ULTRASOUND GUIDED FINE-NEEDLE ASPIRATION OF THYROID NODULES – DOES SIZE MATTER?
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Background/Purpose: Authors have reported that fine-needle aspiration (FNA) biopsies of thyroid nodules ≥4cm are unnecessary since they often yield inaccurate results compared to nodules <4cm. They therefore recommend diagnostic thyroid lobectomies for nodules ≥4cm and FNA for smaller nodules. The aim of this study is to evaluate the accuracy and predictive values of ultrasound guided FNA (USFNA) of nodules ≥4cm compared to smaller nodules.

Methods: A retrospective study at the McGill University Thyroid Cancer Center was performed on patients between 2006-2012 comparing the USFNA and post-operative pathology diagnoses of nodules ≥4cm versus those <4cm. Pre-operative USFNA results were divided into benign, indeterminate and malignant/suspicious for malignancy subgroups. Postoperative results were separated into benign and malignant groups. SPSS was used for data analysis using the chi-square method.

Results: There were 225 patients with nodules ≥4cm and 773 patients with nodules <4cm. The sensitivity, specificity, positive predictive value and negative predictive value for USFNA of nodules ≥4cm were 84.62% (CI 71.91-93.10), 91.49% (CI 79.6-97.58), 91.67% (CI 80.0-97.63) and 84.31% (CI 71.4–92.95), respectively. The sensitivity, specificity, positive predictive value and negative predictive value for USFNA of nodules <4cm were 90.48% (CI 86.1-93.8), 85.92% (CI 75.6-93.02), 95.8% (CI 92.41-97.96) and 71.76% (CI 60.95-81.0), respectively. The difference in diagnostic accuracy of USFNA between both groups was not statistically significant (p>0.05).

Discussion & Conclusion: This study shows that USFNA of nodules ≥4cm is as accurate as smaller nodules. It is therefore suggested that these nodules be managed similarly to their smaller counterparts.