



Primary extranodal non-Hodgkin's lymphoma of the larynx: a case report

Larenksin primer ekstranodal Hodgkin dışı lenfoması: Olgu sunumu

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Primary laryngeal extranodal non-Hodgkin's lymphoma (NHL) is a rare entity, accounting for approximately less than 1% of all primary laryngeal malign tumors. In this article, we report a 62-year-old male who presented with airway obstruction due to a laryngeal mass. A supraglottic mass was detected by indirect laryngoscopy. An emergency tracheotomy was performed due to respiratory distress. Histological examination by morphology and immunohistochemistry showed diffuse large B-cell lymphoma according to the World Health Organization classification. Systemic and local physical and imaging work-up revealed primary NHL of the larynx in stage 1E. Rituxan plus CHOP (R-CHOP) chemotherapy was administered. Although complete remission was seen, the patient was lost due to heart disease at two years. Because of its rarity, it is of utmost importance to precise pathologic diagnosis for an effective therapeutic approach.

Key Words: Extranodal; larynx; lymphoma; non-Hodgkin.

Larenksin primer ekstranodal Hodgkin dışı lenfoması (NHL) nadir görülmekte olup, larenks malign tümörlerinin yaklaşık %1'inden azını oluşturur. Bu yazıda larenks kitlesine bağlı hava yolu tıkanıklığı olan 62 yaşında erkek bir olgu sunuldu. Yapılan indirekt larengoskopide supraglottik kitle görüldü. Solunum sıkıntısı nedeniyle acil trakeotomi yapıldı. Morfoloji ve immünohistokimya ile yapılan Histopatolojik inceleme sonucunda, Dünya Sağlık Örgütü sınıflamasına göre yaygın büyük B hücreli lenfoma saptandı. Sistemik ve lokal fizik muayene ve görüntüleme çalışmalarında larenksin evre 1E primer NHL'si görüldü. Rituxan artı CHOP (R-CHOP) kemoterapi uygulandı. Tam remisyon sağlanmasına karşın, hasta ikinci yılında kalp hastalığına bağlı kaybedildi. Larenksin nadir görülen bu hastalığında etkin tedavi yaklaşımı için, doğru patolojik tanının konulması çok önemlidir.

Anahtar Sözcükler: Extranodal; larinks; lenfoma; Hodgkin dışı.

Non-Hodgkin's lymphomas (NHL) originate from lymph nodes and other lymphatic tissues. However, NHL can also be seen in extranodal regions. The head and neck region is the second most frequent site of localization of extranodal NHL,^[1,2] with nasal and paranasal regions, eyes, salivary glands, and larynx as the extranodal and extralymphatic sites. Primary lymphoma of the larynx is a rare lymphoproliferative disorder with approximately 100 cases reported in the English literature to date.^[3] Even more, true stage 1E

primary NHL of the larynx has been reported in less than 35 cases.^[4] We present an unusual case of primary extranodal NHL of the larynx in a man and review the literature.

CASE REPORT

A 62-year-old man was admitted to the emergency department with severe dyspnea. Indirect laryngoscopy revealed a supraglottic mass and an urgent tracheotomy

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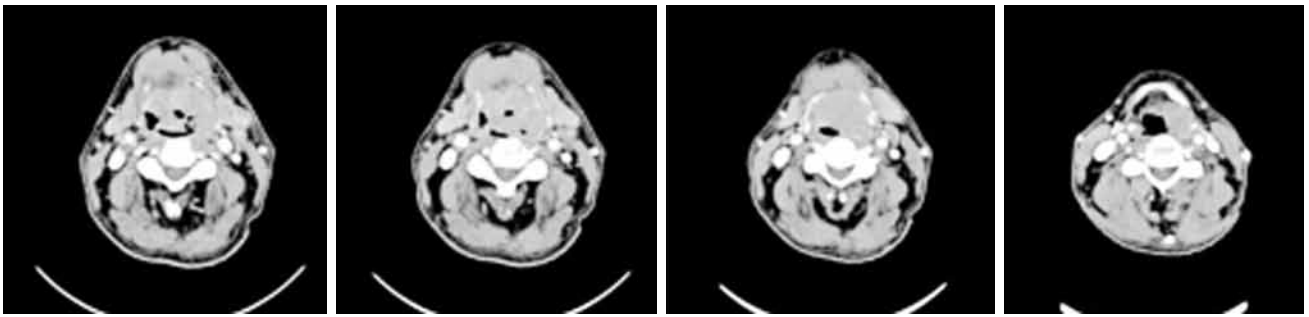


