

Invasive Lobular Breast Carcinoma Metastasis to Urinary Bladder: A Rare Clinical Entity

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Abstract

Breast cancer is one of the most common cancers among women and has a high potential of metastasis to multiple organs in body commonly to liver, lungs and bones. This article emphasizes the importance of another organ i.e. urinary bladder. However, metastasis of breast cancer to urinary bladder is rare and can be asymptomatic therefore; patients with breast cancer having metastatic spread do not undergo regular urinary bladder screening. Evaluation of urinary bladder should be mandatory specially if lower urinary tract symptoms or microscopic hematuria occurs in patients with breast cancer.

Introduction

In Pakistan, Breast cancer is the most frequently diagnosed cancer in female population, accounting for nearly one in nine women [1]. Breast cancer has a high incidence of metastasis to different sites in the body. Most commonly lymphnodes, lungs, liver and bones. However, metastasis to urinary bladder is very rare, therefore patients with breast cancer are not commonly screened during follow up. Evaluation of bladder should be mandatory if urinary tract symptoms occur in such patients during follow up.

Case Report

Our experience involved a 60 years old female known case of Metastatic breast cancer (Invasive lobular Grade 2) with ER +ve, PR -ve & HER2/neu for 4 years referred to us as asymptomatic, having bladder lesion on follow up CT scan. She had history of right breast Invasive lobular carcinoma in the mid lateral quadrant and underwent Right Breast lateral segmentectomy with sentinel lymphnode biopsy and frozen section in 2019 followed by Right completion mastectomy as tumor was involving the lateral resection margin on histopathology of the first surgery resected specimen. She initially received taxoteron and cyclophosphamide as neoadjuvant chemotherapy but developed side effects (Diarrhea and fever) so switched to Paclitaxel/cyclophosphamide along with hormonal therapy. She also received Adjuvant radiation to right chest wall (15 fractions). For confirmation MRI scan is performed that shows thickening of bladder with homogenous enhancement, but no diffusion restriction noted. She had multiple skeletal metastases involving the spine, pelvis and proximal right femur evident on bone scan.

Her abdominal examination was unremarkable. We performed cystoscopy with transurethral resection of bladder lesion, which proved histologically as poorly differentiated metastatic carcinoma compatible with primary breast malignancy.

Discussion

Breast cancer is alarmingly becoming one of the leading causes of cancer related deaths in women owing to tumor metastasis, the pattern of metastasis may be correlating to histological type of cancer with Invasive lobular carcinoma; which corresponds to our case, being the second most common subtype, accounting for 8% to 14% of cases after invasive ductal carcinoma which accounts for 90% of cases [2,3].

Breast cancer commonly metastasizes to lymph nodes, lung, liver and bone, whilst it rarely involves the urinary bladder which is a very rare sight and not reported too much. It is acknowledged that breast neoplasm metastasizes to the bladder via retroperitoneal lymphatic involvement, seen more frequently in Invasive lobular Carcinoma cases [4].

The first reported cases of bladder metastasis were found through autopsy reports. In 1950, Abrams et al. only identified four (2%) cases of urinary bladder metastasis after analyzing 167 cases of metastatic breast cancer in the postmortem state at Montefiore hospital [5]. Klinger et al. only found 3 cases of bladder metastases, with the breast carcinoma as primary lesion in the review of 142 cases [6].

In a case report Jordan et.al reported very unusual occurring where patient presented with cancer metastasis to bone and

