

## PAPILLARY TYPE BREAST CANCER IN MEN

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### ABSTRACT

Breast cancer is rare in males. It accounts for 1 percent of all breast cancers and less than 0.1 percent of male cancer deaths. The prognosis of breast cancer in men and women is similar in the same stages. The rarity of breast carcinoma in men and its location in the sub-areolar region may lead to delay of diagnosis and treatment. We present an 82 year-old male patient who had pain and swelling in his left breast for about 3 years. He also had lung and liver metastasis. By presenting such a case and also reviewing the literature data, we hoped that we would emphasize the importance of early diagnosis of male breast cancer.

Key words: papillary cancer, breast cancer in male

### ERKEK OLGUDA PAPİLLER MEME KANSERİ

#### ÖZET

Meme kanseri erkeklerde seyrek görülür. Tüm meme kanserlerinin %1 ini ve erkek kanser ölümlerinin %0.1 den azını oluştururlar. Erkek meme kanseri, aynı evrede, kadınlardaki meme kanserleri ile benzer prognostik özellikler gösterir, ancak meme kanserinin erkeklerde daha seyrek olması ve genellikle subareolar bölgeye yerleşmesi nedeni ile tanı ve tedavide gecikme yaşanır. Bizim olgumuz 3 yıldır sol memede ağrı ve şişlik yakınmaları olan ve tanı koymadaki gecikmeler yüzünden akciğer ve karaciğer metastazları ortaya çıkan 82 yaşındaki bir erkek hastadır. Erkeklerde meme kanseri sıklığının azlığı nedeniyle genellikle başvuru anında gözden kaçması ve benign hastalıklarla karışması olasılıkları yüksektir. Kadınlarda olduğu gibi erkeklerde de erken tanı önemlidir. Biz de tanısı gecikmiş olan erkek meme kanseri olgusunu bazı radyolojik ve klinik bulgular ile birlikte sunarak konunun önemini bir kez daha vurgulamak ve literatür verileriyle birlikte gözden geçirerek erken tanıya katkıda bulunmayı amaçladık.

Anahtar sözcükler: papiller kanser, meme kanseri, erkek

### Introduction

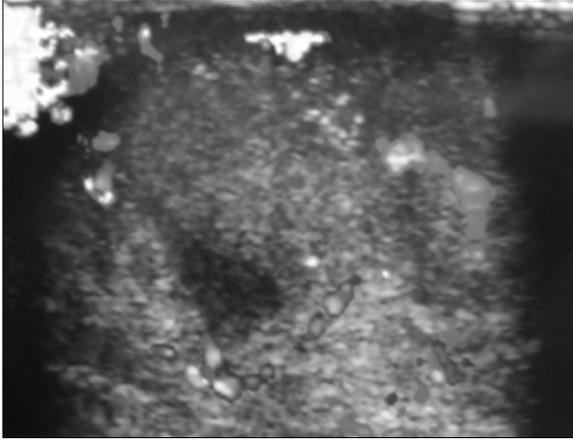
Male breast cancer constitutes 0.3% of all cancers observed in men and 1% of all breast cancers (1). Generally, it affects men at 60 to 65 years of age. Tumors are commonly diagnosed in later stages. Similar to women's breast cancer, it takes place more frequent in the left breast. Typically, it is observed unilaterally. Bilateral disease is less than 3% (2). The mass is apparent only when its dimensions are easily palpable in later stages. Since a biopsy is carried out immediately after the lesions are determined by palpation, data on imaging findings of male breast cancer is very restricted (3).

Although, previous studies affirmed that male breast cancer was significantly different from woman's; recent studies demonstrate that it displays similar behavior within the same stages in both genders (4). In men, most of breast cancer is located in retroareolar regions and it is generally central; eccentric locations are generally defined in upper outer quadrant.

