



ORIGINAL ARTICLE

Should central lymph node dissection be considered for all papillary thyroid microcarcinoma?



Young Woo Chang^{a,b}, Hwan Soo Kim^{a,b}, Hoon Yub Kim^{a,b},
Jae Bok Lee^{a,b}, Jeung Won Bae^{a,b}, Gil Soo Son^{a,b,*}

^a Department of Breast Endocrine Surgery, Korea University Medical Center, Seoul, Republic of Korea

^b Department of Surgery, Korea University College of Medicine, Seoul, Republic of Korea

Received 12 January 2015; received in revised form 13 February 2015; accepted 24 February 2015
Available online 22 April 2015

KEYWORDS

central lymph node;
papillary thyroid
cancer;
papillary thyroid
microcarcinoma

Summary *Background:* Central lymph node dissection (CLND) in patients with papillary thyroid microcarcinoma (PTMC) is still controversial. The aim of this study was to examine the risk factors and the incidence of central lymph node metastases (CLNMs) in patients with PTMC who underwent thyroidectomy and CLND.

Patients and methods: Between 2002 and 2013, 613 patients were enrolled who underwent thyroidectomy with routine CLND for PTMC at the Korea University Medical Center, Ansan Hospital and risk factors and the incidence of CLNM were analyzed. In addition, we also evaluated the complications after thyroidectomy with CLND.

Results: Out of 613 patients, 239 (39.0%) were found to have CLNM. Male sex ($p = 0.012$), tumor size ≥ 0.5 cm ($p = 0.001$), capsular invasion or extrathyroidal extension ($p = 0.029$), and multifocality ($p = 0.004$) were independent risk factors for CLNM. Among the 69 patients who had PTMC without these risk factors, CLNM was identified in 12 (17.4%). In this study group, two (0.3%) had permanent recurrent laryngeal nerve injury, two (0.3%) had persistent hypocalcemia, and two (0.3%) developed postoperative hemorrhage.

Conclusion: CLNM in PTMC is highly prevalent in male sex, tumor size ≥ 0.5 cm, extrathyroidal extension, and multifocality. Even in PTMC patients without these risk factors, the incidence of CLNM is rather higher than expected, and the complication rate of thyroidectomy with CLND is acceptable. Thus, CLND should be considered in all patients with PTMC.

Copyright © 2015, Asian Surgical Association. Published by Elsevier Taiwan LLC. All rights reserved.

Conflicts of interest: This study was supported by Korea University Grant (K1032401).

* Corresponding author. Department of Breast Endocrine Surgery, Korea University Medical Center, 123, Jeokgeum-ro, Danwon-gu, Ansan-si, Gyeonggi-do 425-707, Republic of Korea.

E-mail address: gsson@korea.ac.kr (G.S. Son).

<http://dx.doi.org/10.1016/j.asjsur.2015.02.006>

1015-9584/Copyright © 2015, Asian Surgical Association. Published by Elsevier Taiwan LLC. All rights reserved.

1. Introduction

Papillary thyroid microcarcinoma (PTMC) is defined as a papillary thyroid carcinoma (PTC) measuring ≤ 1 cm in maximal diameter, and the overall 10-year survival rate associated with this malignancy is $> 90\%$.^{1,2} Because of the overall excellent prognosis of PTMC, many current guidelines and recommendations regarding the optimal treatment strategy for PTMC remain controversial.^{3,4}

Many arguments about PTMC treatments have focused on routine central lymph node dissection (CLND), because despite the excellent prognosis, central lymph node metastases (CLNMs) are common in patients with PTC. Several studies have reported that CLNM are associated with a significantly increased probability of locoregional disease recurrence, and routine CLND for PTC patients may decrease recurrence and improve disease-specific survival.^{5–9}

However, Ito et al¹⁰ have insisted that prophylactic CLND may result in postoperative complications and provides no overall survival benefit. Moreover, the 2009 guidelines for the management of thyroid nodules and differentiated thyroid cancer issued by the American Thyroid Association Guidelines Taskforce state the following: "Prophylactic central-compartment neck dissection (ipsilateral or bilateral) may be performed in patients with papillary thyroid carcinoma with clinically uninvolved central neck lymph nodes, especially for advanced primary tumors."¹¹

To investigate the efficacy and indication of CLND for PTMC patients, we examined the overall incidence and risk factors of CLNM in our cases. In addition, we also analyzed the complications and incidence of CLNM in PTMC patients without risk factors.

