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OLGU SUNUMU/CASE REPORT

The effect of adding selective neck dissection to surgery on adjuvant treatment selection and identification of metastasis in glomus tumors

Glomus tümörlerinde cerrahi tedaviye selektif boyun diseksiyonu eklemenin metastazları saptamaya ve adjuvan tedavi seçimine olan katkısı

Cenk Ahmet Şen[1], Ülkü Küçük[2], İbrahim Çukurova[3], Çağatay Arslan[1]

1İzmir University Faculty of Medicine, Department of Radiation Oncology, İzmir, Turkey;
[2]Tepecik Training and Research Hospital, [3]Department of Pathology, Department of Otolaryngology, Head & Neck Surgery, İzmir, Turkey

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Abstract
Glomus tumors are rare tumors with malignant nature. Regional lymph node metastases are even rare and this could be contribute for determine to malignant form. The presence of lymph node involvement directs adjuvant treatment is still controversial. Positive imaging results might be helpful for decision of neck dissection. But results might sometimes be false negative. Here we present a case of malignant glomus tumor with regional lymph node metastasis was treated with neck dissection.

Key words: Malignant glomus tumor, radiotherapy, lymph node metastasis.

Öz
Glomus tümörleri oldukça nadir görülen benign tümörlerdir. Bölgesel lenf nodu metastazı yapan tipleri ise çok daha nadir görülür ve malign formunu oluşturur. Tedaviye boyun diseksiyonunun eklenmesi tartışmalı olmakla birlikte lenf nodu tutulumunun varlığı adjuvan tedavi seçeneklerini önemli ölçüde değiştirmektedir. Radyolojik olarak negatif izlenen lenf nodlarının boyun diseksiyonu ile pozitif saptanması ve ardından gelen tedavi yaklaşımlarını değiştirmesi nedeniyle nadir görülen bir malign glomus tümörü olgusunu sunmayı amaçladık.

Anahtar kelimeler: Malign glomus tümörü, radyoterapi, lenf nodu metastazı

INTRODUCTION

Glomus tumors are rare and characteristically benign tumors which originate from neural crest origin glomus bodies in the dermis or subcutis of the extremities[1]. It is also known as chemodectoma, paraganglioma and non-chromaffin ganglioma[2,3]. Glomus tumors grow up slowly. They can be seen at tympanic, jugular, carotid, larynx and aortic localizations[4]. Heredity has a big importance on pathogenesis of these tumors. According to van der Mey and et al; "the risk for the offspring of affected males remains 50 %, for those of affected females the risk is very low, and for the children of sons of women with glomus tumours the risk is 25%"[5]. It may be necessary for genetic counselling. The tumor is 6 times more commonly seen in women than in men[6]. They constitute 0.3% of all tumor types and 0.6% of all head and neck tumors. Two percent of the cases were reported to be malign[7]. Presence of regional or distant metastasis define malignancy. Here we present a case of carotid located malign glomus tumor with cervical lymph node metastasis.

CASE

A 33-year old female was admitted with swelling of right neck for 3 years. Clinical examination; a 3x3 cm, non-sensitive, non-compressible, non-fluctant, hard and fixed mass on level 2 of cervical region. Ultrasonography, computerized tomography, magnetic resonance imaging and magnetic resonance angiography imaging tests revealed a mass consistent with a glomus tumor of 3x4 cm located at

Yazışma Adresi/Address for Correspondence: Dr. Cenk Ahmet Şen, İzmir University Faculty of Medicine, Department of Radiation Oncology, İzmir, Turkey. E-mail: cenkasen@gmail.com
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the right carotid artery bifurcation [Fig.1-2]. Multiple regional lymph nodes with biggest diameter of 17mm were seen. Total excision of the mass on the right carotid bifurcation and ipsilateral selective neck dissection was performed. Histopathology identified the lesion as a malignant glomus tumor and 3 of 8 lymph nodes dissected were metastatic. [Fig.3-6]. Lymphovascular and perineural invasion were present. Adjuvant radiotherapy was given to the tumor bed and the regional lymphatic in the right neck. The patient is free from tumor recurrence even after 13 months of surgery

DISCUSSION

Glomus tumors characteristically present as solitary or multicentric lesions in the dermis or subcutis. Extra-cutaneous presentations appear but are unusual, especially in the visceral organs, where glomus bodies are infrequent or even absent, including the mediastinum, respiratory tract and gastrointestinal tract[8]. The most common symptom of these tumors are a mass in bifurcation of carotid artery on the neck. Especially huge lesions can cause cough, hoarseness and dysphagia. There are different ways of treatment glomus tumors such as radiotherapy, tumor embolization, curative surgery and combined treatment with surgery or doing nothing[9]. Li et al[10]. have compiled all relevant possible treatment modalities documented in the past 60 years of literature.

Figure 1. CT sagittal section. Lesion localized to carotid bifurcation region

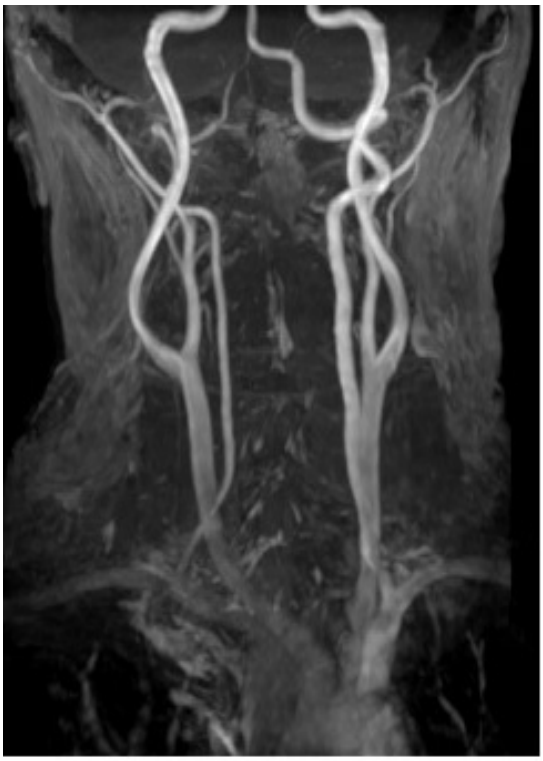

Figure 2. MR angiography. Divergence between the right carotid arteries bronchus.

