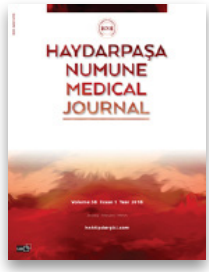
HAYDARPAŞA NUMUNE MEDICAL JOURNAL

DOI: 10.14744/hnhj.2018.44711
Haydarpasa Numune Med J

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CASE REPORT

# Late, Rare and Asymptomatic Bladder Metastasis of Breast Carcinoma: A Case Report

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**Abstract**

Breast carcinoma is the most common cancer after non-melanoma skin cancers. It is often metastasizing to lung, lymph node, and liver and rarely spreads to bladder. Bladder cancer usually appears with painless clotted macroscopic hematuria. Although there is no symptom of any specific organs, in case of a malignancy all organs must be checked about metastasis for a whole lifetime. In this case, we are presenting late onset asymptomatic bladder metastasis in a patient with different primary tumors in each breast.

Keywords: Breast cancer; bladder cancer; bladder metastasis; metastasis.

Breast cancer is the widest invasive cancer after non-melanoma skin cancers. In breast cancer, patient usually dies because of metastatic spreading of primary tumor [1, 2]. Breast cancers usually spread to lungs, bone, lymph nodes, liver, pleura, adrenal gland and skin. In the literature, there are few cases mentioned in breast cancer that spread to the bladder [3, 4]. Breast cancer represents as a primary site in about 2.5% cases of all metastatic bladder cancer [5]. This case report presents incidentally detected bladder metastasis of invasive ductal carcinoma, in a patient with different histopathological type of cancer in each breast, which is extremely rare.

## Case Report

Thirty-eight-years-old women admitted to outpatient clinic with a mass in her bladder, which was detected in routine examinations without any complaint. A 35x9 mm mass was observed in the base and left sidewalls of the bladder in the computerized tomographic imaging (Fig. 1).

Patient had left modified radical mastectomy (MRM) with axillary dissection (AD) due to invasive ductal carcinoma in February 2009. Histopathological staining for Estrogen receptor (ER), Progesterone receptor (PR) and c-erb-B2 was (+), (+) and (+++), respectively. She had bone metastasis at the time of diagnosis and staged as T2N3M1. Pa-

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**Submitted Date (Başvuru Tarihi):** 24.07.2018 **Accepted Date(Kabul Tarihi):** 04.09.2018

clitaxel, Herceptin, Tamoxifen, Leuprolide acetate and palliative radiotherapy with Zoledronic acid were given as a first line therapy. The treatment was shifted to Lapatinib and Capecitabine because of progression in bone metastasis.

Right MRM with AD was performed in 2013 because of invasive lobular carcinoma detected in June 2013 and staged as T2N2M0. ER, PR and c-erb-B2 were all negative. Doxorubicin-cyclophosphamide and paclitaxel therapy was applied to the patient. Cystoscopy was performed to the patient with an asymptomatic bladder mass observed in the tomography performed during routine examinations in June 2015. Polypoid tissue mass with the inflammatory changes in the left wall of the bladder base was observed (Fig. 2). Widespread polypoid mass was resected, and no more tumor formation was not observed in the bladder.