2. Patients and methods

A total of 613 patients who underwent thyroidectomy with routine CLND for PTMC at the Korea University Medical Center, Ansan Hospital, between January 2002 and December 2013 were enrolled in this study. Based on a review of our computerized database, the following data were collected: demographic information and pathological parameters, such as tumor size, extra thyroidal extension, multifocality, cervical lymph node metastasis, lymphovascular invasion, and thyroiditis. This study was approved by the Institutional Review Board of Korea University Medical Center, Ansan Hospital.

All 613 patients underwent hemithyroidectomy or total thyroidectomy with routine CLND. Hemithyroidectomy with ipsilateral CLND was performed in 205 patients because they had single lesions that were limited to the thyroid and clinically negative radiologic findings in the central lymph node, and four underwent subsequent completion thyroidectomy. Among the remaining 408 patients, 310 patients with clinically node negative findings underwent total thyroidectomy with ipsilateral CLND, and bilateral CLND was performed in 98 patients with clinically suspicious node metastasis or bilateral lesions. CLND was performed superiorly to the hyoid bone, laterally to the carotid sheath, inferiorly to the manubrium, and dorsally to the prevertebral fascia. The parathyroid glands were carefully preserved *in situ*, and the devascularized parathyroid glands

were autotransplanted into the sternocleidomastoid muscle.

The incidence rates of recurrent laryngeal nerve injury, hypocalcemia, and postoperative hemorrhage were evaluated. Temporary recurrent laryngeal nerve injury was based on the surgeon's assessment and the patient's symptoms during the immediate postoperative day. Recurrent laryngeal nerve injury was considered permanent when paralysis of the vocal cords persisted > 6 months after the surgery. Transient hypocalcemia was defined as an ionized calcium level < 1.0 mg/dL postoperatively but recovered until 6 months, and permanent hypocalcemia was defined as persistent hypocalcemia requiring calcium carbonate and calcitriol supplementation > 6 months after the surgery. Performing an emergency evacuation of a hematoma after thyroidectomy was considered postoperative hemorrhage.

Categorical variables were compared using the Chi-square test or Fisher's exact test to analyze the significance of differences. Logistic regression was used for multivariate analysis. Differences were considered statistically significant with $p \leq 0.05$ using a two-tailed test. All statistical analyses were performed using SPSS Statistics version 20.0.0 for Macintosh (IBM, Armonk, NY, USA).

3. Results

3.1. Patient characteristics and pathology

The patient clinicopathological characteristics are summarized in Table 1. The study population included 558 women (91.0%) and 55 men (9.0%) with a mean age of

Table 1 Clinicopathological characteristics ($n = 613$).

Characteristic	n (%)
Age (y)	46.2 (10.5)
Sex	
Female	558 (91.0)
Male	55 (9.0)
Tumor size (cm)	
Mean	0.8 (0.4)
< 0.5	126 (20.6)
≥ 0.5	487 (79.4)
Extrathyroidal extension	
No	264 (43.1)
Yes	349 (56.9)
Multifocality	
No	461 (75.2)
Yes	152 (24.8)
Central lymph node metastasis	
No	374 (61.0)
Yes	239 (39.0)
Lymphovascular invasion	
No	597 (97.4)
Yes	16 (2.6)
Thyroiditis	
No	320 (52.2)
Yes	293 (47.8)

Download English Version:

<https://daneshyari.com/en/article/4282527>

Download Persian Version:

<https://daneshyari.com/article/4282527>

[Daneshyari.com](https://daneshyari.com)