

How good are we at Thyroid Cytology ?

Evaluating the Predictive Value of Thyroid Cytology: A Retrospective Audit Against Final Histology

1 Background

- The diagnostic procedure of Thyroid fine-needle aspiration cytology (FNAC) is conducted to evaluate thyroid swellings
- The cytological insights are categorized as per the Royal College of Pathologists (RCPATH) 'Thy' classification systems ranging between Thy1 (benign) to Thy5 (malignant).
- The Thy3 lesions often require histological confirmation whilst a strong histological correlation is present for Thy4 and Thy5.

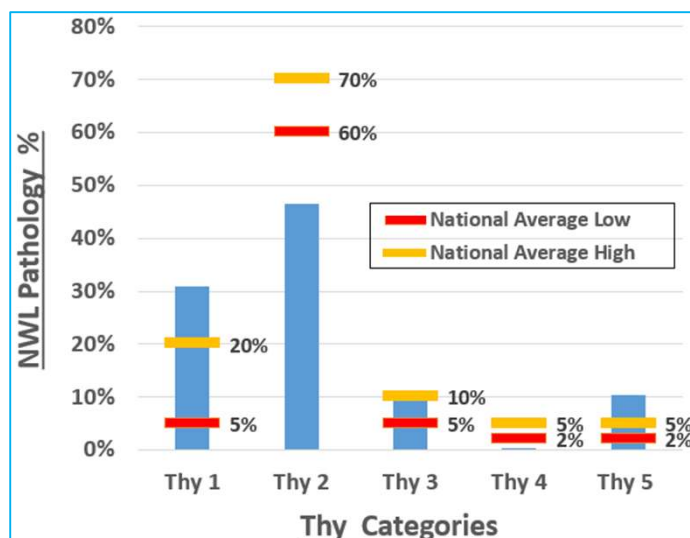
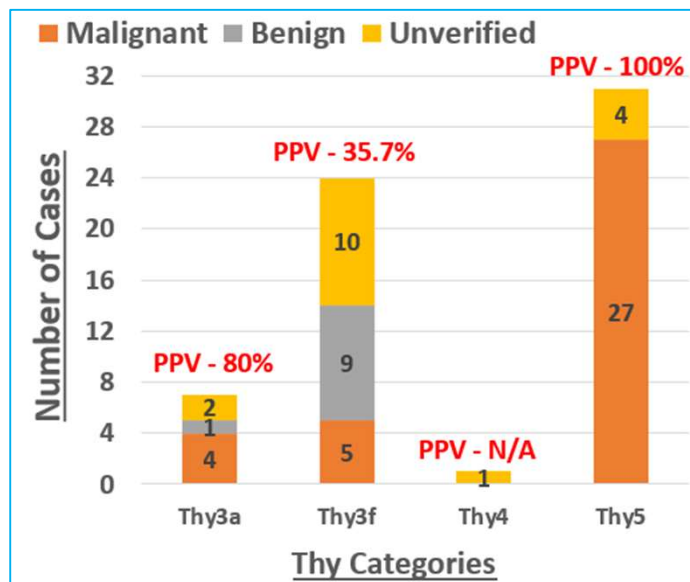
2 Audit Aims

This retrospective audit is conducted to evaluate quality assurance against set standards for 298 patient cases processed at The Charing Cross Hospital between March 2024 to December 2024 for the following -

- To compare inclusion of Thy criteria in cytology reports and compare against national average.
- To compare cytology and histology reports

3 Results and Conclusion

- High compliance with inclusion of Thy categories in cytology reports (98.32%) demonstrates good adherence to reporting standards.
- The positive predictive value (PPV) for Thy3a and Thy5 are high showing greater accuracy.
- The accuracy of Thy3f cases is low and needs MDT discussion.



4 Further Actions

- To reinforce inclusion of Thy categories in all cytology reports during departmental meetings / trainings
- Strengthen cytology-histology correlation by regularly reviewing discordant cases in QA meetings to identify and address diagnostic challenges.
- Encourage consistent use of detailed description alongside Thy category to provide clearer clinical context and support decision-making.
- Increase histological follow-up for indeterminate cytology (e.g. Thy3a/3f), to improve audit completeness.

5 References and Acknowledgements

- Cross P, Chandra A, Giles T, Johnson S J, Poller D. Guidance for the Reporting of Thyroid Cytology (3rd edition).
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