CASE REPORT

Hypopharyngeal cancer masquerading as a thyroid mass

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SUMMARY

Hypopharyngeal cancer (HPC) is generally a rare head and neck malignancy. There are differing clinical presentations depending on the subsite location of primary tumour. Advanced HPC will have neck node metastasis particularly upper jugulodigastric nodes. We report a patient with post-cricoid tumour who presented with anterior huge neck swelling mimic thyroid mass. The patient first presented to the General Surgical Unit for management of presumed thyroid lesion. She was diagnosed post-cricoid squamous cell carcinoma when further assessed by otorhinolaryngologist.

KEY WORDS:
Hypopharyngeal Cancer, Thyroid Mass, Squamous cell carcinoma

INTRODUCTION

Anterior neck swelling can arise from various central neck structures including thyroid gland, parathyroid glands, laryngeal structures, cervical trachea, cervical oesophagus, level VI neck nodes (pretracheal, prelaryngeal, paratracheal nodes), and neurovascular structures. Hypopharyngeal cancer (HPC) spread to thyroid gland mainly via direct extension because of the proximity of thyroid gland to the laryngopharyngeal structures instead of the lymphatic and haematogenous spread. Likewise, the thyroid cancer spread to laryngopharyngeal region also mainly by direct infiltration of the tumours. More than 50% of HPC patients presented with neck lymphadenppathy.

HPC is relatively uncommon in all cancer cases. According to Malaysia Cancer Statistic 2006, HPC incidence is reported only 0.1% in female and 0.2% in male per 100,000 populations in Peninsular Malaysia.[1] Indian population is the commonest affected group in which male has 0.8% and female has 0.7% cancer incidence per 100,000 populations (CR). Malay and Chinese female has 0.1% HPC incidence. More than 95% of HPC are squamous cell carcinoma, 70% of them are moderate to well-differentiated carcinoma.

Dysphagia is an early presentation in post-cricoid tumours associated with throat pain or foreign body sensation in throat. HPC commonly associated with regional neck nodes metastasis due to rich lymphatic networks, presentation with asymptomatic neck mass is not uncommon. One third of patients with post-cricoid cancer presented with hoarseness due to vocal cord paralysis secondary to tumour invasion. Other symptoms might be chronic cough, haemoptysis, stridor, weight loss and otalgia. HPC presented as a thyroid mass is not reported.

CASE REPORT

A 72-year-old Malay lady presented with anterior neck mass for three months, painless and gradually increasing in size; associated with insidious onset of dysphagia. Based on the thyroid mimicry symptom, she was first referred to the general surgery. After noting the dysphagia was severe and she only tolerating fluids and semisolid, she was referred to otorhinolaryngolist for upper aerodigestive tract endoscopic assessment. She had sore throat, odynophagia, hoarseness and significant reduced oral intake.

On examination, there was a diffuse huge anterior neck swelling more prominent at right, firm-to-hard in consistency, slightly mobile, non-tender, not moving up on swallowing or on tongue protrusion. Laryngeal crepitus was absent. A 70 degree laryngoscopic examination revealed a fungating, exophytic whitish mass at postcricoid region; arytenoids appeared oedematous.

Ultrasonography of the neck reported as a well-defined, heterogeneous, and hypoechoic lesion seen posterior to thyroid glands. Both thyroid lobes are normal in size.

Direct laryngoscopy, oesophagoscopy, bronchoscopy and biopsy were done under general anaesthesia. There was a post-cricoid mass, fungating, firm with raised ulcerated edges, extended till 15 cm from the upper incisor. The biopsy of the post-cricoid mass confirmed the lesion as well-differentiated squamous cell carcinoma. A contrast-enhanced computed tomographic (CT) scan from base of skull to the upper abdomen revealed a heterogeneous enhancing lesion at just before post-cricoid junction (lower border of C5 vertebral body) extends until the upper oesophagus at T2 level; measures around 2.8 x4.9 x 6.5 cm; pushed the thyroid gland and trachea antero-laterally. Multiple nodes noted at bilateral jugular chains, pretracheal and bilateral supraclavicular regions (0.5 - 1.2 cm). No distant metastasis was noted.

In view of locally advanced HPC (T4aN2cM0) and patient was generally unfit for surgery, chemo radiation was planned. Percutaneous endoscopic gastrostomy tube was inserted to overcome feeding problem. However, she developed sepsis prior to the treatment and succumbed to her illness.

