

ÖZGÜN ARAŞTIRMA

The Evaluation of Incidentally Found Thyroid Carcinomas during Laryngeal Surgery

Larenks Cerrahisi Sırasında İncidental Olarak Saptanan Tiroid Karsinomlarının Değerlendirilmesi

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ABSTRACT

Aim: The purpose of this study is to evaluate the possibility of incidental thyroid carcinomas during laryngeal surgery.

Materials and Methods: Seventy three patients who were treated surgically for squamous cell carcinoma of larynx at the Otolaryngology Department of Ankara Oncology Education and Research Hospital, over 18 months period between 2003-2004 were included, out of which 4 thyroid carcinomas detected.

Results: Among these patients with larynx tumor, one of them had follicular variant of thyroid papillary carcinoma, the other had thyroid papillary carcinoma metastases of cervical lymph node and the third one had thyroid papillary microcarcinoma and the last one had follicular thyroid carcinoma. Total thyroidectomy and contralateral neck dissection was performed to one of them and the other three patients had complementary thyroidectomy and contralateral neck dissection. All patients were free of disease after 11-9-17-11 months of follow-up respectively.

Conclusion: Thyroid tissue must be evaluated carefully for thyroid carcinoma during laryngectomy. In our opinion, intraoperative evaluation of the thyroid gland is very important because coexistent of thyroid malignancy with laryngeal carcinoma can be more than it's expected.

Key Words: Larynx carcinoma, thyroid carcinoma, incidentally.

ÖZET

Amacı: Bu çalışmanın amacı, laryngeal cerrahi sırasında insidental olarak bulunan tiroid karsinomu olasılığını değerlendirmektir.

Gereç ve Yöntem: Çalışmaya larenks skuamöz hücreli karsinomu nedeniyle Ankara Onkoloji Eğitim Araştırma Hastanesinde 2003-2004 yılları arasında 18 ay boyunca larenks cerrahisi uygulanan toplam 73 hasta değerlendirilerek bulunan 4 adet tiroid karsinomlu hasta dahil edilmiştir.

Bulgular: Larenks skuamöz hücreli karsinom tanılı hastalar arasından birinci hastanın tiroid papiller karsinomun foliküler varyantı, ikinci hastanın lenf nodu metastazlı tiroid papiller karsinomu, üçüncü hastanın tiroid papiller mikrokarsinomu ve dördüncü hastanın foliküler tiroid karsinomu mevcuttu. 1 hastaya total tiroidektomi ve kontralateral boyun diseksiyonu, diğer hastalara da komplementer tiroidektomi ve kontralateral boyun diseksiyonu uygulandı. Tüm hastalar sırasıyla 11-9-17-11 ay boyunca hastaliksız olarak takip edildi.

Sonuç: Larenjektomi sırasında tiroid karsinomu açısından tiroid dokusu dikkatli bir biçimde değerlendirilmelidir. Tiroid bezinin intraoperatif olarak değerlendirilmesi çok önemlidir. Çünkü larengeal karsinomla birlikte bulunan bir tiroid malignitesi ile beklenildiğinden çok daha sık karşılaşılabilmektedir.

Anahtar Kelimeler: Larenks Karsinomu, tiroid Karsinomu, insidental.

INTRODUCTION

There are so many factors in etiology for thyroid carcinomas. Radiation is the well-known factor. Oncogenes, pathology of suppression tumor genes, hormonal problems (especially for women) environmental factors, procurement of iodine, genetic factors are the other factors that we know.

The occurrence of multiple primary malignancies is not uncommon fact in oncology. Rates between 2% and 10% have been described in autopsy cases (1).

While metastasis of upper respiratory tract by thyroid carcinomas has been reported to occur 0.9 % to 22% of patients and thyroid gland invasion is reported in 30% of laryngeal and 12.5% of hypopharyngeal cancers, the association of primary upper respiratory tract and thyroid cancers seem to be very rare (1,2).

Although the cervical survival rates reported patients with larynx carcinoma are quite good, there is a risk of developing second malignant tumors (SMT) in the population. The prognosis for SMT poor (3).

