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Granular cell tumor presenting as an axillary mass: A case report

Aksiller kitle ile ortaya çıkan granüler hücreli tümör: Bir olgu sunumu

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Abstract

Granular cell tumor (GCT) is a tumor that can arise at virtually any body site. About 5 to 15% of the cases occur in the breast, and it is relatively rare in the axilla. %1-2 of granular cell tumors are malignant. The clinical symptoms and imaging examinations of breast GCTs are non-specific and can easily be confused with malignant tumors. Most are benign and reportedly malignant cases are rare. We report a 59-year-old male with granular cell tumor in axillary region existed approximately 2 years. The palpable mass was around 15mm in diameter and felt clinically suspicious of malignancy. Tru-cut biopsy of the mass showed granular cell tumor features and surgical excision was performed. Early diagnosis and complete resection of the tumor remains the best treatment method.

Key Words: Granular cell tumor, axilla, breast

Öz

Granüler hücreli tumor (GHT), hemen hemen vücudun her bölgesinde ortaya çıkabilen bir tümördür. Vakaların yaklaşık % 5 ila 15'i memede görülür ve aksillada nispeten nadir ortaya çıkarlar. Granüler hücreli tümörlerin % 1-2'si maligndir. Meme GHT'lerinin klinik semptomları ve görüntüleme incelemeleri spesifik değildir ve malign tümörlerle kolayca karışabilir. Çoğu iyi huyludur ve bildirilen malign vakalar nadirdir. Aksiller bölgede yaklaşık 2 yıldır palpabl kitlesi olan ve granüler hücreli tumor tanısı alan 59 yaşında bir erkek hastayı sunuyoruz. Palpabl kitlesi yaklaşık 15 mm çapındaydı ve klinik olarak malignite şüphesi vardı. Kitlenin kalın iğne biyopsisi granüler hücreli tümör özellikleri gösterdi ve cerrahi eksizyon yapıldı. Tümörün erken tanısı ve tam rezeksiyonu en iyi tedavi yöntemi olmaya devam etmektedir.

Anahtar Kelimeler: Granüler hücreli tümör, aksilla, meme

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Introduction

The granular cell tumor, first described by Abrikossoff in 1926, is a relatively rare neoplasm occasionally found in the axilla [1]. Malignant granular cell tumors, which account for %1-2 of granular cell tumors, were first demonstrated by Ravich et al. [2] in 1945. Initially it was thought to be originated by skeletal muscle cells, but due to the similarity of S-100 protein positivity and tumor cells to Schwann cells, investigators indicated that the tumor was caused by Schwann cells between lobular breast tissue [3, 4].

The tongue is the single most common anatomic site involved but granular cell tumor can occur in almost any body site(lower extremity, nuchal region, chest wall, gastrointestinal tract, head and neck but very rarely in breast) and is usually multifocal [5]. Granular cell tumor is seen in the breast in 5-6% of cases [4, 6]. GCT of the breast is generally benign; it rarely shows malignant features [7].

We presented a patient who underwent excisional biopsy of an axillary mass which was diagnosed as granular cell tumor as a result of histopathological examination.

Case report

59 year old male patient applied to our clinic with a palpable mass just at the lateral border of the right breast that existed for approximately 2 years. In his examination, a mass of 15 mm in diameter with mild tenderness and poor mobility at the lateral border of the right breast was detected. The mammography showed irregular, spiculated, minimally hyper dense lesion at the right axillary region. The USG showed an indefinable, spiculated, hypoechoic lesion of approximately 11x10 mm with indistinctive borders. The USG report suggested that a mass at the lateral border of the right breast is probably a malignant mass or a solid mass secondary to chronic inflammation. Tru-cut biopsy of the mass revealed granular cell tumor. Excisional biopsy was planned to differentiate if the mass was benign or malign. Lumpectomy was performed with adequate margins. Postoperative pathology showed neoplastic infiltration of stroma with cells containing granular eosinophilic cytoplasm, hyperchromatic nucleus and composed of cells arranged in lobules having round to oval vesicular nuclei. Immunhistochemical staining resulted in S-100 and CD 68, PAS and PAS diastase stain positivity (Figure 1a, 1b). All the surgical margins were free of tumor. After 5 years of follow up the patient is doing well without evidence of tumor recurrence.

