

# Benign Thyroid Cytology

Fine Needle Aspiration Cytology of Thyroid Nodule  
Diagnostic category Benign (Thy2/Bethesda II)

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# Clinical presentation

## Patient Details

52 year old female

Palpable thyroid nodule

Clinically euthyroid

Ultrasound findings - Radiological classification: U3

Well-defined nodule

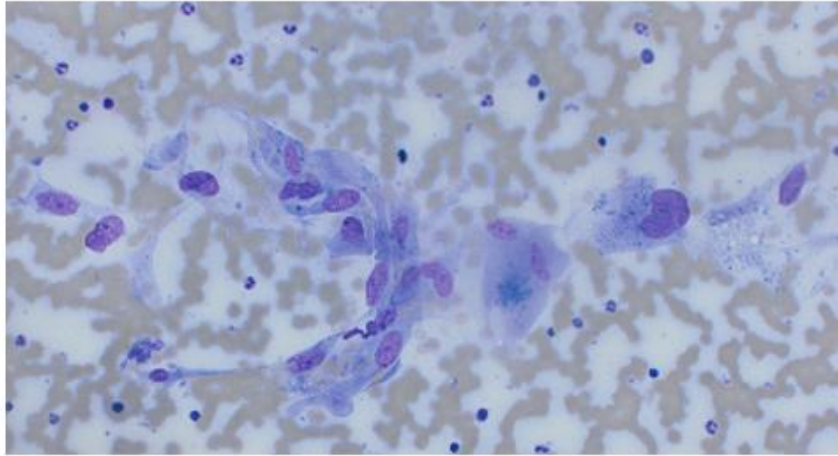
No suspicious lymphadenopathy

# Procedure

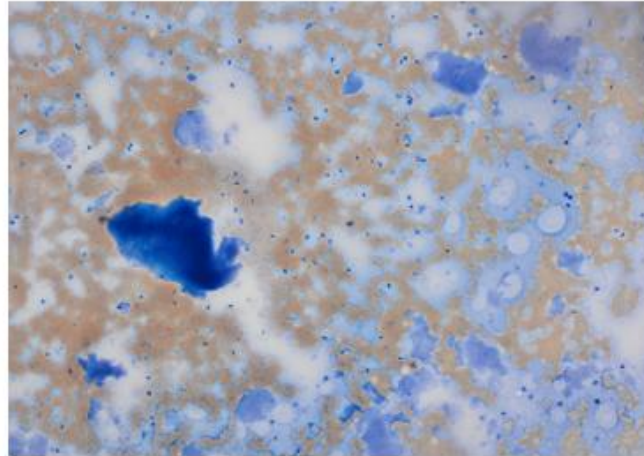
- Ultrasound-guided fine needle aspiration with ROSE
- 1 pass performed
- Direct smears made with needle washings for the lab
- Adequate for assessment

# Cytology

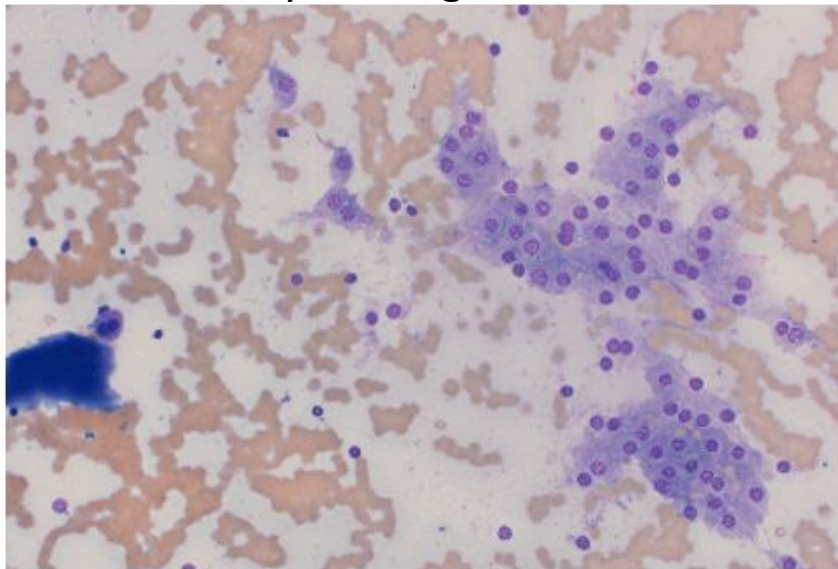
- Microscopic assessment
- Moderate cellularity
- Abundant colloid present
- Predominantly follicular epithelial cells
- Architecture - Flat sheets / macrofollicular groups
- Evenly spaced (“honeycomb”) arrangement



