

“ STRAIN USG ELASTOGRAPHY WITH GRAY SCALE AND COLOUR DOPPLER IMAGING OF THYROID NODULES – EFFICACY COMPARED WITH FNAC ”

INTRODUCTION

Thyroid nodules are very commonly observed on thyroid ultrasonography . Conventional US has been widely used to determine which nodules should be biopsied.

Although conventional US can provide meaningful information in thyroid nodule diagnosis, there has been considerable variation in diagnostic performances.

Fine needle aspiration cytology (FNAC) is required for the nodules with suspicious ultrasound signs . However, FNAC has inherent limitations due to indeterminate and nondiagnostic results . As a consequence, a significant number of patients eventually receive unnecessary thyroid surgery.

Therefore, improvement and refinement of noninvasive methods to depict malignancy are needed. In this context, US elastography (USE) has recently been introduced in the clinical workup of thyroid nodules.

AIMS AND OBJECTIVES

AIM

To compare sonography combined with USE findings of thyroid lesion with the cytological results of fine-needle aspiration cytology and determine the accuracy of ultrasound combined USE findings in the diagnosis of thyroid lesions.

OBJECTIVE

Ultrasonographic and USE evaluation of thyroid lesions as benign ,intermediate or malignant. To compare the accuracy of Ultrasonographic findings with fine needle aspiration cytology (FNAC) in the diagnosis, sensitivity, specificity ,PPV,NPV and overall accuracy.

MATERIALS AND METHODS

This is a prospective study with 100 patients.

GRAY SCALE USG , USE and Ultrasound guided FNAC will be collected from patients presented for a thyroid lesion after detailed sonographic evaluation.

RESULTS:

In this evaluation of 100 thyroid nodules, 96 benign nodules and 4 probably malignant nodules were detected by combining USG and USE . Out of 3 cases of carcinoma detected by FNAC , all are detected by combining both techniques . The combination yielded improvement with 99% specificity and 99.5% overall accuracy with a highly significant p value($p < 0.01$). , whereas USG alone had 91.8% specificity and 95.9 % overall accuracy.

CONCLUSION

According to this study , it can be concluded that USG in combination with elastography is an cost effective , non – invasive and feasible technique to detect malignant thyroid nodule with a high specificity.

Given the high prevalence of thyroid nodules and the substantial costs related to their workup and management, USG in combination with elastography can help in identifying patients in need of FNAC or Biopsy .

Gray scale USG in combination with elastography may also be used to guide the follow-up of suspicious lesions negative for malignancy at FNAC.

KEY WORDS

GRAY SCALE USG , USE, THYROID NODULES , FNAC , BENIGN, MALIGNANT.