The written consent was taken from the patient.

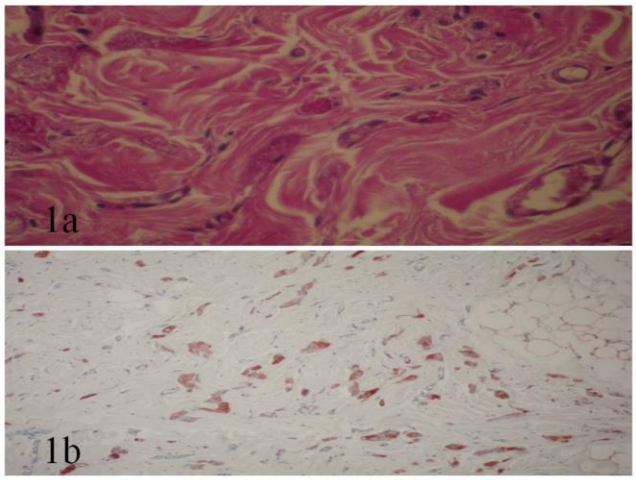

Figure 1a,1b: The immunostaining for S-100 and CD 68,PAS and PAS diastase stain revealed positive results (magnificationx100).

Discussion

Although granular cell tumors occur throughout the body that contain nerve tissue, these lesions in the breast are 5 to 15% of all cases. About 90% cases present as a solitary tumor but not uncommonly is multifocal and multicentric [6]. These tumors most commonly occur in women between 30 and 50 years of age ranged from 17 to 74 years with a frequency approximately 1 in 1000 breast cancers [8]. Granular cell tumors originate from the intralobular stroma in the breast. Although almost all the lesions are benign neoplasms, malignant lesions are rarely described [9]. Malignant granular cell tumors are differentiated from benign ones with rapid growth, larger size, local recurrence rate and more frequent localization in the lower extremities. They often spread to the lungs, liver, lymph nodes and bones through lymphatic and hematogenous routes.

Granular cell tumor is usually a firm and painless mass that mimics a malignant lesion which may be fixed to the pectoral muscles or the skin [3]. As in our case, the mass is generally well-circumscribed, but few cases with a limited number of poorly-circumscribed masses have been reported in the literature [8]. It shows poor borders at mammography, with minimal microcalcification. It is observed as a poorly circumscribed mass with acoustic shadowing in USG. The ultrasound images of granular cell tumors are not specific. İt can be differentiated from breast cancer with homogeneous internal echo and no edema on the edges of the tumor [10]. It is difficult to differentiate granular cell tumors (GCTs) from malignant breast tumors on both ultrasound and mammography. In these tumors, invasive diagnostic tests are required because imaging techniques provide limited information in preoperative diagnosis.

Histopathologically the tumor cells have large granular eosinophilic cytoplasm and uniform nuclei, with no mitotic activity. As a result of histochemical analysis, it confirms whether the granules are diastase resistant and PAS positive. The tumor cells are strongly immunoreactive to S-100 protein and also stain positively for CD68 and vimentin [11, 12]. There is no stain for cytokeratins, epithelial membrane antigen and mucin. This profile is useful for differentiating a granular cell tumor from apocrine carcinoma [13]. Finally, cells are also negative for both estrogen and progesterone receptors [3].

Wide excision is proper for GCT treatment. Local recurrence may be observed in cases without adequate excision. Multifocal cases may also show recurrence and inadequate excision. These patients should be followed annually to rule out late recurrence. Chemotherapy, alone or in association with radiotherapy, is not given unless the tumor is malignant.

As a result, the axillary masses should be approached in a multidisciplinary manner and the treatment should be planned according to the biopsy results. Early diagnosis and adequate resection remains the best treatment for granular cell tumors.

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