

Simultaneous laryngeal squamous cell carcinoma and thyroid carcinoma in the contralateral lobe of a nonsmoker woman

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We report a 60-year-old nonsmoker woman with laryngeal squamous cell carcinoma for which total laryngectomy and right conservative neck dissection was decided. Right hemithyroidectomy is usually a part of this procedure, but in this case, because of inadvertent ligation of the left inferior thyroid artery, total thyroidectomy was performed. A small nodule 0.5 cm of papillary microcarcinoma in the left lobe that was not diagnosed preoperatively was discovered in the final pathological examination. Therefore, ultrasound evaluation of the thyroid gland should be added to the work-up of all cases undergoing total laryngectomy and there is a need for new guidelines to treat incidental thyroid lesions in the context of laryngeal cancer.

Keywords:

squamous cell carcinoma, thyroid carcinoma, total laryngectomy

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Introduction

Papillary microcarcinoma (PMC) of the thyroid is less than 1 cm in its greatest dimension and is generally identified incidentally; its incidence in autopsy series reaches up to 35% and it has the potential to recur and metastasize [1].

Laryngeal carcinomas are common in smoker men, whereas thyroid lesions are more frequent in women. Second primaries in patients with laryngeal carcinoma in the upper aerodigestive tract and lungs are relatively common because of the common predisposing factors [2]. Only a few cases of simultaneous thyroid cancer associated with laryngeal malignancy are reported in the literature [2,3]. The aim of this work is to report a case of PMC discovered in the contralateral lobe of the thyroid gland as a part of the total laryngectomy specimen in a nonsmoker woman.

Case presentation

A 60-year-old nonsmoker housewife with no history of previous malignancy or radiotherapy presented with hoarseness of voice and a right vocal cord mass with a fixed cord; clinical neck examination did not detect any thyroid or lymph node enlargement. Thin section computed tomography (CT) scanning showed a right transglottic mass that was confirmed by a direct laryngoscopic examination under general anesthesia; this mass was diagnosed as squamous cell carcinoma after histopathological examination of a punch biopsy.

The patient was prepared for total laryngectomy with right functional neck dissection. Hemithyroidectomy on the tumor side is usually a part of the procedure, but in this case, total thyroidectomy was performed as the left inferior thyroid artery was inadvertently ligated and the

left lobe became devascularized. Postoperative pathological examination confirmed the laryngeal mass to be squamous cell carcinoma (Fig. 1) and the thyroid gland showed a small (0.5 cm) grayish white firm nodule in the left lobe that proved to be PMC (Fig. 2). Lymph nodes had no metastatic deposits (0/29).

The postoperative period was uneventful and the patient was discharged after 1 week on thyroxin therapy with no further complaint and she being followed up currently.

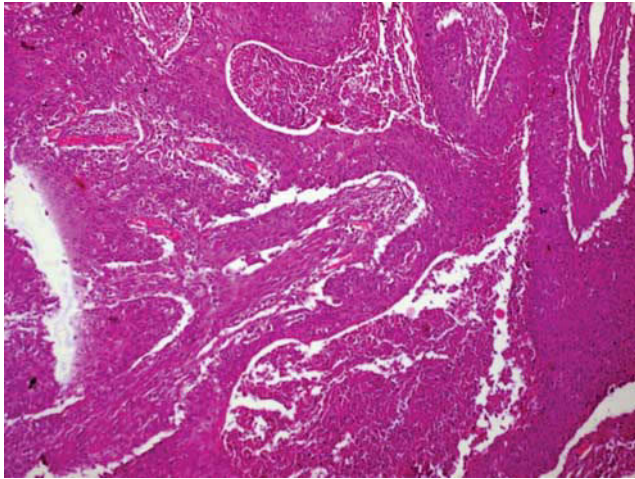
Discussion

Routine ipsilateral hemithyroidectomy has long been considered the standard surgical practice for all patients undergoing total laryngectomy. However, with hemithyroidectomy, 65% of patients develop hypothyroidism, and when combined with radiotherapy, the incidence is as high as 70–90% [3].

Because not all thyroid glands are invaded in laryngeal cancer, selective thyroidectomy was advocated; selective criteria included invasion of the anterior commissure, extension to the subglottic space more than 15 mm, and T3–T4 transglottic cancer, and this is usually based on CT examination. However, preoperative CT failed to show more than one-third of thyroid gland invasion either by direct extension or by metastasis [4].

Ultrasound has become the gold standard for evaluating thyroid nodules; nodules are generally not biopsied unless they are at least 1 cm [5], which decreases the likelihood that PMC would be detected by fine needle aspiration (FNA). However, currently, nodule size is no longer recommended as a threshold of biopsy as studies have shown that malignancy rates are equivalent in lesions below and above 1 cm [6]. FNA biopsy was considered unnecessary by some surgeons

Figure 1



Photomicrograph showing sheets of nonkeratinized malignant squamous epithelial cells infiltrating the subepithelial tissues of the larynx; H&E, × 100.

