內科學誌 2007 ：18 ：51-55

Squamous Cell Carcinoma of the Larynx or Hypopharynx Clinically Manifestating as Thyroid Tumor — A Case Report

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Abstract

Head and neck squamous cell cancer is common in several regions of the world in which there is extensive use of tobacco and high consumption of alcohol. The clinical manifestations of squamous cell carcinoma of the larynx sometimes can mimic thyroid cancer. Here we report a case of 72-year-old male who presented with hoarseness, body weight loss, dyspnea and appearance of enlarged neck mass, which mimicked a thyroid tumor. Fine-needle aspiration cytology of thyroid nodule was suspicious of suppurative thyroiditis. Computerized tomography of neck showed suspicious thyroid cancer with airway compression. He received total thyroidectomy. The pathologic report of thyroid was keratinizing squamous cell carcinoma from larynx or hypopharynx. Then the patient underwent total laryngectomy. However, he had progressive enlargement of left neck mass and expired later even after radical neck and lymph nodes dissection. In conclusion, laryngeal cancer may present as thyroid tumor. Correct preoperative evaluation such as ultrasound-guided fine-needle aspiration cytology, immunohistochemical stain, computed tomography, magnetic resonance imaging, and even large bore needle biopsy are needed to avoid unnecessary operation. (J Intern Med Taiwan 2007; 18: 51-55)

Key Words ：**Squamous cell carcinoma of the larynx, Thyroid cancer, Head and neck cancer, Fine-needle aspiration cytology.**

Introduction

Head and neck squamous cell cancer is common in several regions of the world in which there is extensive use of tobacco and high consumption of alcohol. The ratio of male to female is 4 to 5:1[1].

The larynx is divided into three anatomic regions: the supraglottic region larynx, glottic larynx,

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and the subglottic larynx which extends to the inferior border of the cricoid cartilage. Persistent hoarseness is frequently the initial complaint in glottic cancers; the later symptoms may include dysphagia, referred otalgia, chronic cough, hemoptysis, and stridor. Biologic behavior also varies according to location[2].

The presence of a thyroid nodule in most instances represents primary thyroid pathology and it is only rarely that secondary tumors present either as a solitary thyroid nodule or as a diffuse swelling[3,4].

Here we report a case of squamous cell carcinoma of the larynx presenting as thyroid tumor.

Case report

A 72-year-old male suffered from hoarseness of voice about a half year ago. He did not pay attention to it. Two months before hospitalization, he felt fatigue, hand tremor, anorexia, and body weight loss of 8 Kg in recent two months. He also had the enlargement of neck mass and dyspnea on exertion for two weeks. He was admitted for further management and evaluation.

On physical examination, the body height was 161.8 cm; the body weight was 47. Kg; the body temperature was 37.5 ℃; the pulse rate was 100 beats per minute; the respiratory rate was 25 per minute and the blood pressure was 140/90 mmHg. The conscious was clear. His thyroid was enlarged; grade II, hard in consistency, movable on swallowing, no tenderness, and no lymphadenopathy. Chest expansion was symmetric. Coarse breathing sound with stridor was heard. The heart rate was rapid without audible murmur. Abdomen was flat with normoactive bowel sounds. There was no pitting edema in the lower extremities.

Laboratory data revealed white cells of 12.33 K/ μL, hemoglobin of 12.9 g/dL, platelet count of 453 K/ μL, and biochemical data were normal. Endocrine profile showed T_3 79.6 ng/dL, Free T_4 1.13 ng/dL (normal: 0.6-1.75 ng/dL), hsTSH 0.017 μIU/ mL

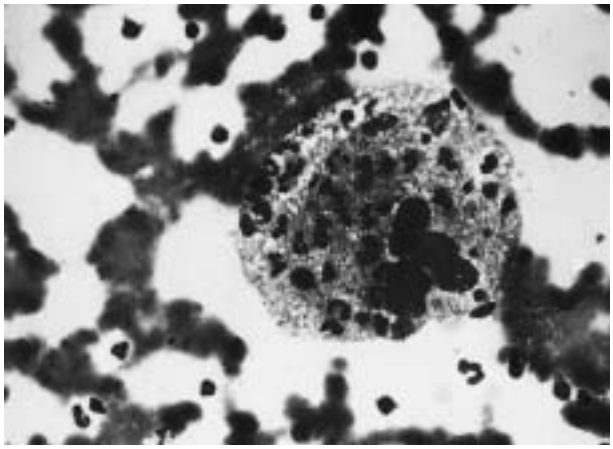

Fig.1.Ultrasound-guided aspiration cytology of left thyroid nodule revealed multinucleated giant cell with polymorphonuclear neutrophils in the cytoplasm. (Riu's stain × 400)

