattern or >1.5cm if low suspicion; consider if 2cm with very low suspicion pattern

Bethesda system : estimation of cancer risk within each category

(i) nondiagnostic/unsatisfactory; (ii) benign; (iii) atypia/follicular lesion of undetermined significance

(iv) follicular neoplasm/suspicious for follicular neoplasm (FN/inc Hurthle cell Ca) (v) suspicious for malignancy  
(vi) malignant

■ RECOMMENDATION 10

A) nondiagnostic cytology result: repeat FNA

B) Repeatedly nondiagnostic nodules without a high suspicion US: observe or diagnostic surgical excision

C) Surgery should be considered for histopathologic diagnosis if the cytologically

nondiagnostic nodule has a high suspicion sonographic pattern, growth of the nodule (greater

than 20% in two dimensions) is detected during ultrasound surveillance, or clinical risk factors

for malignancy are present (Weak recommendation, Low-quality evidence)

A 3 month waiting period after a nondiagnostic biopsy is likely not necessary

Most nodules with a nondiagnostic cytology interpretation are benign.

■ RECOMMENDATION 11

Benign cytology: no further investigations

Malignancy: surgery

Active surveillance in malig: v low risk tumours PTC, co-morbid, short life expectancy,

AUS/FLUS cytology (BETHESDA III) repeat FNA or molecular testing and if inconclusive → surveillance or diagnostic surgical excision

Follicular Neoplasm/Suspicious for Follicular Neoplasm (FN/SFN) Cytology (BETHESDA IV)

(A) Diagnostic surgical excision

(B) If molecular testing not performed/inconclusive, surgical excision considered

Suspicious for Malignancy (SUSP) Cytology (BETHESDA V)

Treat as malignant cytology; estimated cancer risk 60-75%

#### ■ RECOMMENDATION 18

18FDG-PET imaging is not routinely recommended for the evaluation of thyroid nodules

with indeterminate cytology.

#### OPERATIVE STRATEGY: indeterminate cytology

, thyroid lobectomy is the recommended initial surgical approach.

Total thyroidectomy if Bethesda V, positive for carcinoma mutations, >4cm, familial thyroid cancer, radiation exposure, US suspicious, completion likely if nodule in lobectomy likely to be malignant

near-total thyroidectomy if bilaterally indeterminate nodules/comorbid/patient prefers bilateral operation

Risk suggestive of malignancy: >4cm, head and neck radio exposure, familial thyroid cancer

bilateral Nodularity/hyperthyroidism

Patient choice for more extensive operation

#### MULTINODULAR GLANDS

As for solitary nodules but each carries independent malignancy risk

If all low/very low suspicion pattern: aspirate only >2cm nodules

Low/low-normal TSH suggest nodule autonomy → radionuclide scan → only FNA iso/non-functioning nodules

#### BENIGN CYTOLOGY: FOLLOW-UP

High suspicion US: repeat US-FNA in 12 mths

Low-intermediate: 12-24mths

very low: ?24mths

Two benign results: no further US surveillance

Routine TSH suppression not recommended; supplement iodine 150mcg if necessary

Surgery: >4cm/compressive symptoms/clinical concern/recurrent cystic nodules

#### NODULES NOT MEETING FNA CRITERIA

A) Nodules with high suspicion US pattern: repeat US in 6-12 months

B) Nodules with sonographic features of low to intermediate suspicion US pattern:

consider repeat US at 12-24 months.

Nodules < 1 cm with very low suspicion US pattern (including spongiform nodules)

and pure cysts do not require routine sonographic follow-up

D) Nodules < 5 mm without high suspicion US pattern do not require routine sonographic FU

#### ■ RECOMMENDATION 30

A) FNA of clinically relevant thyroid nodules (refer to section [A10]) should be performed in euthyroid and hypothyroid pregnant women. (Strong recommendation, Moderate-quality evidence)

B) For women with suppressed serum TSH levels that persist beyond 16 weeks gestation, FNA may be deferred until after pregnancy and cessation of lactation. At that time, a radionuclide scan can be performed to evaluate nodule function if the serum TSH remains suppressed. (Strong recommendation, Moderate-quality evidence)

[A30] Approaches to pregnant patients with malignant or indeterminate cytology

#### ■ RECOMMENDATION 31

A) PTC discovered by cytology in early pregnancy should be monitored sonographically. If it grows substantially (as defined in section [A24]) before 24-26 weeks gestation, or if US reveals cervical lymph nodes that are suspicious for metastatic disease, surgery should be considered during pregnancy. However, if the disease remains stable by midgestation, or if it is diagnosed in the second half of pregnancy, surgery may be deferred until after delivery. (Weak recommendation, Low-quality evidence).

B) In pregnant women with FNA that is suspicious for or diagnostic of PTC, thyroid hormone therapy to keep the serum TSH 0.1-1.0mU/L is recommended. (Weak recommendation, Low-quality evidence).