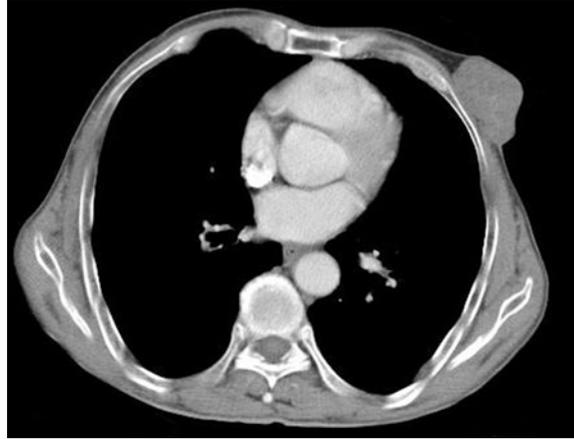
First detected finding is usually one-sided mass without any pain. Change in nipple is another frequently observed finding (2).

### Case presentation

An eighty-two-years old male was admitted to our general surgery clinics complaining of a painful nodule in his left breast that had been growing insidiously over a period of about three years. On physical examination, the mass was sensitive and the overlying skin was hyperemic. In ultrasonographic (US) examination, a hypo-echogenic mass was found with 36 millimeter in diameter. It had irregular borders and apparent acoustical shadowing behind the mass (Figure 1). Duplex Doppler ultrasonography (DUS) detected the hyper-vascularity clearly. Contrast enhanced computed tomography (CECT), revealed the soft tissue density of 36 mm in greatest diameter located in left retroareolar breast with lobulated contours (Figure 2). On both lung fields, many nodular lesions that were evaluated in favor of metastases were observed (Figure 3). Also, a hypo-dense lesion of 1 cm in diameter was observed in the left lobe of liver (Figure 4). Radiological staging



**Figure 1.** Axial sonographic image shows heterogeneous hypo-echogenic breast mass with lobulated contours which is 35 mm in greatest diameter.



**Figure 2.** Isodense soft tissue mass lesion in left retroareolar region.



**Figure 3.** Multiple metastatic nodules are observed in both lungs.

were performed in order to guide the handling of disease process. The mass was totally excised. Pathological specimens showed an infiltrative tumor that replaced normal breast tissue. Acinar and papillary structures constituted by atypical epithelial cells were observed and result was reported as rare invasive-type papillary carcinoma (Figure 5 and 6).

### Discussion

Male breast cancer constitutes the 0.17% of malignancies that are observed in men (5). 85-90% of them are invasive ductal carcinoma, since the normal male breast is only made of ducts and ductules. Although early-staged tumors were defined, most of them are medium to un-differentiated tumors. All histological forms of breast tumors may also occur in the male breast, but medullary and tubular carcinomas are seen much less frequently in men.

Lobular carcinoma is seen only in men with Klinefelter syndrome, gynecomastia, or having a history of estrogen treatment (7). Most frequently observed type of ductal carcinoma is papillary cancer (8)

As in our case, at the time of diagnosis, patients are older and disease is in a rather late stage. Age of occurrence is approximately between 68-84 years. Although, women's breast cancer is mostly seen in early premenopausal period, the frequency increases with age (9). Risk factors for men include insufficiency of androgens, increase in the release of estrogen, older age, cryptorchidism, testicular injury, Klinefelter syndrome, liver dysfunction, and exposure to radiation. In BRCA 2 gene, genetic array mutations and history of family are important risk factors (10).

In male breast cancer, estrogen receptor (ER) positivity is seen more frequently than women with breast cancer. In various series, ER and progesterone receptor (PR) positivity is reported as about 75-93% (11). In our case, after immunohistochemical staining, estrogen and progesterone receptors were detected in the tumor.