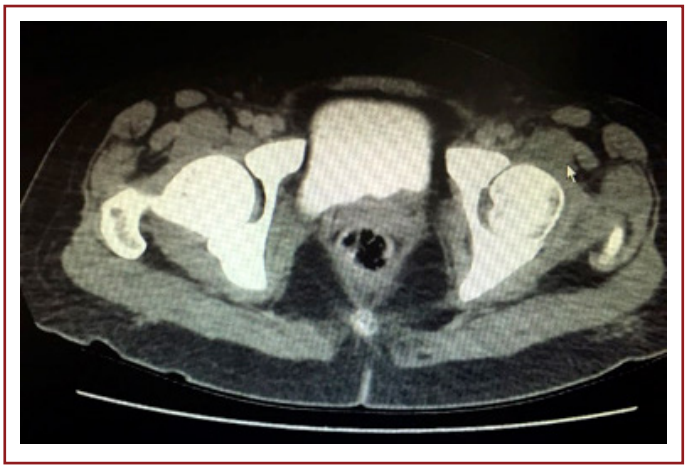

**Figure 1.** CT image shows a 35x9 mm mass in the base and left sidewalls of the bladder.

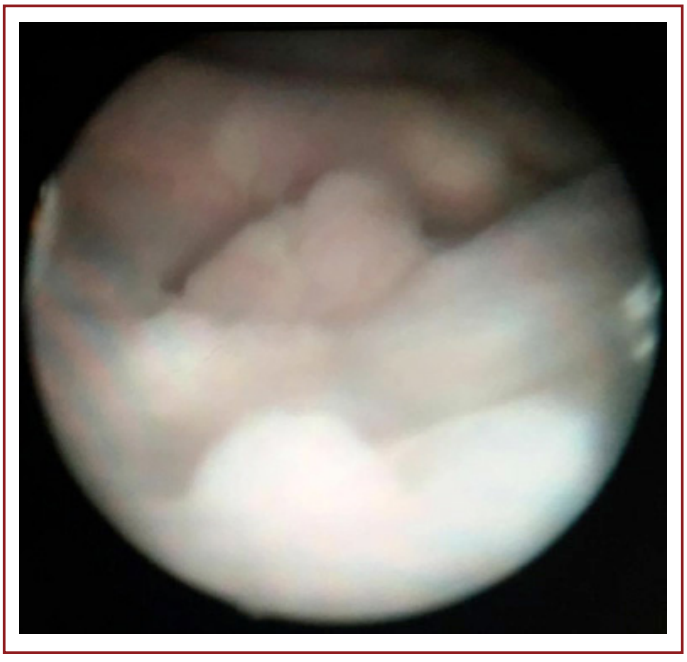

**Figure 2.** Polypoid tissue mass with the inflammatory changes in the left wall of the bladder base was observed.

Histopathological examination of cross-sections shows ulceration forming urothelial infiltration of the tumor tissue. Tumor consists of atypical pleomorphic cells showing cords and irregular glands arranged in fibro-myxoid stroma (Fig. 3, 4). Tumor cells show mammaglobin (Fig. 5), GATA3 (Fig. 6), c-erb-B2 and e-cadherin immunoreactivity and stain positive with ER, PR and GCDFP15. The case was consisted with a diagnosis of ductal adenocarcinoma metastases with Histopathological and immunohistochemical findings.