Multiple primary malignancies should always keep on mind in head and neck tumors. For this reason, larynx, nasal cavity, nasopharynx, oropharynx, hypopharynx, trachea and bronchus, esophagus, auricular, parotid gland, face and all head neck regions should be examined in larynx carcinomas.

We aimed to evaluate the possibility of a coincidental thyroid malignancy during laryngeal surgery for larynx cancer.

MATERIALS AND METHODS

Our study group consists of patients who were treated surgically for SCC of larynx at our clinic over 18 months period between 2003-2004, thus 73 patients who underwent laryngectomy for larynx SCC were included. Thyroid carcinoma was detected in four of these seventy three patients.

Case 1

A 57-years old man was referred to our department for treatment T3NoMo larynx SCC of the right transglottic region with pyriform sinus invasion. He was operated in April 2004, total laryngectomy with right functional neck dissection, right hemithyroidectomy and zone VI lymph node

dissection were carried out. Histopathologic examination of the surgical specimen revealed moderately differentiated SCC of right transglottis with pyriform sinus invasion. Follicular variant of papillary microcarcinoma was found in the pathologic examination of right hemithyroidectomy specimen. Then our tumor board recommended complementary thyroidectomy and contralateral neck dissection. He underwent right radical neck dissection and complementary thyroidectomy. Pathological examination of this thyroid tissue was free of tumor. The patient refused radiotherapy in the postoperative period. During this period, radioactive iodine therapy had not been indicated by nuclear medicine clinic. At present the patient is free of disease after 11 months of follow-up.

Case 2

A 57 years-old man was referred to our department for treatment of larynx SCC in June 2004. Tumor was located on left vocal cord and staged as T2NoMx. He underwent left vertical partially laryngectomy and left functional neck dissection. Histopathologic examination of the surgical specimen revealed well differentiated SCC located on left glottic region with negative surgical margins. There were no SCC metastases in cervical lymph nodes but unexpected papillary thyroid carcinoma metastases were noted in two lymph nodes in level III on the left side. These findings were discussed at our tumor board and complementary thyroidectomy and contralateral neck dissection followed by radioactive iodine treatment was recommended. Then he underwent right functional neck dissection and total thyroidectomy. Histopathologic examination of the surgical specimen of thyroid tissues is free of tumor. At present the patient is free of disease after 9 months of follow-up examination.

Case 3

A 50 years-old man was referred to our department for treatment of larynx SCC in October 2003. Tumor was located on left vocal cord and staged as T3NoMo. He underwent total laryngectomy, left functional neck dissection, left hemithyroidectomy.

Histopathologic examination of the surgical specimen revealed well differentiated SCC. Pathologic examination of left thyroid tissue was reported as

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papillary microcarcinoma. There was no SCC metastasis in cervical lymph nodes. Complementary thyroidectomy and contra lateral neck dissection was recommended by our tumor board. He had right functional neck dissection and complementary thyroidectomy. At present the patient is free of disease after 17 months of follow-up examination.

Case 4

A 53 years-old man was referred to our department for treatment of T4NoMo SSC of supraglottic tumor. In April 2004 the patient underwent total laryngectomy with right functional neck dissection and right thyroid lobectomy. Histopathologic examination of the surgical specimen revealed well differentiated SCC of supraglottis. Histopathologic examination of the thyroid gland revealed follicular carcinoma with invasion to thyroid capsule. Total thyroidectomy with contralateral neck dissection was recommended by our tumor board. Left functional neck dissection with thyroidectomy was performed. At present he is free of disease in 11 months follow up.

DISCUSSION

In patients with larynx carcinoma, second primary tumors may arise at rate as high as 23.6%. (4). Because the entire upper respiratory tract is exposed to same carcinogens at the same time, these multiple primaries usually have similar histopathologic features and arise as squamous cell carcinomas in the larynx, lungs or esophagus. It is unusual to find a thyroid cancer incidentally as a second primary tumor in the patient with larynx carcinoma (5).

Thyroid cancer accounts for less than 1% of all malignant neoplasms and causes approximately 1,100 deaths annually in the United States (3). Incidentally determination of papillary carcinoma at the cervical lymph nodes was reported in the literature, for example, Fransila et al. reported that occult papillary carcinoma was 27% in the autopsy series on individuals between 18 and 40 years of age (6).