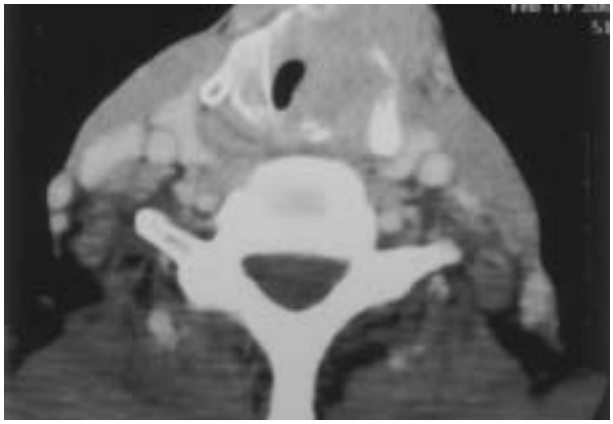

Fig.2.Neck CT revealed tumor mass at the left lobe of the thyroid with airway compression.

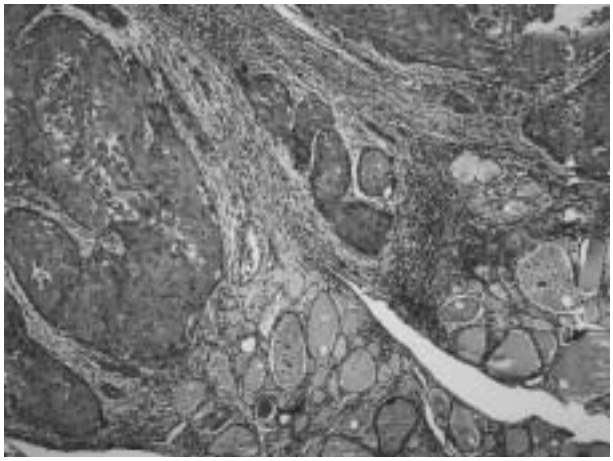

Fig.3.The pathologic report showed keratinizing squamous cell carcinoma at the periphery of thyroid gland with involvement of adjacent soft tissue. (H& E stain × 400)

(normal: 0.1-4.5 μIU/ mL). C-reactive protein was 17.5 mg/dL (normal: <0.8 mg/dL).

During admission, he felt progressive dyspnea and emergent tracheostomy was performed. Chest X-ray showed partial collapse of left lower lung with blunt costophrageal angle at that side. There was no evidence of destructive bone lesion. Thyroid sonography showed nodular goiter at right lobe of thyroid and the margin connecting with trachea was not clear. Ultrasound-guided fine needle aspiration of right thyroid nodule showed cluster of follicular cells and the left nodule revealed multinucleated giant cells with polymorphonuclear neutrophils in the cytoplasm. The impression of aspiration cytology was acute suppurative thyroiditis (Figure 1). Patient had fever during admission which was suspected to be related to acute suppurative thyroididtis. The sputum culture grew Klebsiella pneumoniae and the patient was treated with antibiotics. Neck CT scan revealed thyroid cancer with airway compression (Figure 2). He underwent total thyroidectomy. The pathologic report showed keratinizing squamous cell carcinoma at the periphery of the bilateral thyroid glands with involvement of adjacent soft tissue. An invasive carcinoma from larynx or hypopharynx was most likely (Figure 3). The staging workup revealed stage IV (T4N0M0). He underwent the operation of total laryngectomy and flap reconstruction after eleven days of first total thyroidectomy. The pathologic report revealed squamous cell carcinoma of larynx, with invasion to cartilage, muscle and soft tissue. Postoperative radiotherapy was performed.

However, the progressive enlargement of the left side neck mass and shrinkage of the size of tracheostoma were noted later. He received left side radical neck lymph nodes dissection and stomaplasty. The patient felt severe pain over the left buccal and neck area on the following day, and massive hematemesis from the mouth occurred once. The patient's general condition was deteriorated. His family requested to discharge against medical advice and expired at home.

Discussion

The larynx is the most common site of head and neck cancer in United States. In a report from the National Cancer Data Base, laryngeal carcinoma accounted for 21 percent of 295,022 cases of head and neck cancer (including lip and thyroid gland)[5].