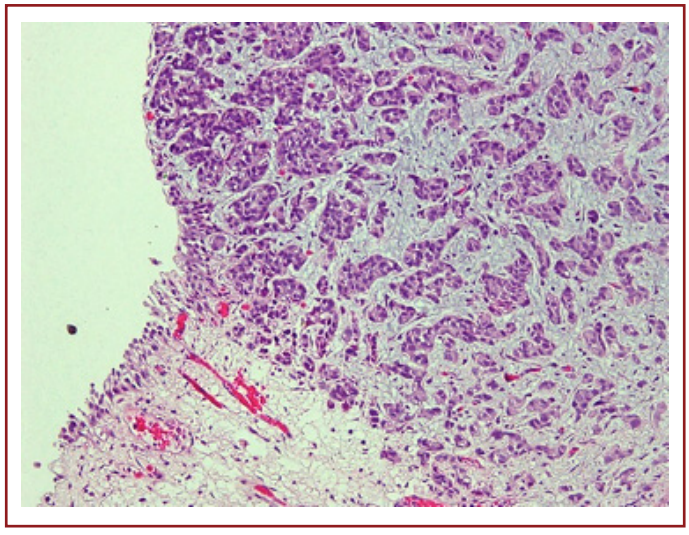

**Figure 3.** Urothelial epithelium infiltrated with the tumor (H&E x 100).

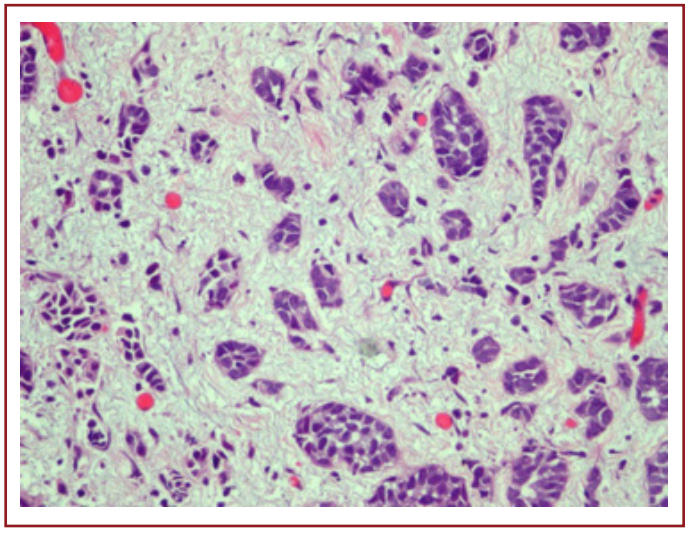

**Figure 4.** Urothelial epithelium infiltrated with the tumor (H&E x 200).

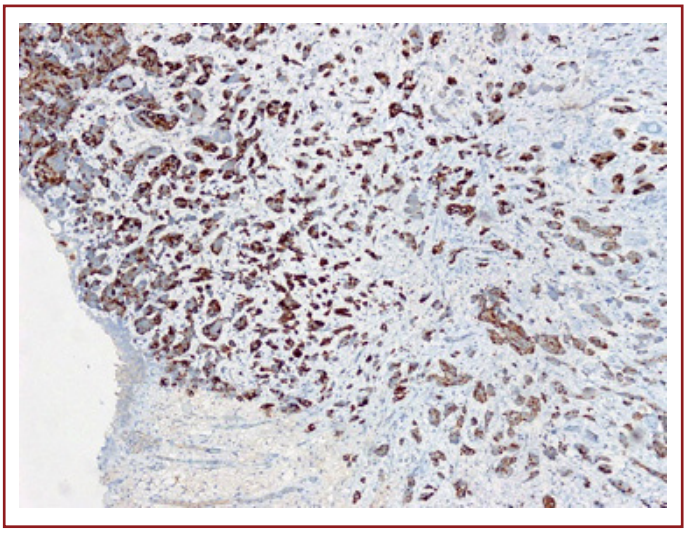

**Figure 5.** Tumor cells show mammaglobin immunoreactivity.

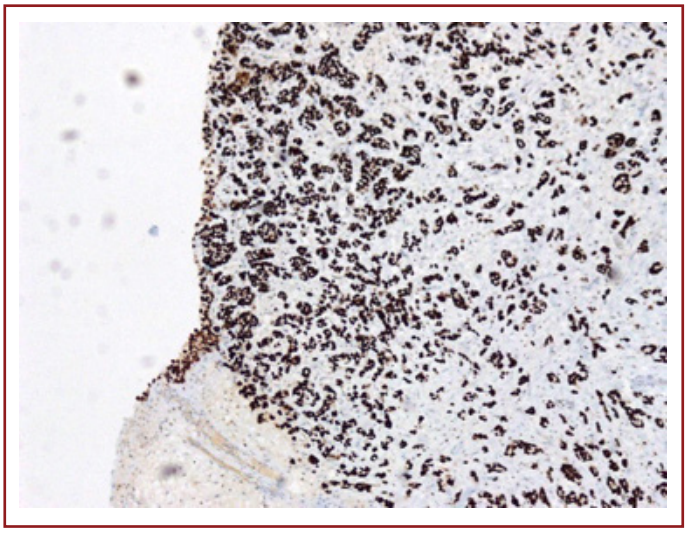

**Figure 6.** Tumor cells show GATA3 immunoreactivity.

## Discussion

The secondary bladder tumors are rare, constitute about 2% of all bladder malignancy [3]. The majority of metastatic tumor originated by direct invasion of prostate, colon, cervical cancer. Less frequently leukemia and lymphoma metastasis cause secondary bladder metastases. Breast, lung and skin tumors are rarely metastasize to the bladder [6].

The diagnosis of metastases is made with cystoscopy and bladder biopsy. Macroscopically, bladder metastasis is seen as a mass, irregular lesion, mucosal nodules and abnormal mucosal thickening. In our case, a mass was observed in CT imaging and trans-ureteral resection (TUR) was performed.

