Ege Journal of Medicine/ *Ege Tıp Dergisi* 2019;58(2):187-189

An unexpected clinical presentation of primary squamous cell carcinoma of the thyroid gland

Beklenmedik bir klinik görüntü ile ortaya çıkan tiroid bezi primer skuamöz hücreli karsinomu

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Abstract

Primary squamous cell carcinoma of the thyroid gland (PSCCT) is a rare disease which accounts less than 1% of all thyroid cancers. Patients usually present with enlarging neck mass. In this paper we presented a 76-year-old female patient with PSCCT whose initial finding was a cervical abscess. To our knowledge this is the first PSCCT case in the literature presenting as cervical abscess. The patient was referred to our clinic with dysphasia, shortness in breathing and hyperemic right neck mass, growing in size for 1 week. On physical examination a fluctuant and hyperemic mass was observed at the right cervical region. Magnetic resonance imaging of neck and upper thorax revealed a mass in the area of right thyroid gland, including cystic and necrotic component, progressing to the retrosternal area, surrounding right jugular vein and common carotid artery. An open biopsy was performed. The histopathological diagnosis was squamous cell carcinoma. Because of the extended invasion and infiltration of adjacent tissues, the patient was accepted as inoperable in oncologic council. PSCCT is a rare and aggressive neoplasm of the thyroid gland with poor prognosis. In a patient with deep neck spaces abscess, an underlying PSCCT should be kept in mind to avoid delays in the diagnosis and treatment.

Keywords: Squamous cell carcinoma, thyroid cancer, cervical abscess.

Öz

Tiroid bezi primer yassı epitel hücreli karsinomu tüm tiroid kanserlerinin yaklaşık %1'ini oluşturan nadir bir hastalıktır. Hastalar genellikle büyüyen bir boyun kitlesi ile başvururlar. Bu makalede, ilk bulgusu boyunda apse olan ve tiroid bezinin primer skuamöz hücreli karsinomu tanısı alan 76 yaşında bir kadın hastayı sunduk. Hasta kliniğimize yutma güçlüğü, nefes almada zorluk, boyun sağ kısmında son 1 haftadır iyice büyüyen hiperemik kitle şikayetleri ile başvurdu. Fizik muayenede sağ boyun bölgesinde fluktuasyon gösteren, hiperemik kitle izlendi. Boyun ve üst toraks manyetik rezonans görüntülemesinde tiroid bezi sağ kısmında, kistik ve nekrotik alanlar içeren ve retrosternal uzanım gösteren, sağ juguler ven ve ana karotid arteri saran kitle izlendi. İnsizyonel biyopsi yapıldı. Histopatolojik tanı skuamöz hücreli karsinom olarak rapor edildi. Komşu dokulardaki ileri invazyon ve infiltrasyon nedeniyle onkoloji konseyi tarafından inoperabl kabul edildi. Tiroid bezi primer skuamöz hücreli karsinomu, kötü prognozlu, agresif seyirli ve nadir bir kanserdir. Derin boyun apsesi şikâyeti ile başvuran hastalarda, tanı ve tedavideki gecikmelerden kaçınmak için altta yatan bir tiroid skuamöz hücreli karsinomu bulunabileceği akılda tutulmalıdır.

Anahtar Sözcükler: *Skuamöz hücreli karsinom, tiroid kanseri, servikal abse.*

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Received: 05.01.2018 Accepted: 05.03.2018

Introduction

Primary squamous cell carcinoma of the thyroid gland (PSCCT) is a rare disease which accounts less than 1% of all thyroid cancers. Von Karst published the first case of PSCCT in 1858 (1). PSCCT often occurs at fifth and sixth decades. The prognosis of the disease is very poor. The overall survival is less than one year (2). It usually presents with an enlarging neck mass and upper airway obstruction complaints but because of potential of early local invasion, different symptoms may also arise.

Head and neck carcinomas may generate cervical abscesses due to direct tumor extension lasting in necrotic changes (3). In this paper we reported a very rare case of PSCCT presenting as cervical abscess.