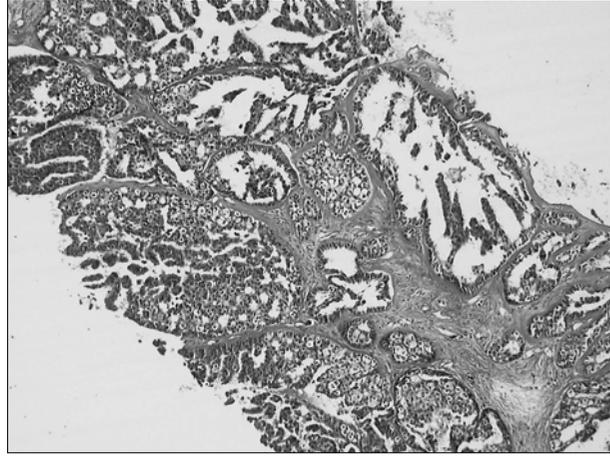
One of the most frequent findings of male breast cancer at physical examination is one-sided palpable of mass or ulcer fixed to the skin close to nipple and areola regions and pectoral muscle that leads to a retracted nipple. This mass has generally irregular and firm consistency. In some cases, although rare, an axillary mass is also defined. In 50% of such cases, a palpable axillary lymph node is found out (12). In our case, a mass with a painful ulcer was detected during physical examination. There was no family history.

Nipple discharge is a rarely observed finding of this disease and typically is observed as bloody or serous. It can be misdiagnosed as benign. In men, fixation of tumor to the skin and chest wall and skin ulceration is more frequent than women. Studies have shown that this has not any influences on prognosis (9).

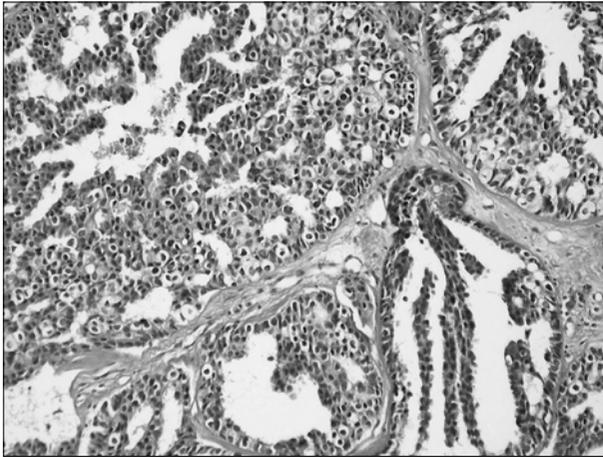
It is a spherical hypoechoic mass which also have some cystic/necrotic anechoic regions on US. On mammography, it can have regular fine borders or spiculated in contour. Calcifications accompany only 13% of cases (5).



**Figure 4.** Hypo-dense lesion in the left lobe of liver consistent with metastatic disease.



**Figure 5.** An infiltrative tumor tissue that replaced normal breast tissue is demonstrated microscopically (H&E).



**Figure 6.** High magnification microscopic view shows papillary and acinar structures composed of atypical epithelial cells. (H&E)

Although there are researchers who claim that breast cancer in men is seen, mammographically, as spiculated lesions similar to women, some of them include distinct and regular contours to diagnostic criteria (11). Metastases to lung (59%), liver (58%), bone (44%), lymph node (72%) and skin (34%) are not uncommon (13).

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Histopathologically, as papillary cancer is reported, cell burden, three-dimensional papillary structures without fibro-vascular connective tissue, long columnar epithelium, isolated bare nucleus, and the presence of macrophages loaded with hemosiderin are all considered (14). Pathological examination of our case demonstrated an infiltrative tumor that replaced the normal breast tissue and microscopically, there were papillary and acinar structures constituted by atypical epithelial cells.

The size of tumor and metastatic lymph nodes are reported as most crucial factors influencing the prognosis (15). In our case, since there was a distant metastasis and the size of tumor was about 3.5 cm, the prognosis could be predicted as groove. In accordance with the data from literature, there was high hormone receptor positivity in our case.

Treatment protocols include operation, radiotherapy, chemotherapy, hormone therapy, or a combined one of the above.

Although male breast cancer demonstrates similar prognostic features with female breast cancer in the same stage, it is a rare entity and may be missed because of its location beneath the areolar region masked by benign pathologies.

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