Symptomatic bladder metastasis is seen in the late stages of breast cancer. Bates and Baithun [5] reported 7 cases of primary breast cancer metastasis (6 of these 7 cases had metastasized widely) in 282 secondary urinary bladder metastases in a series of 6289 post-mortem bladder tumor analysis. The most common symptoms are lower urinary tract symptoms, flank/abdominal pain, hydronephrosis and painless hematuria [2]. It may also occur as recurrent urinary tract infections and urinary incontinence. Hematuria may not only be related with bladder metastasis, it may also be a side effect of cyclophosphamide, which is used for the treatment of primary breast tumor. Our patient had no symptoms.

The bladder metastasis indicates a poorer prognosis compared to bone metastases in breast cancer [7]. In our patient, bone metastasis was observed at the time of diagnosis of invasive ductal cancer and bladder metastasis was detected six years after the first diagnosis. Although invasive ductal cancer is more common than lobular cancer, infiltrative lobular carcinoma metastasize more to the bladder [8]. But our patient's bladder metastasis was originated from invasive ductal carcinoma.

ER, PR and c-erb-B2 are the three main receptors that can be seen in breast carcinoma. These receptors were investigated in bladder metastasis of primary breast carcinoma [9]. Life span is adversely affected in the event of a negative presence of these receptors in bladder despite positive in breast alone [9, 10]. In breast, ER and PR positive tumors responds better to the hormone therapy [10]. It has been reported that c-erb-B2 positive breast tumors are more aggressive.

While all three receptors were positive in our patient's first primary breast carcinoma - invasive ductal carcinoma- and negative in second primary breast carcinoma -invasive lobular carcinoma- they were all positive except c-erb-B2 in bladder metastasis.

The most important feature in our case is bladder metastasis without any symptoms - which is rare in literature- on patient with two different primary breast tumors.

Surgery, chemotherapy, radiotherapy, hormonal therapy, or combinations thereof are used in the treatment of metastatic bladder. Our patient, who is still alive, received Gemcitabine, Herceptin and Zoledronic acid treatment for bladder metastasis.

## Conclusions

Late and asymptomatic bladder metastasis of breast carcinoma is rare. Each organ must be evaluated for metastasis in case of presence of a primary tumor. Tumor follow-up should last the entire lifetime. Routine tumor follow-up gives patients an opportunity has longer disease-free survival as our patient who is still alive and healthy.

**Informed Consent:** Approval was obtained from the patients.
**Peer-review:** Externally peer-reviewed.

**Conflict of Interest:** None declared.

**Financial Disclosure:** The authors declared that this study received no financial support.

## References

1. Vulcano E, Montesano M, Battista C, Carino R, Perrone G, Vincenzi B, et al. Urinary complications from breast cancer metastasis: case report and review of the literature. G Chir. 2010;31(5):243-5.
2. Luczynska E, Pawlik T, Chwalibog A, Aniol J, Rys J. Metastatic Breast Cancer to the Bladder case report and review of literature. J Radiol Case Rep. 2010;4(5):19-26.
3. Shah KG, Modi PR, Rizvi J. Breast carcinoma metastasizing to the urinary bladder and retroperitoneum presenting as acute renal failure. Indian J Urol. 2011;27(1):135-6.
4. Viadana E, Bross ID, Pickren JW. An autopsy study of some routes of dissemination of cancer of the breast. Br J Cancer. 1973;27(4):336-40.
5. Bates AW, Baithun SI. Secondary neoplasms of the bladder are histological mimics of nontransitional cell primary tumours: clinicopathological and histological features of 282 cases. Histopathology. 2000;36(1):32-40.
6. Modh RA, Corbyons KA, Yeung LL. A rare metastasis to the bladder. Case Rep Urol. 2013;2013:789039.
7. Lawrentschuk N, Chan Y, Bolton DM. Metastatic breast cancer to the bladder. Breast J. 2005;11(2):143.
8. Feldman PA, Madeb R, Naroditsky I, Halachmi S, Nativ O. Metastatic breast cancer to the bladder: a diagnostic challenge and review of the literature. Urology. 2002;59(1):138.
9. Iguchi C, Nio Y, Itakura M. Heterogeneic expression of estrogen receptor between the primary tumor and the corresponding involved lymph nodes in patients with node-positive breast cancer and its implications in patient outcome. J Surg Oncol. 2003;83(2):85-93.
10. Lin WC, Chen JH. Urinary bladder metastasis from breast cancer with heterogeneic expression of estrogen and progesterone receptors. J Clin Oncol. 2007;25(27):4308-10.