Case Report

A 76-year-old female referred to our clinic with dysphasia, shortness in breathing and hyperemic right neck mass, growing in size for 1 week. She had a history of goiter for twenty years. On physical examination a fluctuant and hyperemic mass was observed at right cervical region. The pre-diagnosis of the patient was cervical abscess. Drainage of the abscess and medical treatment was administered. Laryngeal examination revealed paralysis of right vocal cord. A magnetic resonance imaging (MRI) of neck and upper thorax which revealed a mass in the area of right thyroid gland, including cystic and necrotic component, progressing to the retrosternal area, surrounding right jugular vein and common carotid artery was performed. The trachea was restricted and displaced to left (Figure-1a-b). Fine needle aspiration biopsy (FNAB) of thyroid gland showed atypical cells but was non-diagnostic. An open biopsy was performed. The histopathological examination revealed moderately differentiated squamous cell carcinoma in which some, but not all, of the neoplastic cells in nests have pink cytoplasmic keratin. High power of squamous cell carcinoma showed the presence of intercellular bridges. Mitosis can also be seen. The histopathological diagnosis was squamous cell carcinoma (Figure-1c). As panendoscopic examination and positron emission tomography ruled out the possibility of other primary sites, the diagnosis of the patient was PSCCT. According to the extended invasion and infiltration of adjacent tissues, the patient was accepted as inoperable in oncologic council. Supportive treatment options including tracheotomy and PEG tube were undertaken. Informed consent was obtained from the patient.

Discussion

Head and neck cancers presenting as a neck abscess are rare. Only a few cases have been reported about initial presentation of head and neck cancers as neck abscess (4). In a study performed by Wang et al. (5) an underlying malignancy was found in 2 of 196 patients.

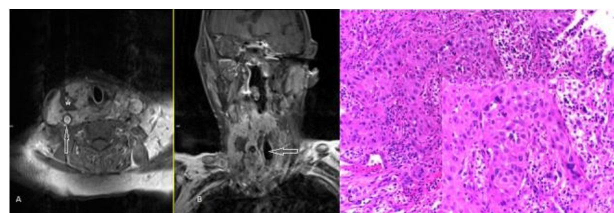

Figure-1. a. Axial MRI with contrast showed mass at right thyroid lobule. Asterisk: Necrotic component, Arrow: Common carotid artery surrounded by the mass. **b.** Coronal MRI with contrast showed the retrosternal progression of the mass. Arrow: Displaced and restricted trachea. **c.** Moderately differentiated squamous cell carcinoma in which some, but not all, of the neoplastic cells in nests have pink cytoplasmic keratin. High power of squamous cell carcinoma showed the presence of intercellular bridges. Mitosis can also be seen.

In another study, deep neck infections caused by a head and neck cancer was found in 13 of 234 patients (6). The pathophysiology of head and neck cancers presenting as neck abscess is unclear. One of the suspected mechanisms is cystic nodal metastasis of thyroid, tonsil or nasopharynx carcinomas. Direct tumor extension with central necrosis is another mechanism for neck abscess (3). In our case, the abscess was caused by direct tumor extension. To our knowledge, this is the first case of PSSCT presenting as neck abscess.

PSCCT is a very rare disease account 1% of all thyroid malignancies. Besides there is not squamous epithelium in thyroid tissue, the pathophysiology of the PSCCT is controversial. Two main opinions are present for the pathophysiology of PSCCT. The first opinion suggests that the squamous cells were derived from embryogenic remnant. The second opinion which is the most widely accepted theory believes that the presence of squamous cells in thyroid gland depend cell metaplasia (1).

Patients usually present with enlarging neck mass. Complaints of upper airway obstruction, shortness in breathing, hoarseness and dysphagia are other common symptoms. Some of the patients with PSCCT have a long history of goiter (1). In our patient the initial presenting symptom was cervical abscess which makes our case unique. Also she had a 20-year history of goiter before diagnosis of PSCCT.

The diagnosis of the disease depends on clinical, radiological and histopathological findings. When the histopathological results reveal SCC of the thyroid gland, it is important to differentiate SCC arising from the thyroid gland from cancers metastasized or invaded to thyroid gland (7). In our patient, panendoscopic examination and PET scan failed to show another primary focus for SCC thus the patient was diagnosed as PSCCT.

The treatment of PSCCT is aggressive surgery combined with radiotherapy and chemotherapy. Unfortunately, the cancer is usually invaded to

neighborhood tissues at the time of diagnosis and total excision is impossible. The prognosis of the disease is very poor and median survival is 1 year. In our patient, as the tumor was invaded to adjacent structures and surrounded vital vascular tissues, the patient was accepted as inoperable and referred to oncology clinics.

Conclusion

PSCCT is a rare and aggressive neoplasm of the thyroid gland with poor prognosis. Like other head neck cancers, thyroid cancers may also present with cervical abscess. In a patient with deep neck spaces abscess, an underlying malignancy should be kept in mind. If the malignancy is not clinically suspected, the diagnosis and treatment will be delayed. We presented a patient with PSCCT whose initial finding was cervical abscess. To our knowledge this was the first PSCCT case in the literature presenting as cervical abscess.

Conflict of interest statement: There is no conflict of interest to declare.

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