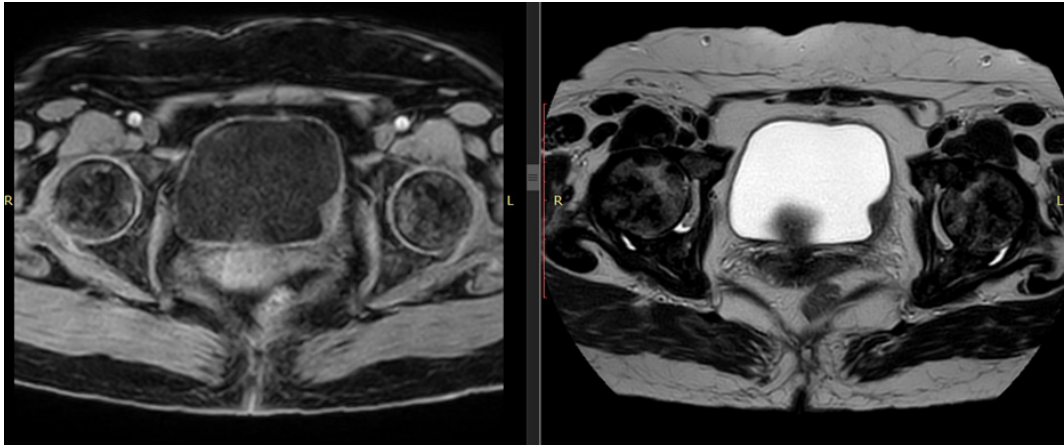


Figure 1: T1/T2weighted MRI images showing thickening of the left lateral wall of bladder.

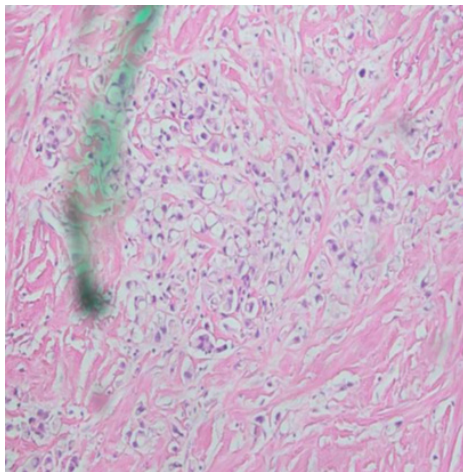


Figure 2A: Breast tissue stained with H & E (40x).

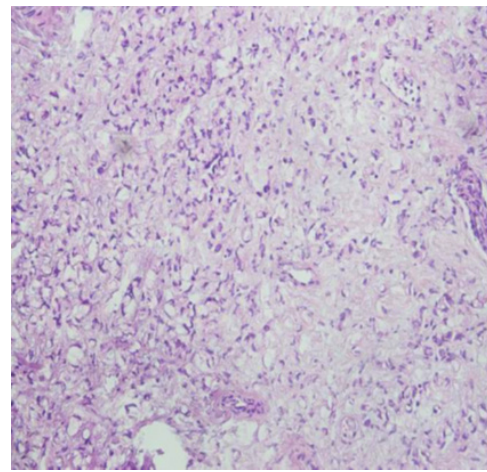


Figure 2B: Bladder tissue stained with H & E (40x).

subsequently to urinary bladder 30 years after the initial diagnosis of breast cancer [7]. Which is in accordance to our case where patient was diagnosed with bladder metastasis few years later after initial diagnosis of breast carcinoma.

The clinical presentation is pleomorphic, comprising of an asymptomatic bladder metastasis discovered incidentally during the radiological check-up as in our case to a relevant symptomatology. The major warning signs to look for are microscopic and then gross macroscopic hematuria [8,9].

All three patients presented with painless gross hematuria as the first sign of bladder involvement in systemic literature review by et al. Malinaric [10]. Interestingly, our patient was asymptomatic for urinary symptoms although there's involvement of submucosa and muscularis mucosa in recent CT-scan report.

The purpose of this is case report to highlight the screening of urinary bladder when dealing with breast cancer even if patient is asymptomatic as well as to look out for possible urinary symptoms. A routine urinary examination 6monthly or yearly would be appropriate, icroscopic hematuria may lead to an early diagnosis and treatment.

Conclusion

Although breast cancer metastasis to urinary bladder is very rare as compared to metastasis to other organs but this case highlights the importance of screening for genitourinary malignancy in patients with high grade breast cancers with routine imaging and urine examination, if microscopic hematuria is present then it should be further investigated and appropriate treatment should be carried out.

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