

AB084. Correlation between thyroid fine needle aspiration cytology scores and cancer incidence on final histopathology: a multi-centre retrospective analysis

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Background: Fine needle aspiration cytology (FNAC) is the best diagnostic tool for evaluating thyroid nodules pre-operatively. The Bethesda System for Reporting Thyroid Cyto-pathology (TBSRTC) in America and the THY classification in Europe are the standardized reporting system for thyroid FNAC specimens using six categories. As compared to the first edition in 2009 1, a second edition of TBSRTC published in 2017 2 has revised risk of malignancy (ROM) for these categories, with focus on atypia of unknown significance (Thy3A) upgraded to 10–30% from previously 5–15%, and suspicion for follicular neoplasm (Thy3F) 25–40% from previous 15–30%.

Methods: A three-year audit of thyroid surgeries performed

in two high volume thyroid institutions in Cork from January 2016 to September 2019 was obtained from *Hospital In-Patient Enquiry (HIPE)* and iLab laboratory execution system from HSE South. The FNAs were performed by thyroid specialist radiologists with a cytopathology technician in attendance for rapid on-site evaluation and reported as per TBSRTC and Thy classification, by a Consultant Cyto-pathologist from a single institution. Data was collected retrospectively.

Results: A total of 702 patients who underwent surgical resection for thyroid nodules were examined. There were 552 patients who had corresponding FNAC prior to surgery (mean age 53.6 years, females 79%). The rates of malignancy were, Thy1: 9.3%, Thy2: 4.6%, Thy3A: 10.8%, Thy3F: 28.7%, Thy4: 82.3% and Thy5: 100%. The main types of thyroid malignancy were papillary (73.6%), follicular (14.1%), medullary (4%), anaplastic (4.7%) and others (3.6%).

Conclusions: Pre-operative diagnosis of thyroid nodules in our institution using TBSRTC was comparable and the criteria helped avoid misinterpretation of results. Our results were comparable with the risk of malignancy in 2009 edition of TBSRTC, as compared to the 2017 revision.

Keywords: Fine needle aspiration cytology (FNAC); thyroid cancer; thyroid nodules

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