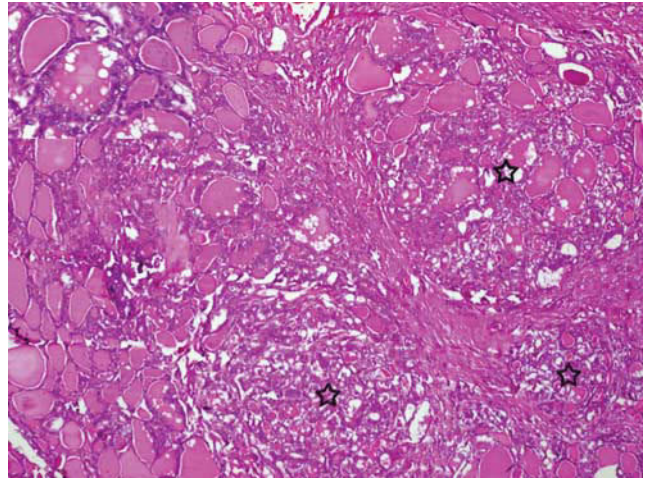
because of the high rate of false-negative results and they suggested that male patients with thyroid nodules should proceed directly to surgery [7].

The management of PMC, a common incidental finding, is a controversial issue. Some clinicians believe that it is indolent and observation is appropriate, whereas others support surgical resection; however, the optimal extent of resection is unknown [8]. Thyroid lobectomy is frequently offered to those patients to avoid the increased risk of complications and to avoid the need for life-long thyroid hormone replacement; those patients are potentially subject for reoperation. Is this valid for PMC in the context of laryngeal cancer? If FNA biopsy indicates a benign nature, the recommendation is follow-up with repeat ultrasound in 6–18 months, and if there is no further progression, ultrasound can be repeated every 3–5 years [7]; again, are these regulations the same for benign thyroid nodules in the context of laryngeal cancer with the risk of reoperation. In contralateral lobe lesions, should total thyroidectomy be performed, considering that almost 50% of those patients may require hormone therapy anyway [8], and in patients with head and neck cancer, the reported rate of malignancy in incidental thyroid nodules is as high as 41% [9], or is this considered an overtreatment [10].

Conclusion

Ultrasound evaluation of the thyroid gland should be added to the work-up of all cases undergoing total laryngectomy and there is a need for new guidelines to

Figure 2



Photomicrograph of total thyroidectomy showing three small foci of papillary thyroid carcinoma (microfollicular type) (stars). Inset showing numerous small microfollicles (arrows) lined by tall columnar epithelial cells with nuclear grooving; H&E × 100, inset, × 400.

treat incidental thyroid lesions in the context of laryngeal cancer.

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Conflicts of interest

There are no conflicts of interest.

References

- 1 Karakoc D, Erol T, Memmedova B, Memis A, Sayek I. Thyroid surgery: what has changed from (1970 to 2004): a Turkish perspective. *Am J Surg* 2009; 198:12–16.
- 2 Iqbal FR, Sani A, Gendeh BS, Aireen I. Triple primary cancers of the larynx, lung and thyroid presenting in one patient. *Med J Malaysia* 2008; 63:417–418.
- 3 Kim JW, Han GS, Byun SS, Lee DY, Cho BH, Kim Y-M. Management of thyroid gland invasion in laryngopharyngeal cancer. *Auris Nasus Larynx* 2008; 35:209–212.
- 4 Gaillardin L, Beutter P, Cottier J-P, Arbion F, Morinire S. Thyroid gland invasion in laryngopharyngeal squamous cell carcinoma: prevalence, endoscopic and CT predictors. *Eur Ann Otorhinolaryngol Head Neck Dis* 2012; 129:e1–e5.
- 5 Iyer NG, Shaha AR. Controversies and challenges in the management of well-differentiated thyroid cancer. *Indian J Surg* 2009; 71:299–307.
- 6 Iyer NG, Shaha AR. Management of thyroid nodules and surgery for differentiated thyroid cancer. *Clin Oncol* 2010; 22:405–412.
- 7 Berri RN, Lloyd LR. Defining the role of fine-needle aspiration of thyroid nodules in male patients: is it necessary? *Am J Surg* 2008; 195:396–400.
- 8 Pitt SC, Sippel RS, Chen H. Contralateral papillary thyroid cancer: does size matter? *Am J Surg* 2009; 197:342–347.
- 9 Jin J, Wilhelm SM, McHenry CR. Incidental thyroid nodule: patterns of diagnosis and rate of malignancy. *Am J Surg* 2009; 197:320–324.
- 10 Gilbert MR, Kim S. Incidental thyroid cancer found during surgery for head and neck squamous cell carcinoma. *Otolaryngol Head Neck Surg* 2012; 147:647–653.