

## Abstract

**Title of the abstract:** Ultrasound guided fine needle aspiration cytology (US-FNAC) for palpable thyroid tumours.

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**Aim:** To study the effect of ultrasound guidance on the performance of fine needle aspiration cytology (FNAC).

### Objectives:

- To determine the adequacy of US-FNAC.
- To assess the accuracy of US-FNAC by comparing it with histopathology.

### Materials and methods

US-FNAC was done in 290 patients from December-2013 to December-2014 by the radiologist in the presence of a surgeon and an onsite cytotechnician to assess the adequacy of FNAC. All the samples were reported by a dedicated cytopathologist. Accuracy was calculated by comparing FNAC with histopathology for those who had thyroidectomy. Sensitivity, specificity and predictive probabilities were calculated for US-FNAC.

**Results:**

80.1% of the samples were adequate excluding 17 cystic swellings. 117/290 patients were operated till February-2015. The sensitivity and specificity of US-FNAC in this study is 83.1% and 81.3% respectively, with a positive predictive value of 89.1%, negative predictive value of 72.2% and an accuracy of 82.4% in predicting malignancy.

**Conclusions:**

- The use of ultrasound guidance increases the adequacy of FNAC.
- The accuracy rate in inadequate, benign and AUS categories need to improve in this study and most of them had FVPTC which is known to have heterogenous features on ultrasound and patchy distribution of nuclear features for malignancy on histopathology.

# Keywords

1. Ultrasound guided fine needle aspiration of thyroid tumours (US-FNAC)
2. Ultrasound of thyroid
3. Fine needle aspiration of cytology (FNAC)
4. Bethesda system of thyroid cytology reporting
5. Adequacy and accuracy of FNAC of thyroid