Persistent hoarseness is a warning sign that can lead to the detection of tumor at an early stage[6]. In our case, the patient felt hoarseness about 6 months ago and he did not pay attention to it. The enlargement of neck mass, sense of dyspnea and stridor were noted few weeks before admission. Delay in diagnosis can contribute to the presentation with later stage disease[7]. Direct extensions of tumors into thyroid, especially of carcinomas from pharynx, larynx, trachea or soft tissue of the neck, have been documented[8]. However, it is rare for tumor invasion to the thyroid to simulate a primary thyroid neoplasm[9, 10].

Ultrasound and ultrasound-guided fine-needle aspiration cytology should be always used for the preoperative staging and for the postoperative follow-up of the status of the neck with cancer of the larynx because of the high accuracy, availability and semiinvasivity, and in order to enhance the reliability of the evaluation of the malignant disease progression[11]. The cytological diagnosis of non-thyroid lesions in or near the thyroid is usually difficult in the absence of a suggestive history, but such lesions must be considered when the cytology is unusual for the site[12]. In this case, the patient presented with hoarseness of voice, loss of body weight, dyspnea, stridor and palpable thyroid mass which moved up and down when patient swallowed. The report of fine-needle aspiration cytology at left neck nodule was suppurative thyroiditis, which may be related to the local tissue reaction to the invasion of squamous cell carcinoma.

Imaging studies are important in the identification of non-thyroidal lesion. The patient's neck CT showed thyroid cancer with the airway compression. Therefore, he received total thyroidectomy. However

the pathologic report was keratinizing squamous cell carcinoma at the periphery of bilateral thyroid glands, with involvement of adjacent soft tissue. An invasive carcinoma from larynx or hypopharynx was most likely. The thyroid glands also revealed nodular goiter with papillary change, but no characteristics of papillary carcinoma was seen. Non-thyroid lesions that present clinically as a thyroid mass often confused with thyroid lesion. A positive immunohistochemical stain for thyroglobulin is helpful in defining the source of the aspirated tissue as thyroid in origin. Negative staining would not entirely exclude a thyroid tumor[13]. Imaging studies such as computed tomography and magnetic resonance imaging are important in the diagnosis, staging of head and neck cancer and assessment of lymph node metastasis[14, 15]. There may be no need for performing thyroidectomy in all patients who received total laryngectomy. Thyroidectomy may be necessary only in laryngeal carcinoma cases with subglottic extension and advanced hypopharyngeal tumors[16]. Among high risk patients with resected head and neck cancer, concurrent postoperative chemotherapy and radiotherapy significantly improve the rate of local and regional control and disease-free survival[17]. An organ preservation of treatment is combined with chemotherapy and radiotherapy and is also worth to try for laryngeal cancer[18, 19]. The present case highlights the importance of the cooperation among the clinician, medical oncologist, surgical oncologist, and radiologist in the management of unusual lesions which were found near the thyroid.

In conclusion, laryngeal cancer may present as thyroid tumor. Correct preoperative evaluation such as ultrasound-guided fine-needle aspiration cytology, immunohistochemical stain, computed tomography, magnetic resonance imaging, and even large bore needle biopsy are needed to avoid unnecessary operation.

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頭頸部的鱗狀細胞癌臨床表現類似甲狀腺腫瘤—病例報告

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摘　要

頭頸部的鱗狀細胞癌，在世界各地吸煙量過多及酗酒的地方，都很常見。而喉部的鱗狀細胞癌的臨床表現可能疑似甲狀腺腫瘤。我們報告一名72歲的男性病例，他喉嚨嘶啞、體重減輕、呼吸困難、頸部腫大，疑有像甲狀腺癌一樣的腫瘤。甲狀腺細針抽吸細胞學檢查，懷疑爲化膿性甲狀腺炎。頸部的電腦斷層掃描，則顯示病人懷疑有壓迫氣管的甲狀腺癌。病人進行了全甲狀腺切除術。病理報告顯示，病人從喉頭或下咽部，出現角質化的鱗狀細胞上皮癌，並侵犯甲狀腺，於是病人再進行全喉頭切除手術。可是，病人的左邊頸部腫塊，持續變大，即使進行全頸及淋巴腺清除，病人還是去世。喉癌與甲狀腺癌有時臨床表現極爲相似，爲了避免進行不必要的手術，需要進行正確的手術前評估，例如超音波導引細針吸引細胞學，免疫組織染色，電腦斷層攝影，核磁共振造影，甚至大孔針切片檢查。