

## The Many Faces of Surgical Thyroid Disease: Rare Presentations with Clinically Normal Necks

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### Introduction

Surgical thyroid diseases are common in our population, which often present with common presentations. The commonest include neck swelling, either causing a gross distorted neck appearance, or just mild smooth-surfaced asymmetry elevations at paratracheal regions. It can be the swelling in isolation, or combined with the readily exist complication of the mass effect itself [1,2]. On the other hand, physiologically abnormal function of thyroid gland can be detected more readily, based on the typical hyperthyroid or hypothyroid symptoms and signs. Most of the cases that we have encountered with rare presentations are from the malignant lesion, even though benign counterpart is also possible. These cases presented with no neck mass at the usual thyroid locations. Usually it manifest as a sole presentation and only subsequent work-up reveal its thyroid in origin.

### The Many Faces

#### Vocal cord palsy

It is a well-known fact that a recurrent laryngeal nerve (RLN) can be affected in any phase of thyroid disease management [3]. The compression and invasion are the common ones. However it is not uncommon to see patients referred for management of vocal cord palsy with normal neck appeared to have a clinically-invisible thyroid mass.

The only sole presentation was a hoarse voice [4,5]. This condition can be resulted from a compression that existed by a small lesion, but strategically located enough to cause compression to the nerve and ended the RLN up with neuropraxia. The symptom is easily recognized by patient as the voice change is a feature of concern as compared to the slow-growing neck mass. As the long-list cause of vocal cause palsy need to be ruled out, a neck ultrasonography or computed tomography is warranted. Only from the radiological imaging the diagnosis can be confirmed and further investigation can be planned. It is interesting to note that in one of our case the vocal cord palsy recovered just after the fine needle aspiration done to the thyroid cyst that was located in the trachea-esophageal groove [4]. Eventually the patient refused to continue further treatment as the voice normalized. In the other case, the voice recovered few months after lobectomy was performed to remove the compressing nodule [5].

#### Stridor

This type of noisy breathing indicates there is some degree of upper airway obstruction. The passage of airflow to pass through a small

caliber of lumen may induce this life threatening scenario. Reduction of airway diameter in thyroid cases can be attributed to the bilateral vocal cord palsy, either from the disease itself or from the operative complication [6]. Without an evident external neck mass, it is easily missed that the root cause is from the thyroid gland. We have encountered two cases of papillary thyroid carcinoma, in which no neck mass were appreciated. Again the imaging which was performed later showed the lesions were from the glands, which grew inwards instead of the usual outward expansion of the dimension [7,8].

#### Hemoptysis and Per oral bleeding

It is quite difficult to relate on how a thyroid mass would present with such horrifying symptoms. The explanation can be made based on two experiences. The first case was hemoptysis due to intramural tracheal invasion of the differentiated thyroid carcinoma [7]. When the patient cough, the pressure and velocity of air exerted onto the tracheal wall may traumatize the raw surface. We also have encountered a frank bleeding in an elderly with normal neck examination. Laryngoscopy findings however showed a lingual thyroid with ulcerated surface at the base of tongue. Suppression treatment with thyroxine reduced the size of the mass and resolved the symptom [9].

#### Other Head & Neck Mass

Differentiated thyroid carcinoma is known to present with cervical metastases. It can be found at the same time together with the thyroid mass or even presented itself as a sole manifestation [10]. We also have encountered two cases of intranasal mass (one on the nasal septum and one in the sellar of the sphenoid sinus) in which after removal noted to be originated from thyroid tissue (unpublished report). The case with nasal septal mass presentation was successfully managed and thyroidectomy was performed. However the patient presented again after the last treatment with symptoms of intracranial metastases. The patient with sellar mass was referred for oncology & nuclear medicine consultation for possibility of radio-iodine ablation.

#### Distant Metastases

Presence of distant metastases is not common and ranged from 4% to 15% of differentiated thyroid cancer [11]. We previously reported two rare presentation of malignant thyroid diseases which accidentally diagnosed based on metastatic symptoms. Both of them did not manifest as prominent thyroid nodule. First case was an elderly lady who presented with pathological fracture of right femur which was further biopsied and turned out to be metastatic follicular carcinoma. We proceeded with total thyroidectomy based on sonographic findings

of the neck which revealed right solitary nodule and confirmed to be follicular carcinoma. The second case was referred from ophthalmologist who detected bitemporal hemianopia from a patient who presented with blurring of vision. MRI brain showed tumour compression on optic chiasm. Transphenoidal biopsy of the mass again revealed metastatic follicular carcinoma. She underwent combined transphenoidal excision of tumour and total thyroidectomy followed by series of radioactive iodine ablation. Worldwide review of brain metastasis from thyroid gland is extremely low (only 0.5% to 1.3%) [12].

## Conclusion

Though very rare, surgical thyroid disease often presents with unique symptoms. The neck can be normal on clinical examination alone. Eventually radiological imagings are very helpful in picking up a deep-seated mass in the trachea-esophageal groove. There are also cases where the diagnosis of differentiated thyroid carcinoma is made after the histopathological examination of the excised or biopsied specimen. Following that the ultimate treatment either suffices with total thyroidectomy or to be combined with radio-iodine ablation will be made after a multidiscipline discussion.

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