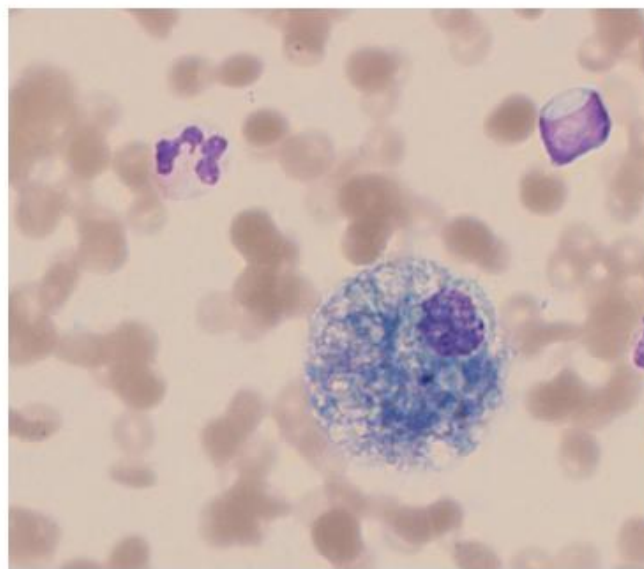
Cyst Lining cells



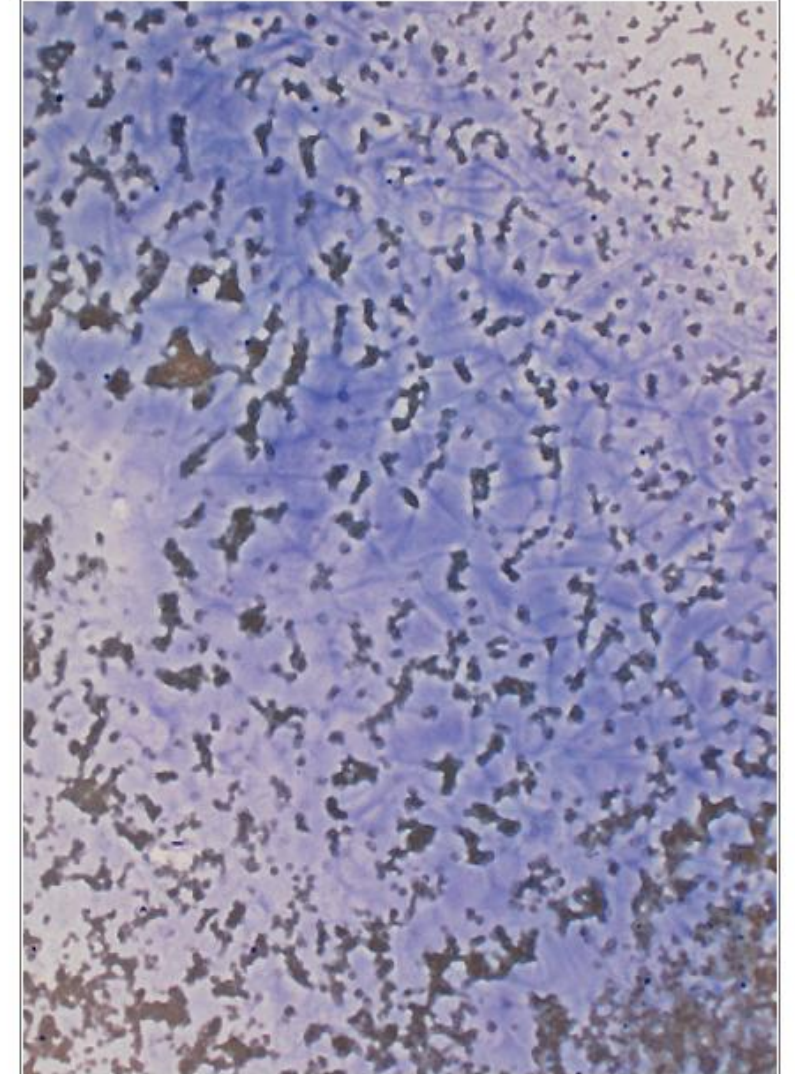
Thick and Thin Colloid



Follicular cells arranges in Macrofollicles



Macrophage

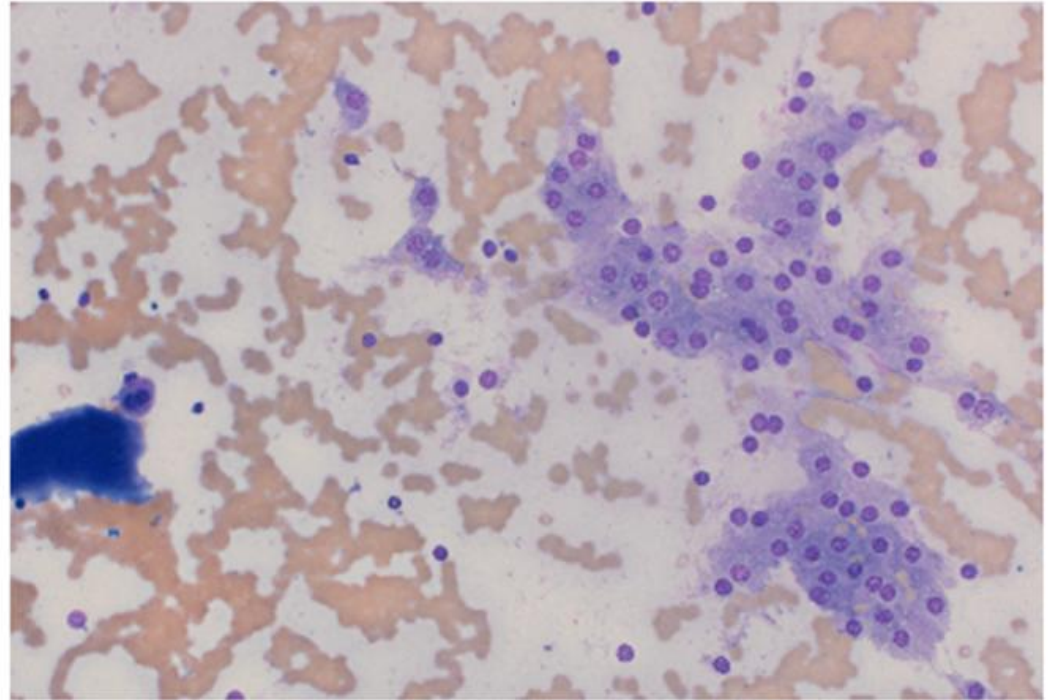


Colloid

# Cytology

## Cytological features

- Bland follicular cells
- Round nuclei
- Smooth nuclear membranes
- Fine, uniform chromatin
- Colloid (thin  $\pm$  dense)
- Occasional macrophages—  $\pm$  cystic degeneration
- ✓ Features consistent with a benign process



# Cytology

Cytology diagnosis - Consistent with benign follicular nodular disease(e.g. colloid nodule / multinodular goitre)

Classification: Thy2 (UK) / Bethesda II

Key diagnostic features

- High colloid-to-cell ratio
- Bland cytomorphology
- Absence of nuclear atypia

# Differential diagnosis

## Considered but excluded

- Follicular neoplasm - generally show high cellularity, scant colloid and microfollicles
- Papillary thyroid carcinoma - Would show nuclear grooves, inclusions and papillary groups
- Thyroiditis – Would show prominent inflammatory background (lymphocytic)

# Risk and Significance

- Malignancy risk - Low risk (approximately 2–7%)
- Clinical value - Avoids unnecessary surgery
- Supports conservative management pathway

# Outcome / management

- Clinical follow-up
- Ultrasound surveillance
- Repeat FNA if imaging–cytology discordance or routine 6-month repeat US FNA.