Multiple primary cancers are usually seen in head and neck area up to 20% (4). Examination should be made pre, intra and postoperatively for metastasis and other malignancies. There are different values for

second primary thyroid cancers in patients with larynx carcinoma. In a study, it is reported that of 24 patients with primary head and neck cancers, the proportion of a second primary cancer is 64% during 24 months follow-up (7).

It was reported that in a study of second primary cancers in patients with primary laryngeal cancer, the most common second primary cancer was at head and neck area (8). Also the prognosis may be worse at these patients.

The major risk factor of larynx carcinoma is smoking, but it is not the major etiologic factor for thyroid carcinoma. If a second squamous cell carcinoma is found at any area of the body, it is usually caused by the same etiologic factor. It is fascinating to see two cancers having different etiological factors at the same time. Head and neck carcinoma, lung and esophagus SCC are usually seen together with the larynx carcinoma even though thyroid carcinoma is not usually expected. It was also interesting that the histopathological diagnosis of thyroid cancers were different.

Vick et al. reported that conservative surgery is a successful treatment for thyroid carcinoma. Even though differentiated thyroid carcinomas may be multifocal. The presence of multifocal microscopic disease has no clinical importance, and surgical treatment should not be based on this factor. No survival benefit could be demonstrated for any of the commonly employed surgical procedures for differentiated thyroid carcinoma, and lack of adequate surgery did not appear to be a factor in survival (6).

Wanobo reported that although thyroid cancer patients with nodal metastases generally have a good prognosis, high-risk subgroups have been identified who may benefit from a more aggressive therapeutic and follow-up approach (6).

Preoperative and intraoperative thyroid examination is imperativeness. At the first application of our patients we did not regard thyroid cancer. Since most of the population have benign pathologies of thyroid tissue, our patients seemed to have thyroid hypertrophy but they had no finding to suspect of thyroid carcinoma. (for example; case 4)

In an autopsy study, made by Shimaoka, metastases to the thyroid was found in 188 of 1999 cancer patients. In this autopsy series, there were 9 cases of primary thyroid carcinoma associated with other primary malignancies. Therefore, in patients with cancer of any other organ studied at autopsy, metastasis to the thyroid gland occurred about 20 times more frequently than primary thyroid cancer; however, many of these thyroid neoplasms, both primary and secondary, were not found clinically and were only diagnosed at the time of autopsy (9). Pitman et al. advocate an aggressive management of the thyroid cancer for the reason that a patient who would otherwise be cured after successful management of the head and neck SCC may be lost because of inadequately treated thyroid cancer (6,10)

Among these patients with larynx tumor, 3 cases had additional thyroid carcinoma in thyroid tissue and one had metastases of thyroid papillary carcinoma to the cervical lymph node which were diagnosed in pathological examination. One of these patients had follicular variant of thyroid papillary carcinoma, the other had thyroid papillary carcinoma metastases of cervical lymph node and the third one had thyroid papillary microcarcinoma and the last one had follicular thyroid carcinoma. Total thyroidectomy and contralateral neck dissection was performed to one of them and the other three patients had complementary thyroidectomy and contralateral neck dissection. All are free of disease after 11, 9, 17, 11 months of follow-up, respectively.

In conclusion, patient with larynx carcinoma should be carefully examined for thyroid cancers. If any suspicion has been seen, all the necessary tests should be done pre and post operatively (11).

If the thyroid cancer is diagnosed, then the patient should undergo appropriate thyroid surgery.

The aim of hemithyroidectomy is the excision of the occult metastasis of larynx carcinoma and to make ease for paratracheal lymph node dissection at the patient with subglottic carcinoma (11,12,13,14).

So, we can say that; thyroid tissue must be evaluated carefully for thyroid carcinoma during laryngectomy. Management of thyroid gland during treatment of squamous cell carcinoma of larynx is still debatable. In our opinion, intraoperative evaluation of the thyroid gland is very important because

coexistence of thyroid malignancy with laryngeal carcinoma can be more than expected.

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