DISCUSSION

HPC accounts for approximately 7% of all cancers of upper aerodigestive tract. Most HPC arise in pyriform sinus (65-85%); 10-20% involves the posterior pharyngeal wall, and

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Thyroid Mass Symptoms Masquerading Hypopharyngeal Cancer

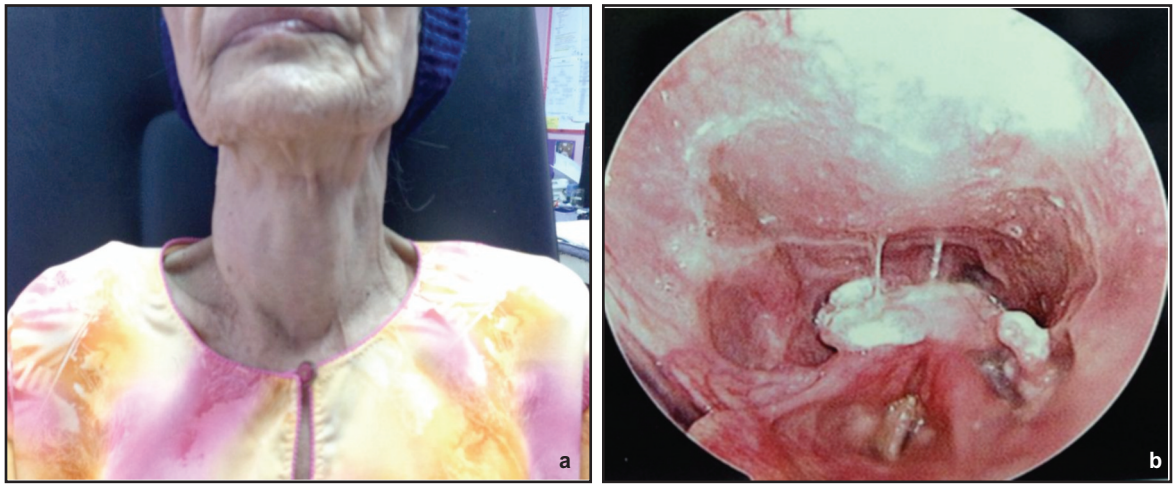

Fig. 1: a) A diffuse anterior neck swelling which not moving on swallowing, also more prominent on right involving the right upper and middle cervical neck region. b) A fungating, exophytic mass at post-cricoid region.

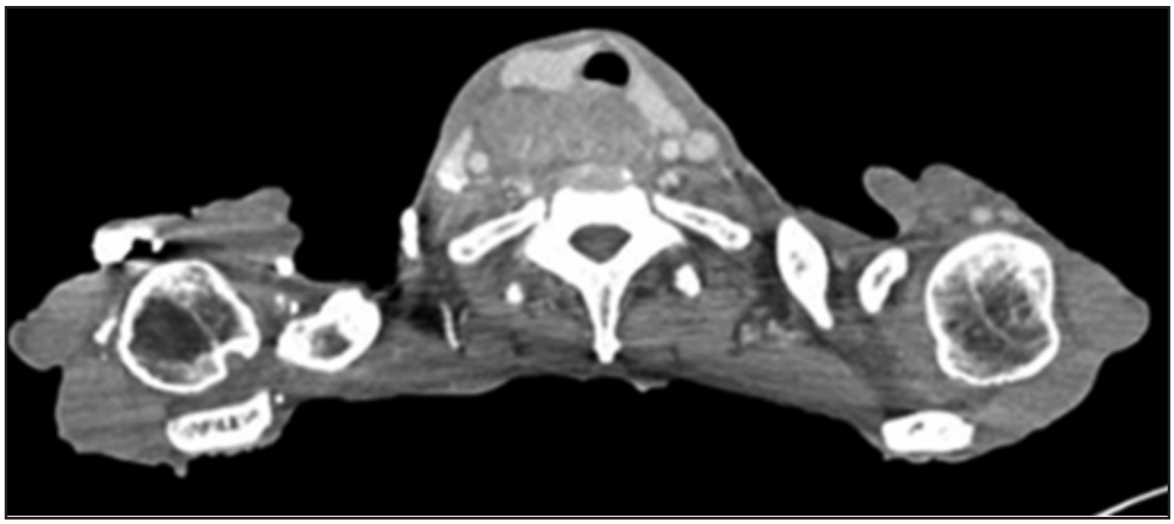

Fig. 2: The pharyngeal mass pushed trachea and thyroid gland antero-laterally appearing clinically as a right solitary thyroid mass. Both thyroid lobes are normal.

only 5-15% found at post-cricoid area. Nodal involvement is common in HPC. About 50-80% patients have occult cervical nodal disease. Post-cricoid tumours are less common associated with neck node metastasis, unlike the carcinoma arise from pyriform fossa and posterior pharyngeal wall, both have high incidence of lymph node metastasis up to 70-80%.[2]

In post-cricoid tumours, only 30% of patients have neck node metastasis (53% in upper deep cervical nodes, 27% in middle deep might be lower deep cervical nodes). Seedling of tumour cells to the paratracheal nodes is also common in HPC. Our patient presented with neck swelling involves level II, III and VI. It is possible that the locoregional spread of post-cricoid tumours to cervical and paratracheal nodes which mimic thyroid swelling. In addition, the thyroid malignancy may fix to the underlying structures causing restricted upwards movement on swallowing, misleading as a thyroid lesion.

