

Estimation of accuracy of fine needle aspiration cytopathology (FNAC) of thyroid in diagnosis of different thyroid lesions, and evaluation of the value of reporting FNAC per guidelines of Bethesda system in reducing the number of unnecessary thyroidectomies.

This is a case control prospective study conducted on 221 patients with thyroid nodule[s]. Patient were recruited to Cytopathology Department, Al-Yarmouk Teaching Hospital in the period from January 2014 to March 2017. Results of FNAC were reported per recent Bethesda System for Reporting of Thyroid Cytopathology (TBSRTC). Final diagnoses were determined by histopathology of surgically removed thyroid tissues.

Females were more than males with a ratio of 5.31/1, median age was  $45.67 \pm 3.1$  years. Twelve of cases (5.43%) categorized as nondiagnostic/unsatisfactory samples, 128 (57.92%) as benign, and 29 (13.13%) as atypia of undetermined significance/atypical follicular lesion of undetermined significance (AUS/AFLUS), 34 (15.38%) as follicular neoplasm/suspected follicular neoplasm (FN/SFN), 5 (2.26%) as suspicious for malignancy, and 13 cases (5.88%) as malignant. Histopathology found 2 cases from cytopathological benign category, 7 from AUS/AFLUS, 11 from FN/SFN, 3 from SFM, and twelve from malignant category to be malignant. FNAC achieved a sensitivity of 85.71%, specificity of 99.21%, positive predictive value of 92.31%, negative predictive value of 98.44%, and total accuracy of 97.87%.

Reporting thyroid cytopathology per Bethesda system increases sensitivity, specificity, accuracy of thyroid cytopathology, increases understanding of reporting system by clinician, improves management plans, and reducing number of unnecessary thyroidectomies.