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Case Report: Larynx Cancer, with Synchronous Chronic Myelogenous Leukemia, and Metachronous Lung Cancer

Olgu Sunumu: Metakronize Akciğer Kanseri ve Senkronize Kronik Myelositer Löseminin Larenks Kanseri ile Birlikteliği

***Davut AKDUMAN, **Celil USLU, *Murat KARAMAN, **Erkan ESEN,**
*****Ayşe TOPCU AKDUMAN, ****Tevhide Bilgen ÖZCAN******

*Umraniye Education and Training Hospital, Otorhinolaryngology Department,
**Haydarpaşa Numune Education and Training Hospital, Otorhinolaryngology Department,
***Haydarpasa Numune Education and Training Hospital, Internal Medicine Department,
****Haydarpasa Numune Education and Training Hospital, Pathology Department, İstanbul

ABSTRACT

We report a case of laryngeal squamous cell cancer (SCC) with chronic myelogenous leukemia (CML), and lung cancer as an uncommon co-occurrence. The patient was referred to us as he had an endovegetative laryngeal mass, while biopsy histopathology showed SCC. He had had a lung lobectomy operation for SCC lung cancer, one year ago. Because of high white blood cell levels, he was consulted to internal medicine, and diagnosed as CML. After chemotherapy he had remission of CML, and we performed total laryngectomy and bilateral neck dissection. He died 25 months later due to cardiovascular disease. This case was different from the reported cases due to a hematological malignancy with two SCCs as an uncommon co-occurrence. The metachronous and/or synchronous second and third primary tumors with larynx cancer are uncommon, but a special attention must be carried out for their morbidity and curability if diagnosed earlier.

Keywords
Larynx cancer, chronic myelogenous leukemia, lung cancer, synchronous, metachronous

ÖZET

Bu sunumda, nadir birlikteliği olan larengeal skuamöz hücreli kanser (SCC), kronik myelositer lösemi ve akciğer kanserli bir olgu bildirdik. Kliniğimize larenkste endovegetan kitle nedeniyle sevkedilen hastanın biyopsi sonucu SCC olarak değerlendirildi. Bir yıl önce akciğer kanseri nedeniyle lobektomi geçirmişti. Lökosit seviyesinin yüksek gelmesi üzerine dahiliye kliniğine konsülte edildi ve kronik myelositer lösemi tanısı konuldu. Medikal tedavi sonrası remisyona giren hastaya total larenjektomi ve bilateral boyun diseksiyonu yapıldı. Hasta 25 ay sonra kardiyovasküler hastalıktan öldü. Hematolojik bir malignitenin skuamöz hücreli iki kanserle nadir birlikteliği açısından yayınlanmış olgulardan farklıydı. Metakronize ve/veya senkronize ikinci ve üçüncü primer tümörlerin larenks kanseriyle birlikteliği nadirdir ve morbiditelerinden dolayı erken tanı konduğunda kürabiliteye sahip olabildikleri için özel dikkat gösterilmelidir.

Anahtar Sözcükler
Larenks kanseri, kronik myelositer lösemi, akciğer kanseri, metakronize, senkronize

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Correspondence
Davut AKDUMAN, M.D.
Umraniye Education and Training Hospital
Department of Otorhinolaryngology
34672/Umraniye, İstanbul
E-mail: dr.akduman@gmail.com

INTRODUCTION

Second primary tumors and their impact on survival have received much attention recently. That is especially important in head and neck cancer because it has been shown that patients with head and neck cancer have a greater risk of a second primary malignancy than any other group of cancer patients. The first to publish on this subject was Billroth[1] in 1889. Warren and Gates[2] announced the study of 1,259 cases of multiple primary tumors arising from unrelated sites in 1932. Since then, a series of retrospective studies have been published presenting incidences of second primary tumors with head and neck cancers varying from 1.5% to 35%. In these studies, most of the second primaries were squamous cell cancers (SCC). Lymphogenic tumors as second primaries are extremely rare.[3,4] In this paper, we report a case of laryngeal SCC with synchronous chronic myelogenous leukemia, metachronous squamous cell lung cancer and review the literature on the clinical and histopathological aspects of these malignancies.

We used the criteria of Warren and Gates[2] as modified by Hong et al.[5] to define a second primary tumor. These criteria require that both tumors are histologically malignant, each tumor (primary and second primary) are topographically distinct and separate, and the possibility of metastasis is excluded. Depending on the time of diagnosis, these tumors are described as synchronous or metachronous as Nikolaou et al.[6] defined. Synchronous tumors are diagnosed either at the same time, or within a 6-month period from the diagnosis of the index tumor. Metachronous tumors are diagnosed at least 6 months after primary diagnosis.