Clinically HPC grows aggressively and spread anteriorly causing direct extension to the anterior neck structures. The trachea and thyroid glands are pushed more anteriorly, manifesting as thyroid mass clinically. This patient's "thyroid mass" was not the thyroid disease but was the displacement of thyroid gland and trachea, it didn't move upwards on swallowing. It is difficult to determine the pattern of spread of HPC as there is no well-defined potential space within the hypopharynx.

Post-cricoid tumours have significant submucosal extension with ≥0.5-1.0 cm spread from tumour margin; it rather extends inferiorly than superiorly. It infiltrates posterior cricoarytenoid muscle and pierces through the cricothyroid membrane, then invades the thyroid gland directly. The indirect extension is via lymphatic or vascular network. Thus, HPC can invade thyroid gland by direct extension through submucosa or by indirect extension.[3] However direct local

infiltration is more common. The incidence of thyroid gland involvement in patients with laryngeal/ hypopharyngeal tumours range from 0 to 23%.[3] Regional metastasis to thyroid gland, thyroid cartilage, cricoid cartilage are not uncommon in advanced stage. Thyroid gland invasion by squamous cell carcinoma is associated with a worse prognosis. Based on CT scan findings, patient's thyroid gland was normal in size and morphology.

Consistent with a higher female incidence of post-cricoid cancer at male to female ratio of 1:2, our patient is a female. Most patients are asymptomatic or having vague symptoms causes late discovery at diagnosis. Thus in advanced stage of HPC, it is not uncommon to get neck disease due to direct extension. The chief complaints depend on anatomical subsites of hypopharynx. Post-cricoid tumours are not always well visualized from endoscopic examination as it is a hidden region unless the lesion enlarge and spread superiorly. This huge neck mass causes loss of laryngeal crepitus which is a significant clinical finding.

HPC has the poorest prognosis among the head and neck cancer. The prognosis of HPC with thyroid gland invasion is worse than non-invasive tumours. Submucosal lymphatic plexus spread of post-cricoid tumour explained the skipped metastasis to the thyroid gland and cervical oesophagus. It has been reported that simultaneous thyroid carcinomas were incidentally found in 0.7-3% of surgeries for primary head and neck cancer of non-thyroid origin.[4] However our patient's disease did not have skip lesion. The factors contribute to her poor prognosis are old age, late presentation and locally advanced disease. HPC is increased with age, with a CP of 1.6% in male and 0.6% in female above 70 years old. It is higher than younger age group.[1]

The survival rates of HPC is depends on variable factors particularly stage of disease. The 5-year survival rate is 48% for T1 lesion, 23% for T2 lesion; and only 5% each for T3 and T4 diseases. In the United States, the 5-year disease-free survival rate of post-cricoid carcinoma was 45.4%. In Tokyo 5-year survival rate was 52%, distant metastasis was higher than recurrence and cervical nodal metastasis.[5] Head and neck examination and endoscopic assessment are important to detect the origin of disease. CT scan and magnetic resonance imaging (MRI) help evaluating the loco regional extent of the tumour, preoperative staging and to identify thyroid and non-thyroid lesion. Panendoscopy and biopsy is needed to confirm cytopathology diagnosis.

The treatment depends on patient's factors and the cancer stage. Our patient is elderly with extensive hypopharyngeal squamous cell carcinoma; external beam radiotherapy with concomitant chemotherapy (cisplatin) is the choice. If surgery need to be done and the tumour is resectable, total pharyngolaryngoesohagectomy is required since the tumour already extended till level T2. The positive neck node disease should be treated with modified radical neck dissection then continue with post-operative chemo-radiotherapy. However, this patient was at poor nutritional state and unfit for surgery. Close follow up under ORL and oncology teams for the first five years is important.

CONCLUSION

HPC is commonly associated with neck mass. A neck disease can be due to tumour infiltration, displacement of anterior neck structures or the metastatic nodal disease by the laryngeal/hypopharyngeal lesions. Also, the neck disease might be a different primary tumour occurs concurrently with the hypopharyngeal cancer. When encounter an anterior neck mass doesn't move upwards on swallowing accompanied with severe dysphagia, we should have high index of suspicion to assess the upper aerodigestive tract. A complete clinical evaluation must be carried out. Post-cricoid cancer is rare but it behaves aggressively; the early diagnosis and aggressive treatment are needed.

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