

## **NEGATIVE PROGNOSTIC IMPLICATION OF FIBROTIC PATTERN IN PAPILLARY THYROID CANCER**

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**Background/Purpose:** Lymph node metastasis in papillary thyroid cancer (PTC) occurs 40-60%. Extrathyroidal extension and large tumor size are most reliable predicting factors for central lymph node metastasis whose prognostic value is controversial. In this study, we evaluated the relationship between a specific finding of primary tumor in the thyroid, fibrosis, and negative prognostic factors.

**Methods:** We reviewed the patients who underwent total thyroidectomy and central lymph node (CLN) dissection with or without lateral lymph node dissection (LND) for PTC, from January to December, 2011. We defined (+) finding when the degree of fibrosis comprises 10% or more of the primary tumor. Correlation between degree of fibrosis and negative prognostic factors, including age, gender, tumor size, extrathyroidal extension (ETE), number of CLN metastasis, and lateral cervical lymph node metastasis (LCLNM), was analyzed.

**Results:** Of the 481 patients, fibrosis (+) group includes 387 patients (80.5%). On the chi-square test, age, gender, tumor size, and LCLNM were not correlated with fibrosis. ETE (+) group comprised of higher rate of fibrosis (+) group (90.4%) compared to ETE (-) group (64.9%,  $p < 0.001$ ). CLN metastasis (+) comprised of higher rate of fibrosis (+) group (84.6%) compared to CLN metastasis (-) group (76.5%,  $p = 0.017$ ). On the multivariate analysis, ETE was a significant risk factor of fibrosis (odds ratio = 2.545,  $p < 0.001$ , confidence interval from 1.775 to 3.649).

**Discussion & Conclusion:** Fibrosis in PTC can be a risk factor of extrathyroidal extension, a negative prognostic factor. This suggests that the behavior of fibrotic tumor is, possibly, more aggressive than non-fibrotic tumor.