CASE REPORT

The patient was a 50 years old man with a history of hoarseness for 10 months and difficulties in swallowing and breathing for three weeks. He was a smoker for 35 years and consumed 20 cigarettes per day. He had gone to a chest diseases hospital. They observed a laryngeal endovegetative mass and a hemorrhage when they performed a fiberoptic laryngoscopy, he was then referred to our department. The patient underwent a direct microlaryngoscopy under general anesthesia. There was a mass filling laryngeal vestibule, invading laryngeal side of epiglottis, reaching to vallecula, aryepiglottic fold, and muscular process of arytenoid on the right side, invading and fixating right vocal cord. There was a 1x2 cm lymphadenopathy at level III on the right neck and multiple 1x1 cm lymphadenopathies at the levels II and III on the left neck. We performed a biopsy on the tumor, and it was invasive squamous cell cancer histopathologically.

He had had a left inferior lobectomy operation for lung cancer 1 year ago. There was a 3.5 cm mass in inferior lung lobe, and histopathologic evaluation was moderately differentiated squamous cell cancer with lymphovascular invasion (Figure 1).

WBC count was 110 $x10^3/\mu L$ before the operation. The patient was consulted to internal medicine department. Bcr-Abl (t 9:22) gen mutation target/reference ratio was 3x10E-1 with successful amplification of Bcr-Abl gen product with the *Light Cycler® - t(9;22) Quantification Kit* (Figure 2). Bone marrow aspiration was hypercellular with a pronounced myeloid hyperplasia, had distrophic changes in myeloid series as myelocyte through polymorphonuclear cells and giant metamyelocytes were present.

Leukocyte alkaline phosphatase score was 54 (15-130), in normal range. There was no hepatosplenomegaly. He was diagnosed as chronic myelogenous leukemia (CML), and three weeks after hydroxyurea and allopurinol treatment, WBC count decreased to 10 $x10^3/\mu L$. Then the patient was evaluated for surgery.

Total laryngectomy with right radical and left functional neck dissections were performed for his T3N2c transglottik (glottic and supraglottic) tumor. Thrombocytopenia (trb: 30 $x10^3/\mu L$) and hypoproteinemia (total protein: 5.6 g/dL) occurred on the fourth day, and a pharyngocutanous fistula developed on eleventh day

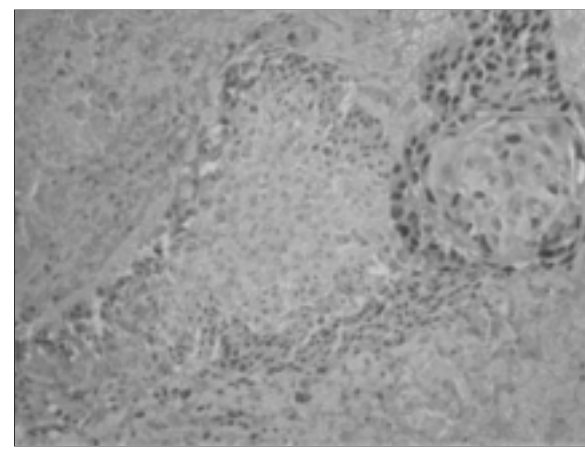

Figure 1. Biopsy of moderately differentiated SCC of the left lung. Haematoxylin & eosin stain x400.

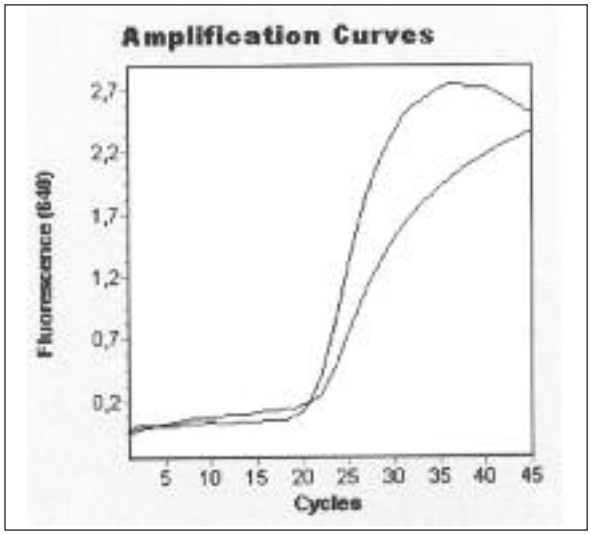

Figure 2. Target/reference ratio was 3x10E-1 with successful amplification of Bcr-Abl gen product with the Light Cycler® - t(9;22) Quantification Kit.

