Occult Papillary Thyroid Carcinoma Presenting as a Neck Lymph Node Metastasis: A Case Report

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INTRODUCTION

Occult thyroid carcinoma (OTC) was defined as “Unknown primary malignancy that is symptomless, which first manifest itself as metastasis or secondary-para-neoplastic phenomena” by the McGraw-Hill Concise Dictionary of Modern Medicine (2002) [1]. OTC is generally divided into four groups [1]. In this case the patient was belonged to the second group, which was apparent lymph node metastasis on ultrasound, then detected by histological specimen.

CASE REPORT

A 52-year-old woman was admitted to our hospital for big masses on right neck. At the time of our observation no palpable neck mass was present, but ultrasound of neck revealed several enlargements of lymph node on right neck, which were suspicious for metastatic. The biggest lymph node on the right neck was about 16×10mm. A number of paratracheal lymph node (VI lymph nodes) enlargements could also be found. Several nodules were showed in the left and right lobe of thyroid and the biggest one was about 6×4mm on the left (TI-RADS: 2-3), the thyroid was also diagnosed with Hashimoto thyroiditis (Figure 1).

Ultrasound-guided fine-needle aspiration biopsy (US-FNAB) of neck lymph node was performed. At pathology examination, right neck mass resulted a lymphatic metastasis from classic papillary thyroid carcinoma (PTC), left neck mass was negative for malignancy. Computed tomography (CT) scan of neck and chest revealed multiple nodules in both lobes of thyroid, enlargements of right neck and supra clavicular lymph node, ground grass opacity nodules could be showed in the left upper lobe lung (Figure 2). Positron emission tomography (PET) showed the inconsistent density of both thyroid lobes without radioactivity concentration, multiple small lymph nodes around right jugular vein without radioactivity concentration combining with the pathophysiology considered as lymph node metastasis, ground grass opacity nodules with rough edges on the apex of lung (Figure 3). The patient did not mention any history of thyroid enlargement, pain, or other symptoms of thyroid disease. Thyroid function test showed normal hormone levels. The physical examination was unremarkable.

The patient underwent a total thyroid thyroidectomy and right cervical lymph nodes dissection and left central cervical lymph nodes dissection (Figure 4). During the operation, several nodes in the thyroid was found, however, there were not suspicious malignant tumor. Multiple black enlargements of lymph node were evident on the right neck (Figure 5). Frozen-section examination showed that multiple lymph nodes metastasis at level III on the right neck. Pathological examination revealed Hashimoto thyroiditis with multiple local follicular epithelium atypical hyperplasia, some suspicious papillary thyroid micro carcinoma nest could be found in proliferation of fibrous tissues in the right lobe of the thyroid, the positive lymph node metastasis was on the right neck, which considered as occult thyroid carcinoma with lymph node metastasis. Only Hashimoto thyroiditis was showed in the left lobe of the thyroid.

DISCUSSION

The incidence of thyroid cancer has steadily increased worldwide in recent decades [2-3], due to the increasing use of neck ultrasonography and early diagnosis and treatment. Although approximately 70% to 80% of thyroid cancers are papillary thyroid carcinomas (PTCs) [4], papillary thyroid micro carcinomas are found in approximately in 6–36% of the population at autopsy. Only fewer than 2% of micro PTCs come to clinical attention [5]. Occult thyroid carcinoma (OTC) has different identifications but is similar to papillary thyroid micro carcinoma (PTMC) [6]. The incidence of occult thyroid carcinoma in thyroid carcinomas is 0.1-2.2% [7]. Occult carcinoma is a primary micro carcinoma in which metastatic lesions are detected previously [7]. Studies have reported that there were lymph node metastasis and distant organ metastasis existed, for instance, lung and chest wall, the route of metastasis is lymphogenous [8-9]. In this case, the metastatic lymph nodes were detected previously and more aggressive, it appeared larger metastatic lesions on the neck while the primary lesion was not detectable. Moreover, CT and PET both showed focal ground grass opacity nodules on the lung which it was suspicious lung metastasis. We suggested that the patient should carry on the iodine-131 therapy after operation, then it could be confirmed the lung metastasis according to the iodine uptake of the mass. If it was confirmed, it is rare in clinic to meet so aggressive occult thyroid carcinoma with lung
The ultrasound of neck has also to be considered the first choice for detection. Studies suggest that US-FNAB is the most accurate and cost-effective diagnostic method for preoperative thyroid nodules, it is listed as a routine examination method in many guidelines [10-12]. In this case, the US-FNAB of the neck mass with pathology was performed. With the solid evidence of the results, the OTC was diagnosed. So thyroid examination and early detection and evaluation of thyroid nodules may help to diagnose thyroid cancer before distant metastasis occurred [13].

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