



## The evaluation of ultrasonography results of patients with a fine needle aspiration biopsy and pathology diagnosis of papillary thyroid cancer a single center study

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### Abstract

**Aim:** We aimed to measure the accuracy of the results of FNAB (fine needle aspiration biopsy) and preoperative ultrasonography (US) in patients whose pathologic diagnosis was thyroid cancer and who underwent total thyroidectomy in this study.

**Material and method:** A total of 43 patients who had undergone thyroidectomy between January 2012 and September 2017 were included in the study. The data of the patients who underwent FNAB following US investigation at our clinic and were diagnosed with thyroid cancer after surgery were evaluated retrospectively. Multinodular tissue formation was present on thyroid ultrasonography in all patients. The findings that were accepted as ultrasonographically suspicious for malignancy during nodule evaluation were as follows:

- I. a solid and hypo echogenic nodule,
- ii. A nodule with micro calcifications,
- iii. A nodule with irregular borders,
- IV. A nodule without a halo,
- v. the length of the nodule being longer than the width,

VI. Increased nodule vascularity on Doppler ultrasonography evaluation.

The number of nodules that underwent FNAB, the diameter, echogenicity (hyper echogenic, is echogenic, hypoechogenic, heterogeneous), content (solid, solidcystic, cystic, microcalcification presence), the presence or absence of a peripheral halo, whether the border was regular or irregular, and whether the nodule was vascular were noted in the US reports. Fine needle aspiration biopsy results and postoperative pathologic diagnoses and ultrasonographic findings of the patients diagnosed with papillary thyroid carcinoma were compared. Results: Of the patients who underwent thyroidectomy, 36(83.72%) were female and 7(16.28%) were male. The mean age was  $48.14 \pm 12.75$  years. A family history of thyroid or other cancers was present in 9 patients. The pathology results of the 43 patients whose previous fine needle aspiration biopsy result was papillary thyroid cancer were also consistent with papillary thyroid cancer. Of the patients found to have thyroid cancer, papillary carcinoma was present in 28 patients and papillary micro carcinoma in 15 patients. Although the incidence of malignancy was high in solid hypo echogenic nodules, nodules with vascularization, nodules with an anterior-posterior diameter/ transverse diameter ratio  $>1$  and nodules without a halo in our study, the incidence of malignancy was seen to be less in patients who had a nodule with micro calcification and an irregular border. The incidence of cancer was high in nodules 1-4cm in size. Conclusion: FNAB should be performed in patients with a nodule and suspicious US findings to decide whether they should undergo surgery. US are a guiding and noninvasive examination that can reduce the unnecessary FNAB and surgery rate in US patients.

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