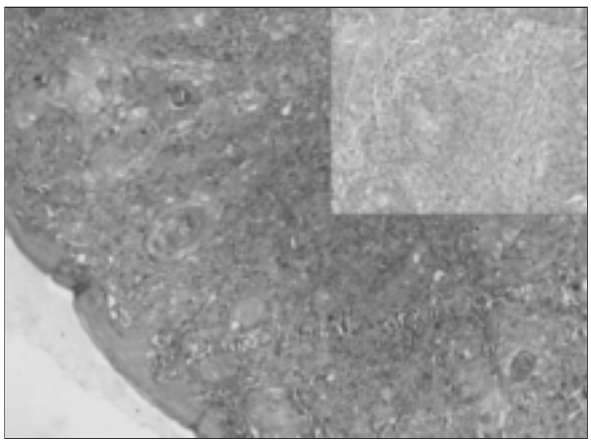

Figure 3. Biopsy of moderately differentiated SCC of larynx. Keratinization spaces with desmoplastic response in the stroma underlaying mature squamous epithelium. (Haematoxylin & eosin stain x400, small picture x200).

postoperatively which managed successfully with refreshing tract of the fistula and dressing.

The tumor arose from right vocal cord with bilateral supraglottic and subglottic extensions, and was 2.5 cms in diameter. There was one lymphadenopathy at the level III on right neck, and 3 lymphadenopathies less than 1 cm in diameter at the level II, III on the left neck, and all had cancer metastasis (T3N2c), and histopathologic evalution of the tumor was moderately differentiated SCC (Figure 3) in postoperative pathologic assessment of surgical specimen. He dead from cardiovascular disease 25 months after laryngectomy and bilateral neck dissection.

DISCUSSION

The above case had a different importance from the reported cases in the literature due to a hematological malignancy with two SCCs in the larynx and the lung. A series of retrospective studies have been published presenting incidences of second primary tumors with head and neck cancer varying from 1.5% to 35%. A meta-analysis was performed on the data from 25 studies.[7] Fifty five of 1864 patients with laryngeal cancer (3%) from the Washington University data developed a second primary tumor in lung although second primary malignancies in other sites brought the total up to 11%. The majority of the malignancies occurred in the head and neck (35%) followed by the lung (25%). Most of them were metachronous rather than synchronous. Of the 18 relevant studies reviewed, second primary in the lung constituted 678 of 19159 cases (3.5%) of the laryngeal index tumors. Panosetti et al.[8] reported a 9.4% incidence of multiple cancers in a cohort of head and neck cancer patients. The incidence of second primaries in the lung associated with larynx cancer was 1.5%.

Lymphogenic tumours as second primaries are extremely rare.[3,4] Arthur et al.[9] reported that 5% of patients with reticuloendothelial malignancies developed second primary neoplasms. In selected subcategories such as chronic myelogenous leukemia, the incidence of second primaries was 7% in their series.

Engin[10] reported 76 patients with multiple primary cancers among 9180 cancer patients. Overall rate of multiple primary cancers was 0.83%. The combination of larynx cancer and lung cancer was the most commonly observed type (21%). Larynx cancer was also the most commonly seen multiple primary cancer component in all cancer patients (46%).

In this paper, we report a case of laryngeal squamous cell cancer with synchronous chronic myelogenous leukemia, and metachronous lung cancer as an uncommon togetherness.

CONCLUSIONS

The metachronous and/or synchronous second and third primary tumors with laryngeal cancer are uncommon but more attention must be paid to their morbidity and cure.

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REFERENCES

1. Billroth T. Die Allgemeine Chirurgische Pathologie und Therapie. Ir 51 Vorlesungen: Ein Handbuch fur Stuierende und Aerzte. R. Riemer: Berlin; 1882:980.
2. Warren S, Gates 0. Multiple primary malignant tumors: a survey of the literature and a statistical study. Am J Cancer 1932;16:1358–414.
3. Nigri PT, Khasgiwala CK. Unusual presentation of head and neck neoplasm. Laryngoscope 1982;92(11):1245-6
4. Manusow D, Weinerman BH. Subsequent neoplasia in chronic lymphocytic leukemia. JAMA 1975;232(3):267-9
5. Hong W, Lippman SM, Itri LM, Karp DD, Lee JJ, Byers RMet al. Prevention of second primary tumors with isotretinoin in squamous-cell carcinoma of the head and neck. N Engl J Med 1990;323(12):795-801.
6. Nikolaou AC, Markou CD, Petridis DG, Daniilidis IC. Second primary neoplasms in patients with laryngeal carcinoma Laryngoscope 2000;10(1): 58–64.
7. Haughey BH, Gates GA, Arfken CL, Harvey J.meta-analysis of second malignant tumors in head and neck cancer:the case for an endoscopic screening protocol. Ann Otol Rhinol Laryngol 1992;101 (2 Pt 1):105-12.
8. Panosetti E, Luboinski B, Mamelle G, Richard JM. Multiple synchronous and metachronous cancers of the upper aerodigestive tract: a nine-year study. Laryngoscope 1989;99(12):1267-73.
9. Boddie AW Jr, Goepfert H, Fischer EP, Ballantyne AJ. Head and neck cancer developing in patients with pre-existing reticuloendothelial malignancies. Laryngoscope 1977;87(12): 2090-5.
10. Engin K. Cancers in multiple primary sites. Int Surg 1994;79(1):33-7.