Figure 1. Computed tomography scan sections of the neck showing the supraglottic mass infiltrating the left paralaryngeal adipose tissue and preepiglottic region.

was performed under local anesthesia. On review, he had a two-month history of progressive hoarseness, dysphagia and dysphonia, with no night sweats or weight loss. He had used tobacco for 50 years. Examination of the neck did not show any palpable lymphadenopathy.

Cervical computed tomography (CT) showed a supraglottic mass, measuring approximately 6x4.5x2.5 cm, infiltrating the left paralaryngeal fat tissue and preepiglottic area (Figure 1).

Direct laryngoscopy revealed a large supraglottic mass originating from the laryngeal surface of the epiglottis. Tumor involved the left band ventricle, left aryepiglottic fold and extended to the left piriform sinus. A biopsy was performed under general anesthesia.

Histopathological examination showed a tumoral infiltration composed of large cells with large vesicular nuclei containing eosinophilic nucleoli and scant cytoplasm (Figure 2a). The tumor cells were immunoreactive for anti-CD 20 (Figure 2b). Anti-CD3 was detected to be positive in reactive T lymphocytes, but not in large tumoral cells. The Ki-67 proliferation index was detected to be 60-70% (Figure 2c). Anti pancytokeratin, S-100, Melan-A, and HMB-45 (human melanoma black-45) were negative. The tumor was classified as diffuse large B-cell lymphoma according to the World Health Organization (WHO) classification

system. The presence of atypical large cell population, immunohistochemistry results, localization of the tumor and systemic physical examination led us to diagnose a primary non-Hodgkin's lymphoma of the larynx (stage 1 E).

The patient was treated with rituxan plus CHOP (R-CHOP) chemotherapy that resulted in complete remission. After the third cycle of therapy, the patient was decannulated, and complete remission was obtained after eight cycles. After a two year period without any recurrence of disease, the patient died of heart failure.

DISCUSSION

Non-Hodgkin's lymphoma accounts for 5% of all malignancies of the head and neck region. Most NHL's arise in nodal localizations such as lymph nodes or other lymphatic tissues (Waldeyer's ring, spleen, and thymus). In the Ann-Arbor classification, the involvement of organs other than lymphoid tissue is called extranodal NHL and primary extranodal NHL that arise from these sites.^[5] Primary extranodal NHL is rare and in literature approximately 25% percent of cases originate in extranodal sites.^[6]

Primary NHL of the larynx is predominantly reported in males and the median age is 62 years. The presented patient was concordant with the literature.^[7]

