Survival Of A Patient With Anaplastic Thyroid Cancer Following Neoadjuvant Chemotherapy Regimen 'Cisplatin Doxorubicin' And Surgery - A Case Report

Neoadjuvan Kemoterapi Rejimi 'Sisplatin Doksorubisin' Ve Cerrahinin Ardından Anaplastik Tiroid Kanseri Olan Bir Hastanın Sağkalımı - Bir Olgu Sunumu

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ÖZET

Anaplastik tiroid karsinomu (ATC), etkili sistemik tedavileri olmayan nadir görülen, ölümcül bir hastalıktır. ATC genellikle hızlı büyüyen tiroid kitlesi ile birlikte özofagus ve trakeadaki kitle etkisine bağlı olarak disfaji, disfoni veya ses kısıklığı, stridor ve dispne semptomlarına neden olan lokal semptomlarla gösterir. Boyunda şişlik nedeniyle hastanemize sevk edilen 56 yaşındaki kadın hasta olgusunu sunuyoruz. Tiroidde boynunun sol tarafında palpe edilebilen, sert, hareketsiz bir tümör ve palpe edilebilen, hareketsiz bir lenf nodu saptandı. Hastaya birinci basamak tedavi olarak 75 mg / m2 / gün cisplatin, 21 günde bir doksorubisin 60 mg / m2 / gün 21 günde bir 6 kür kemoterapi rejimi uygulandı. 6 kür kemoterapi sonrası F18-FDG-PET' de kitle saptanmadı. Radyolojik olarak tam remisyon sağlandı. Hasta 2 hafta sonra opere edildi. Total tiroidektomi, bilateral santral ve sol modifiye radikal servikal lenf nodu diseksiyonu yapıldı. Cerrahi olarak tam R0 rezeksiyonu sağlandı.

Sağkalım açısından en iyi sonuçlar, cerrahi, eksternal radyoterapi ve kemoterapiyi birleştiren multidisipliner bir tedavi ile elde edilir. Fakat multidisipliner tedaviye rağmen, tedaviye yanıtlar umut verici değildir. Birinci basamak neadjuvan kemoterapi rejimleri, özellikle cerrahi tam R0 rezeksiyon şansı az olan hastalarda tercih edilebilir bir seçenek olabilir.

Anahtar Kelimeler: Anaplastik Tiroid Kanseri, Neoadjuvan Kemoterapi, Neoadjuvan Tam Yanıt

ABSTRACT

Anaplastic thyroid carcinoma(ATC) is a rare, lethal disease with no effective systemic therapies. ATC usually manifests itself with the local symptoms due to a rapidly enlarging thyroid mass, that causing dysphagia, dysphonia or hoarseness, stridor, and dyspnea symptoms due to mass effect on the esophagus and trachea. We report the case of a 56 year-old woman who was referred to our hospital due to swelling in the neck. A palpable, hard, immobile tumor was observed in the left side of his neck in thyroid, along with a swollen, palpable, immobile lymph node. The patient underwent chemotherapy regimen as cisplatin 75 mg/m2/day at D1, doxorubicin 60 mg/m2/day D1, every 21 days) regimen as first-line therapy for six cycles. No mass was detected in F18- FDG-PET after six cycled of chemotherapy. Complete remission was achieved radiologically. The patient underwent surgery after two weeks. Total thyroidectomy, bilateral central and left modified radical cervical lymph node dissection were performed. A surgical complete R0 resection was achieved. The best results in terms of survival are obtained with a multidisciplinary treatment combining surgery, external beam radiotherapy and chemotherapy. Despite multidisciplinary treatment, responses to treatment are not promising. Neoadjuvant chemotherapy can be a preferable choice especially for the one who have a little chance for surgical complete R0 resection.

Keywords: Anaplastic Thyroid Cancer, Neoadjuvant Chemotherapy, Neoadjuvant Complete Response

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INTRODUCTION

Anaplastic thyroid cancer (ATC) is a rare but one of the deadliest cancers in humans. Its reported incidence is less than 2% of all thyroid cancer (TC) cases but has a mortality rate of 90% with a median survival of 6 months. (1,2,3) According to 'The American Joint Committe on Cancer (AJCC)' ATC is regarded as stage IV TC, independently from tumor size and presence of lymph nore or distant metastasis, and it is often metastatic at the first presentation.(4)

ATC often presents with a rapidly expanding neck mass that causing dysphagia, dysphonia or hoarseness, stridor, and dyspnea symptoms due to mass effect on the esophagus and trachea. Most patients with ATC are not surgical candidates because of some patients may have few symptoms until the cancer is quite advanced.(5)

Standard treatment for patients with ATC should be based on a multidisciplinary consensus includes surgical resection, high dose external beam radiation (EBRT), and chemotherapy. Doxorubicin, docetaxel/paclitaxel and platins are endorsed by ATA guidelines in ATC, even though with no improvement of the survival in advanced ATC.(6)

Here we report a rare case of a patient with ATC (AJCC 8e) T4a, N1b, stage IVC, who underwent neoadjuvant chemotherapy regimen as cisplatin + doxorubusin, complete remission was obtained.

