

Papillary Thyroid Cancer Presenting as a Supraglottic Mass without Neck Swelling: A Rare Case Report

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Abstract

We report a rare case of papillary thyroid carcinoma of the larynx. A 77-year-old woman presented with a 6-month history of hoarseness and discomfort in the throat and on examination revealed a fungating mass involving the supraglottis. Intraoperative histopathological examination revealed metastatic papillary thyroid carcinoma. Papillary carcinoma of the thyroid is the commonest type of thyroid cancer however laryngeal infiltration from papillary thyroid carcinoma is extremely rare.

Keywords: Papillary Thyroid Carcinoma (PTC); Supraglottic Mass; Neck Swelling

Introduction

Papillary thyroid carcinoma (PTC) favours lymphatic spread [1], both via intrathyroidal and cervical lymph node. The main manifestation of PTC is a neck mass and a thyroid nodule [2]. Papillary thyroid carcinoma of the thyroid is the commonest type of thyroid cancer and risk of direct laryngeal, trachea infiltration is well recognised. However distant laryngeal infiltration (lymphatic/vascular) without obvious neck swelling is extremely rare [3]. We report a rare event of infiltration of the larynx by papillary thyroid cancer.

Case Report

A 77-year-old woman presented to our outpatient clinic with hoarseness and discomfort in the throat. There was no history of odynophagia, dysphagia, or dyspnoea. These symptoms developed gradually within the past 6 months. Her past medical history included hypertension and hypercholesterolaemia. She has no his-

tory of smoking or alcohol consumption. The patient has no associated symptoms of loss of weight, appetite, or any family history of thyroid cancer. On examination she was not tachypnoeic and no stridor heard. The examination of neck including the laryngeal framework was normal. Flexible nasopharyngolaryngoscopy (FN-PLS) demonstrated huge mass arising from left false cord extending left pyriform fossa. Small airway opening seen. The patient underwent emergency tracheostomy under local anaesthesia to secure the airway, then converted to general anaesthesia for direct laryngoscopy with rigid endoscopic examination and oesophagoscopy.

Findings showed a huge fungating mass arising from left false cord with involvement of left pyriform. Bilateral true cord, subglottic, anterior commissure and vallecula were spared. The trachea and oesophagus were free of disease. Intraoperative HPE (histopathological examination) from left false cord revealed metastatic papillary thyroid carcinoma. A diagnosis of papillary thyroid car-

cinoma of the left supraglottis was made. The subsequent thyroid function test done was normal.

A neck computed tomography scan revealed a mass measuring 2.1 cm x 2.1 cm x 3.2 cm at left laryngeal region with narrowed airway at this region. The mass is seen from the level of C4 to C7. Left vocal cord is involved with mass bulges across midline and abutting the right false cord. Mass appears continuous with the left upper pole of thyroid with sclerosis over left thyroid and cricoid cartilage. Unfortunately, detailed metastatic workup was carried out which reveal metastatic disease to lung. In view of advance disease patient was given palliative therapy.



Figure: Axial, coronal and sagittal view of head and neck CT imaging revealed a lesion (white arrow) at left laryngeal region from the level of C4 to C7 with narrowed airway at this region. The mass is continuous with the left upper pole of thyroid.

Discussion

PTC is the most common thyroid malignancy, representing approximately 80%. Among thyroid malignancies, papillary carcinoma has a favourable treatment outcome with a 10-year survival rate of more than 90% [4]. The median age at diagnosis was 65 years and 65% of the patients were female [5]. Approximately 5 - 10% of patients with PTC develop distant metastases [6].

Papillary tumours have a propensity to invade lymphatics but are less likely to invade blood vessels. Hematogenous spread although rare, occurs in the bone, brain, lungs, and soft tissue [3,7]. Recently there are also reported cases of PTC metastasis to the pancreas [8]. Vascular invasion and hematogenous spread are less common in papillary than in follicular carcinoma, although lung

metastases may be found in 10% of patients with papillary carcinoma. Involvement of recurrent laryngeal nerve, larynx, pharynx, trachea and esophagus occurs due to direct infiltration of tumour into these structures [1]. 7 - 16% of patients reported to have extra capsular spread [8].

Although PTC frequently metastasizes to the regional lymph nodes, it generally has an excellent prognosis. PTC is known for their unpredictable behaviour. There are, however, several clinicopathological and background features that predict a poor prognosis. Some of these features are older age, distant metastasis, lymph node metastasis, extra thyroid extension, tumour size, and completeness of resection. Study by Yasuhiro Ito, *et al.* [9] showed that older age (> 55 years old) was the most important prognostic factor for overall survival, indicating that PTC is generally indolent. However, the control of distant metastasis in older patients remains a future challenge in order to further improve their overall survival. PTC of ≥ 3 cm in young patients should be carefully followed, even in the absence of metastases, and these patients should undergo aggressive therapies for recurrent lesions and metastases.

The basic aim of treatment is the locoregional control of the disease by gross total removal of the tumour, followed by adjuvant radioactive iodine ablation, and external beam radiotherapy in selected cases. Preoperative evaluation of such cases for the extent of disease and formulation of the surgical resection is of utmost importance in order to achieve complete gross tumor removal [3].

In this case, the patient presented with hoarseness and throat discomfort. There were no signs and symptoms of thyroid abnormality. There was no neck node or thyroid mass palpable on clinical examination. Furthermore, our patient's thyroid function test was normal. Due to her history and the appearance of tumour on FN-PLS, primary laryngeal malignancy was initially suspected. However, intraoperative HPE revealed metastatic PTC. It is extremely rare to see a metastatic papillary carcinoma tumour infiltrating into the larynx. Although locally invasive metastatic papillary carcinoma is uncommon. Unfortunately, in our patient she had poor prognostic factor due to her age and metastatic to lung. Therefore, she opted for palliative treatment.

Conclusion

In conclusion PTC is a common tumour however its extremely rare to be presented as metastasis to larynx. Diagnosis was made

based on histopathological examination and CT imaging. Surgical resection is the recommended treatment followed with or without radioactive iodine ablation and external beam radiotherapy.

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