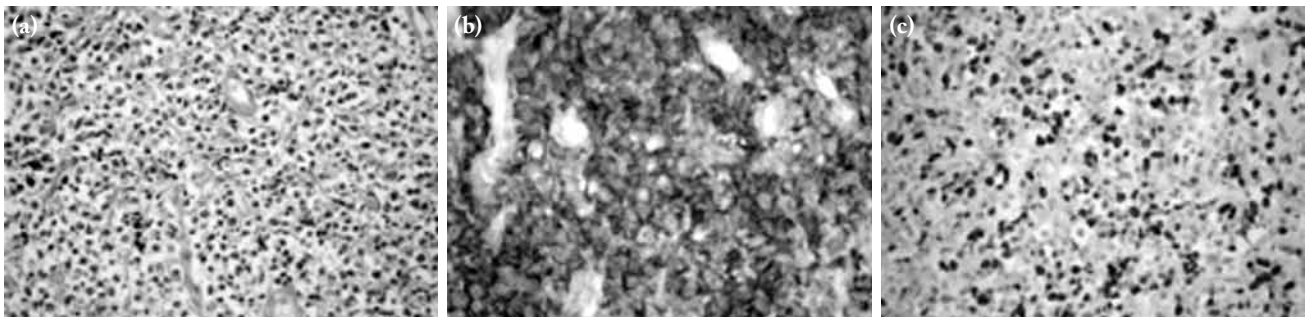


Figure 2. (a) Tumoral cells displaying large, vesicular nuclei and scant cytoplasm. Apoptotic bodies can also be seen (H-E x 400). (b) Positive immunoreactivity for anti-CD20 antibody (H-E x 400). (c) The Ki-67 proliferation index showing 60-70% nuclear positivity (H-E x 400).

Mostly, presenting symptoms in laryngeal lymphoma are hoarseness, dysphonia and dysphagia. However, our case presented with airway obstruction and required emergency tracheotomy.

Primary laryngeal extranodal NHL is supposed to originate from specialized submucosal lymphoid tissue in the lamina propria of the supraglottic region of larynx.^[8] Unlike squamous cell carcinoma, laryngeal NHL appears as a submucosal mass which keeps the overlying mucosa intact. Radiologically, a laryngeal tumor with a large supraglottic submucosal component supports the diagnosis of NHL.^[9]

In the reported laryngeal lymphoma cases, tumor was usually seen in the supraglottis and frequently involved the glottis and subglottis and spread to the laryngeal cartilage and strap muscles. Large laryngeal NHL tumors involving the hypopharynx extend into the tongue base, oropharynx, and nasopharynx.

The international prognostic index (IPI) is useful to predict the risk of disease recurrence and overall survival of patients with predominantly B-cell lymphomas. The IPI for aggressive NHL (diffuse large cell lymphoma) identifies five significant risk factors prognostic of overall survival. According to this index our patient had three positive risk factors composed of elevated lactate dehydrogenase, performance status degree as two point and age as greater than 60 years old. Our patient with these prognostic factors has an IPI score of three and is defined as intermediate risk patient.

An immunohistochemical examination is required for exact pathological classification and accurate diagnosis. Most reported cases of laryngeal lymphomas have been diffuse large B-cell lymphomas.^[7,10] In the last 12 years, approximately 70% of published cases were of B-cell lineage.^[3] Our case was diffuse large B-cell lymphoma.

Laryngeal lymphomas require an accurate diagnosis because in opposition to other laryngeal lesions surgery is contraindicated for laryngeal lymphomas.

The treatment of laryngeal lymphomas consists of radiotherapy and combination chemotherapy alone or radiotherapy and combination chemotherapy together. Until the recent advances in combination chemotherapy treatments, radiotherapy was the primary modality of therapy for these tumors.^[4] Chemotherapy has achieved good results in intermediate grade lymphomas of the head and neck. Miller and Jones^[11] and, Cabanillas^[12] have shown that with CHOP chemotherapy treatment complete remission can be obtained in grade 1 and 2 intermediate grade lymphomas. Also, Cavalot et al.^[7] and Word et al.^[13] treated their patients with CHOP combination chemotherapy and achieved complete remission. Both patients had diffuse large B-cell type

primary NHL of larynx. For our patient complete remission was obtained with R-CHOP chemotherapy treatment.

In conclusion, primary NHL of larynx is rare entity. A correct pathologic diagnosis is essential. Standard treatment is not yet clear. According to the literature, the suggested treatment of choice for patients with limited stage lymphomas is combination chemotherapy alone or combination chemotherapy plus radiotherapy.

Declaration of conflicting interests

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