CASE:

A 56-year-old woman was referred to the our clinics due to swelling in the neck. A palpable, hard, immobiletumor was observed in the left side of his neck in thyroid, along with a swollen, palpable, immobile lymph node.Cervical computer tomography (CT) revealed a calcified tumor with internal heterogeneity, 5×3 cm in size that was continuous with the upper pole of the left thyroid lobe, as well as enlargement (5.2×7.4 x 9.3 cm in size) of the left cervical lymph node. Secondary to the tumor, the trachea is pushed to the rightlateral and has a slightly pressed appearance. The margins of this lesion with the left main carotid artery cannot be clearly selected (Figure 1).

The thyroid ultrasound examination revealed a solid nodule in the heterogeneous echo in the left thyroid lobe, the largest size of this nodulewas 5 x3 cm and had apparentmicrocalcification areas. In the left cervical chain, multiple pathological lymph nodes were observed at levels 2,3, and 4. As well as, multiple pathological lymph nodes was observed in the left and right central areas.

Thyroid function tests revealed the following: Serum level of thyrotropin (TSH) = 1.85 IU/ml (range 0.38–5.33 IU/ml), thyroglobulin = 8.23 ng/ml (range 1.15–50.03 ng/ml).

Thyroid fine needle aspiration was performed from the mass in the cervical region and from the nodule in the thyroid gland. Histological features and immunohistochemistry were consistent with anaplastic thyroid carcinoma.

F-18 fluoro-deoxy-glucose positron emission tomography (F18- FDG-PET) revealed metastasis in the right apex of the lung. The patient was diagnosed as staged IVC. The patient underwent chemotherapy regimen as cisplatin 75 mg/m2/day at D1, doxorubicin 60 mg/m^2/day D1, every 21 days) regimen as first-line therapy for six cycles. No mass was detected in F18- FDG-PET after six cycled of chemotherapy. Complete remission was achieved radiologically(Figure 2). The patient underwent surgery after two weeks. Total thyroidectomy, bilateral central and left modified radical cervical lymph node dissection were performed. Asurgical complete R0 resection was achieved.

Postoperative pathology revealed necrosis, chronic inflammation and prominent fibrohistiocytic reaction were observed in the mass lesion, which were described in macroscopyand ultrasonography, holding almost all of the left lobe. Metastatic lymph node was not found, 76 piecesof reactive lymph nodes were detected. The largest of the lymph nodes had necrosis and fibrohistiocytic reaction, which may be associated with neoadjuvant therapy.

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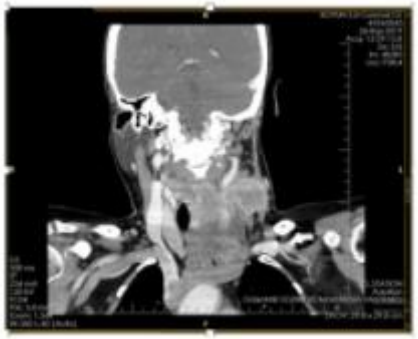

Figure 1: Tumoral mass deviating the trachea before neoadjuvant chemotheraphy treatment

Figure 2: Complete response after treatment

DISCUSSION:

It has been reported that 15—50% of patients have significantlocal infiltration and distant metastases at the time of diagnosisof anaplastic carcinoma of the thyroid (7). All patients diagnosed with ATC are classified as stage IV according to the American Joint Committee on Cancer TNM system (6).

No effective treatment for ATC has been established, long-term survival is rare(8,9).Patients with localized disease not amenable to surgical resection can be treated with neoadjuvant chemo-radiotherapy, but the role of this treatment modality is still debated. Single-treatment modality is ineffectivein the management of ATC.The best results in terms of survival are obtained with a multidisciplinary treatment combining surgery, external beam radiotherapy and chemotherapy. Despite multidisciplinary treatment, responses to treatment are not promising. Shimaoka K et al. demonstrated that the response rate achieved by the combination of doxorubicin plus cisplatin is superior to that achieved by single-agent (10). Also we achieved complete remission in our case similar to the literature.

Our case management is better than the ones which were treated withdebulking surgery, accelerated hyperfractionated EBRT, and chemotherapy. In our case, the neoadjuvant chemotherapy with the combination of doxorubicin plus cisplatinwaseffective and gave a good chance for surgical treatment. On the other hand, recently new chemotherapies which targets the molecular pathways at the basis of ATC aggressiveness and progression are under evaluation. The results of clinical trials with the combination of agents has been shown to be promising for patients with BRAF V600E mutated ATC with locally advanced, unresectable, or metastatic ATC. (11) These new strategies for ATC would probably be the first choice therapy for the selected patients in the future.

Anaplastic thyroid carcinoma has a dismal prognosis and there is a strong need for innovative treatments (12).Alone surgical therapyis not promising as the overall survival of the patients even with RO and R1 resections were not satisfying (12). Since ATC is a rare and aggressive tumor, it is still challenging to predict the patient clinical therapy responsiveness, achieving about 10 months of median survival. Represented clinical and radiologically local advanced and metastatic case which was achieved complete response with neoadjuvant cisplatin or doxorubicin chemotherapy was a rare one. Neoadjuvant chemotherapy can be a preferable choice especially for the one who have a little chance for surgical complete R0 resection.

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