



Identification of risk factors of central lymph node metastasis and evaluation of the effect of prophylactic central neck dissection on migration of staging and risk stratification in patients with clinically node-negative papillary thyroid microcarcinoma

Jiru Yuan^{1,3}, Jinghua Li^{2,3}, Xiaoyi Chen^{1,3}, Xiaodong Lin¹, Jialin Du¹, Gang Zhao¹, Zhengbo Chen¹, Zeyu Wu¹

Received 28 October 2016
Accepted 9 March 2017
Available online: 2 May 2017

1. Guangdong Academy of Medical Sciences, Guangdong General Hospital, Department of General Surgery, 106, Zhong Shan Second Road, 510080 Guangzhou, Guangdong Province, China
2. Guangdong Academy of Medical Sciences, Guangdong General Hospital, Department of Pathological Medicine, 106, Zhong Shan Second Road, 510080 Guangzhou, Guangdong Province, China

Correspondence:

Zeyu Wu, Guangdong Academy of Medical Sciences, Guangdong General Hospital, Department of General Surgery, 510080 Guangzhou, Guangdong Province, China.
wu.zeyu@hotmail.com

Identification des facteurs de risque d'atteinte ganglionnaire centrale et évaluation de l'effet du curage cervical central sur le stade et la stratification du risque chez les patients atteints de microcarcinome papillaire thyroïdien sans adénopathie clinique

Keywords

Prophylactic central neck dissection
Papillary thyroid microcarcinoma
Central lymph node metastasis
TNM staging
Risk stratification

Summary

Objective > The first aim of this study was to explore the risk factors that were associated with central lymph node metastasis (CLNM) in patients with clinically node-negative papillary thyroid microcarcinoma (cN₀ PTMC) after prophylactic central neck dissection (PCND). The second aim was to evaluate the influence of PCND on migration of TNM staging and risk stratification (RS) in patients with cN₀ PTMC.

Methods > A total of 295 cN₀ PTMC patients who underwent thyroidectomy with PCND in the Department of General Surgery at Guangdong General Hospital between March 2014 to December 2015 were assessed retrospectively. The relations of CLNM with clinicopathologic characteristics of cN₀ PTMC were analyzed by univariate and multivariate logistic regression. The effect of PCND on migration of TNM staging and RS was also observed.

³ Jiru Yuan, Jinghua Li and Xiaoyi Chen contributed equally to this work.

Mots clés

Curage cervical central
prophylactique
Microcarcinome
papillaire thyroïdien
Stadification TNM
Stratification du risque

Results > The incidence of CLNM was 42.4% (125 of 295 cases) in patients with cN₀ PTMC. Univariate analysis showed that age ($P = 0.000$), ultrasonographic tumor size ($P = 0.009$), pathologic tumor size ($P = 0.005$), and multifocality ($P = 0.031$) were significantly associated with the incidence of CLNM. No significant correlations were found between the presence of CLNM and other variables such as gender ($P = 0.399$), bilaterality ($P = 0.118$), capsular invasion ($P = 0.111$), lymphovascular invasion ($P = 0.184$), extent of thyroidectomy ($P = 0.319$) and lymphadenectomy ($P = 0.458$). Multivariate logistic regression analysis revealed that age < 45 years ($P = 0.000$) and multifocality ($P = 0.033$) were independent predictors of CLNM in patients with cN₀ PTMC. Because of the identification of CLNM in the implementation of PCND, 42 (14.2%) patients were upstaged, and 118 (40.0%) patients upgraded in RS.

Conclusions > CLNM is highly prevalent in cN₀ PTMC. Age < 45 years and multifocality are independent risk factors of CLNM in cN₀ PTMC patients. PCND can identify CLNM, which allows more accurate TNM staging/RS and may have an important impact on postoperative treatment in cN₀ PTMC patients.

