

## **PREDICTIVE FACTOR FOR SYNCHRONOUS LUNG METASTASIS IN PATIENTS WITH PAPILLARY THYROID CARCINOMA**

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**Background/Purpose:** Distant metastasis is known to be an important prognostic factor in papillary thyroid carcinoma(PTC). The most common site of distant metastasis is the lung in PTC patients. The aim of this study was to investigate the prevalence and the predictive factors for synchronous lung metastasis in PTC patients.

**Methods:** From January 1981 to October 2012, the total 17440 patients with PTC underwent thyroidectomy in department of surgery at Severance hospital. Of these, 36 patients(0.2%) were diagnosed as PTC with synchronous lung metastasis. Age, gender, extrathyroidal extension, multiplicity, tumor size, central lymph node metastasis, lateral lymph node metastasis, bilateral lateral neck node metastasis were investigated to analyze the relationship with synchronous lung metastasis of PTC.

**Results:** On the patients with synchronous lung metastasis of PTC group, mean age was 53.4(±16.52) years, mean tumor size was 2.3(±1.36) cm, and mean serum thyroglobulin level was 135.6(±179.81) ng/mL. Older age, gender, extrathyroidal extension, multiplicity, tumor size, central lymph node metastasis, lateral neck node metastasis and bilateral lateral neck node metastasis were significantly related to synchronous lung metastasis of PTC in univariate analysis( $P<0.05$ ). In multivariate analysis, age( $P<0.001$ , OR=1.047), tumor size( $2<\leq 4$ cm;  $P=0.002$ , OR=4.768,  $>4$ cm;  $P=0.025$ , OR=5.096), lateral neck node metastasis( $P<0.001$ , OR=10.834), bilateral lateral neck node metastasis( $P=0.011$ , OR=2.998) were recognized as independent predictive factors for synchronous lung metastasis of PTC.

**Discussion & Conclusion:** More than 2cm sized tumor, older age, and lateral neck node metastasis are the predictive factors for synchronous lung metastasis in PTC patients. These findings suggest that preoperative chest evaluation CT or positron emission tomography(PET), radical total thyroidectomy followed by high dose radioactive iodine treatment, and close follow-up are recommended in PTC patients with risk factors.