

CAN CYTOLOGY ACCURATELY PREDICT BENIGN FOLLICULAR NODULES?

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The reliability of fine needle aspiration (FNA) biopsy in differentiating benign from malignant follicular lesions of the thyroid has recently become controversial.

The goal of this study was to determine whether FNA can be used as a diagnostic tool to safely identify patients with follicular thyroid nodules who do not require immediate surgical intervention.

A retrospective review was performed on a random sample of 24 patients diagnosed with either follicular adenoma or follicular carcinoma following surgical excision of a thyroid nodule. Information was collected regarding patient demographics (age, gender), size of the nodule, and initial FNA diagnosis. The initial FNA biopsies were then independently reviewed by two experienced cytopathologists in a blinded fashion.

In the study sample, there were 17 follicular adenomas (71%) and 7 follicular carcinomas (29%). Twenty (83%) of the patients were female, and the average age was 50 years (range 15-86 years). The average thyroid nodule size was 3.1cm (range 1-4.8cm). Upon review of the FNA slides, Pathologist A correctly identified 9/17 (53%) benign nodules and 5/7 (71%) malignant nodules; overall accuracy was 58%. The positive predictive value (PPV) of a benign diagnosis was 82%; PPV of a malignant diagnosis was 38%. Pathologist B identified 10/17 (59%) benign nodules and 5/7 (71%) malignant nodules; overall accuracy was 63%. The PPV of a benign diagnosis was 83%; PPV of a malignant diagnosis was 50%. Concordance between the two pathologists was 6/17 (35%) for benign nodules and 4/7 (57%) for malignant nodules.

Currently, surgical intervention is recommended for all thyroid follicular cytology. This study suggests that a benign FNA biopsy report from an experienced cytopathologist has a high positive predictive value. The predictive value may not, however, be high enough and other factors may need to be considered before recommending a non-operative approach.