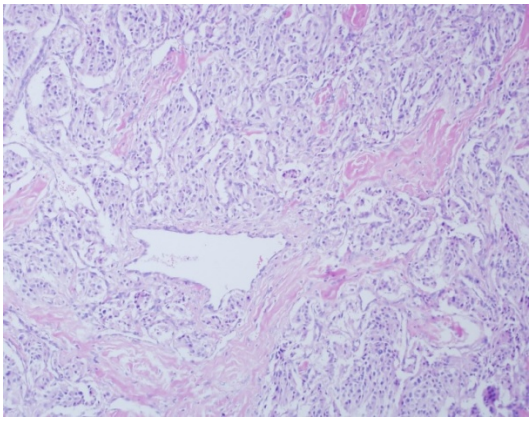

Figure 3. Microscopic examination revealed sheets and nests of tumor cells in vascularized desmoplastic stroma. Tumor cells had eosinophilic cytoplasm and round to oval hypercromatic nuclei [H&E x 100].

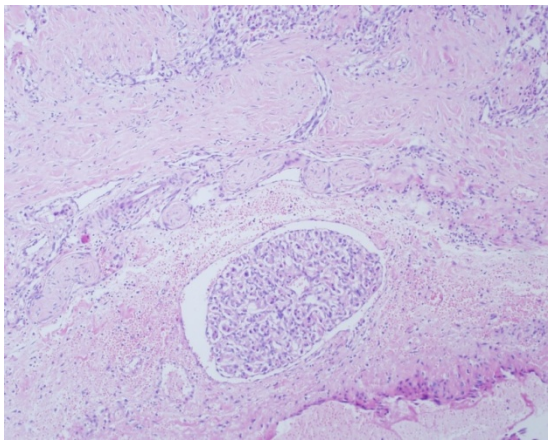

Figure 4. Most tumor cells were bland histomorphologic appearance but some degree of nuclear pleomorphism is observed in the tumor cells. Lymphovascular invasion and perineural invasion of the tumor cells can provide clues to the histologic diagnosis. [H&E x 100].

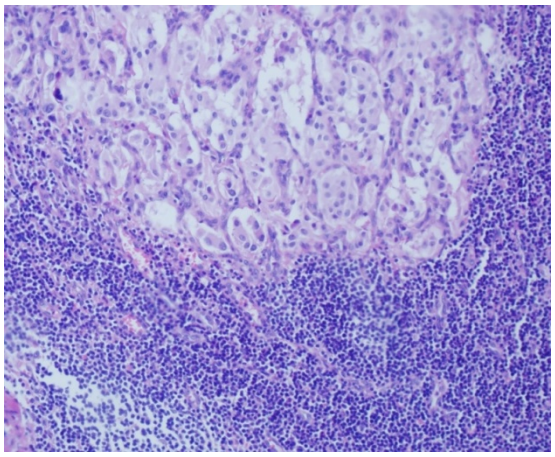

Figure 5. Histopathological examination of lymph nodes has shown that metastatic lesions [H&E x 400].

Today there is no standard algorithm for treatment of malignant glomus tumors. Patient specific local treatment approaches might be needed due to critical anatomical locations and extreme vascular topography. Biopsy should be avoided because of the highly vascular features. Therefore, clinical and radiological diagnosis has importance. The mass should be removed completely and selective neck dissection should be performed even if lymph node metastasis were not detected by radiological methods. The most common site of metastases are regional lymph nodes. Determination of lymph node metastasis is important for adjuvant therapy planning. As seen in our case the radiological benign reported lymph nodes turned out positive after the dissection and changed the treatment dose and areas. According to the Perez and Brady's textbook[11]; total radiotherapy doses for benign glomus tumors are 44-55 Gy but the dose for lymph node metastasis should be raised up to 64,8-70 Gy. The potential of metastasis and local tendency to progress could be aggressive.

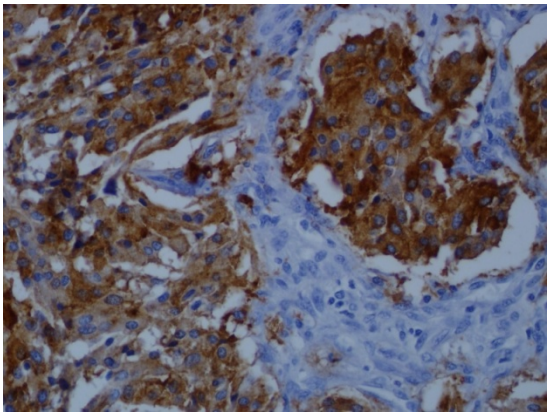

Figure 6. Immunohistochemical examination; the tumor cells diffuse positive for synaptophysin, chromogranin and NSE [x 400].

In conclusion, a complete surgical resection reduces tumor burden and adjuvant radiotherapy dose is decreased. Thus radiation side effects will be reduced. Advantage of identifying metastasis by adding lymph node dissection should not be underestimated.

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