Background

The incidence of thyroid cancer has increased dramatically in the last few decades (almost 310% between 1950 and 2004) [1]. Papillary thyroid carcinoma (PTC) is the most common histological subtype of thyroid cancer, accounting for 80% of all thyroid malignancies. Papillary thyroid microcarcinoma (PTMC) is defined as a papillary carcinoma with a maximum diameter of 10 mm or less and comprises up to 60% of all thyroid cancers [2]. Although most PTMC have an indolent course and excellent prognosis, the long-term recurrence rate has been reported to be as high as 12% [3]. Lymph node metastases have been reported to be one of the most important factors associated with increased rates of local recurrence and distant metastasis [2,4-6]. The central compartment is the most common site of lymph node metastases. There is general consensus that therapeutic central neck dissection should be performed in the presence of clinical lymph node metastases in central compartment [7]. However, it remains controversial whether prophylactic central neck dissection (PCND) should be routinely performed in patients with clinically node-negative papillary thyroid microcarcinoma (cN₀ PTMC) [7,8]. Concerns about PCND revolve around whether its potential higher incidence of complications can be outweighed by improved local recurrence control and whether it can really improve the survival rate [9-14]. In addition, preoperative ultrasonography (US) diagnosis of central lymph node metastasis (CLNM) is technically difficult and often unreliable. The sensitivity of US for detecting CLNM has been reported to be as low as 10.9% to 30% [13,15]. Therefore, it has significant importance to identify the risk factors associated with CLNM, which may assist surgeons in determining whether to perform selective PCND in patients with clinically node-negative papillary thyroid microcarcinoma (cN₀ PTMC). The aim of this study was to examine the incidence and risk factors of CLNM in patients with cN₀ PTMC. The influence of CLNM that were identified in the implementation of PCND on migration of TNM staging and Risk stratification (RS) in patients with cN₀ PTMC was also evaluated in our study.

Materials and methods

A total of 295 cN₀ PTMC patients who underwent thyroidectomy with PCND in the Department of General Surgery at Guangdong General Hospital between March 2014 to December 2015 were assessed retrospectively in this study. Preoperative assessment included US, chest X-ray, and measurement of thyroglobulin (Tg), thyroid stimulating hormone (TSH) and anti-Tg antibody levels. US was preoperatively performed to assess the lymph node status and confirm no lymph node involvement in all these patients. Patients with previous thyroid or parathyroid surgery, previous neck surgery, family history of cancer and history of neck radiation were excluded. The following information were collected from the medical records of the patients: gender, age, tumor size, bilaterality, multifocality, lymph node metastasis, capsular invasion, extrathyroidal invasion, lymphovascular invasion, TNM staging, RS, and postoperative complications. Chinese guidelines for thyroid nodules disease and differentiated thyroid carcinoma recommend central compartment lymph node dissection in patients with PTC (Grade A) [16]. In addition, central compartment lymph node dissection was recommended to perform in patients with PTMC according to Chinese experts consensus on diagnosis and treatment of papillary thyroid microcarcinoma [17]. Therefore, the ethical approval was not required for this study.

In this study, there were 206 (69.8%) women and 89 (30.2%) men. The mean age was 43.0 ± 12.3 years, ranging from 17 to 73 years. There were 130 (44.1%) patients aged ≥ 45 years and 165 (55.9%) aged < 45 years. US showed tumor diameter > 0.5 cm in 107 (36.3%) cases and tumor diameter ≤ 0.5 cm in 188 (63.7%) cases. All patients were underwent unilateral ($n = 43$) or bilateral ($n = 252$) PCND in addition to lobectomy ($n = 27$) or total/near-total thyroidectomy ($n = 268$). At our institution, thyroid lobectomy was considered to be performed in low-risk PTMC patients only when pathologic results of frozen paraffin sections revealed no evidence of multifocality, extrathyroidal invasion and CLNM. Of the 295 patients, 27 (9.2%) patients underwent lobectomy plus ipsilateral PCND, 16 (5.4%)

Download English Version:

<https://daneshyari.com/en/article/5697282>

Download Persian Version:

<https://daneshyari.com/article/5697282>

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