# Learning points

## Key messages

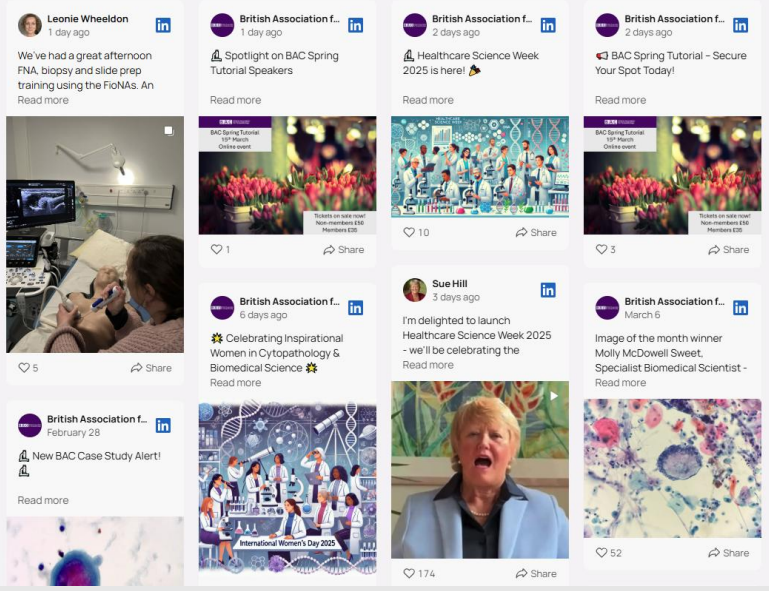
- Most thyroid nodules are benign
- Abundant colloid + bland follicular cells arranged in macrofollicles = reassuring pattern
- Adequacy is critical for diagnostic confidence
- Cytology must always be interpreted in clinical context

# Example report

“Thyroid FNA: Adequate sample showing abundant colloid, sheets of follicular cells arranged in macrofollicles with occasional macrophages and cyst lining cells present in the background.

There is no evidence of papillary nuclear or architectural features and no evidence of microfollicles.

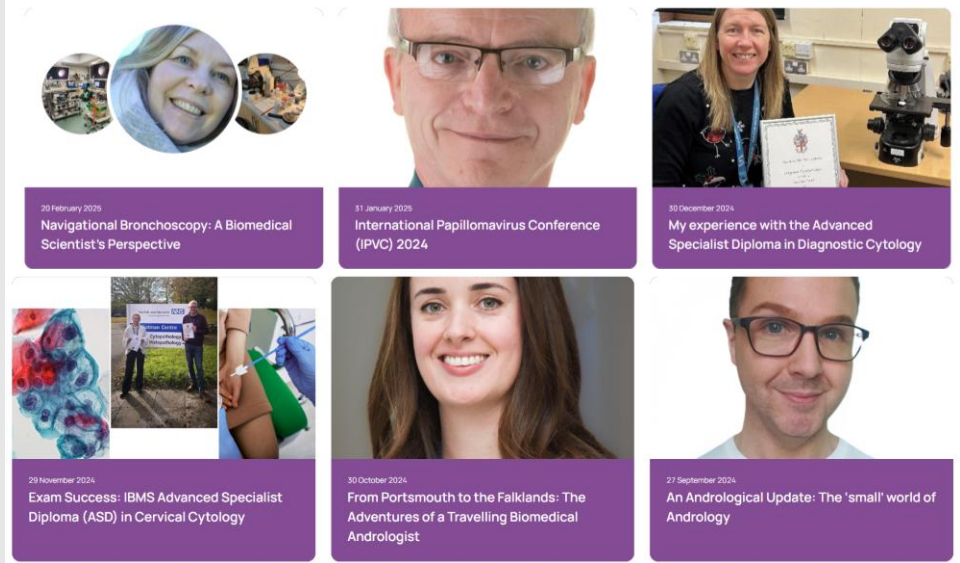
Findings are consistent with a benign follicular nodule (Thy2).”



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