

Metastatic Lobular Breast Carcinoma of the Urinary Bladder After Eight Years in Remission

D.P. McNicholas¹, M.E. Kelly², L. Yap¹, Z. Tsvetanova³, E. Leen³, D. Beddy², L. McLornan¹

1. Department of Urology, Connolly Hospital, Blanchardstown, Dublin.
2. Department of General Surgery, Connolly Hospital, Blanchardstown, Dublin.
3. Department of histopathology, Connolly Hospital, Blanchardstown, Dublin.

Abstract

Presentation

We present a very rare case of metastatic lobular breast cancer (BC) to the urinary bladder. A 69-year-old lady presented with abdominal pain, altered bowel habit and urinary frequency. She was 8-years in remission for invasive lobular BC.

Diagnosis

Imaging found a mass involving the terminal ileum/caecum, and the bladder. Cystoscopy and biopsies confirmed a poorly differentiated neoplasm. Immunohistochemistry identified this as metastatic lobular BC.

Treatment

A laparotomy and defunctioning ileostomy was performed without oncological resection as the mass was firmly adherent to surrounding structures. Biopsies of the mass confirmed metastatic invasive lobular carcinoma (ILC). The patient made a good recovery, starting chemotherapy and remains stable.

Discussion

Metastatic breast lesions to the urinary bladder are extremely rare. Invasive lobular carcinoma (ILC) accounts for 14% of primary BC⁵. 19 case reports have been documented of living patients with metastatic BC to the urinary bladder, only one-third were (ILC)². Treatment options include surgery, radiotherapy, chemotherapy and hormonal therapy options.

Introduction

Breast Cancer (BC) is one of the leading causes of cancer death worldwide. It remains one of the most common cancers, accounting for 25% of all cancer diagnosis¹. The most common sites of metastases are lung, liver, bone and brain². Bladder metastases from BC are significantly rarer, with only 54 cases reported to date^{2,3,4}. We report a rare case of metastatic lobular BC which has metastasized to the urinary bladder. Only 19 case reports have been documented of living patients with metastatic BC to the urinary bladder, of these only one-third were (ILC)², highlighting this rare diagnosis.

Case Report

We report the case of a 69-year old lady who presented with a five-month history of intermittent lower abdominal pain, altered bowel habit, dysuria, urinary frequency, and microscopic haematuria.

Her past medical history included lobular carcinoma of the right breast, which was managed with mastectomy, axillary clearance, and adjuvant chemotherapy (8 years ago).

Initial laboratory tests noted deranged renal function (creatinine=131 micromol/Litre and urea=6.1 mg/dL) with mildly elevated inflammatory markers (C-reactive protein= 21mg/dL)

Radiological investigation including a CT-scan of abdomen/pelvis observed a large mass involving the terminal ileum/caecum, extending towards the pelvis with bladder dome involvement. There was considerable mass effect causing bilateral hydronephrosis. Colonic endoscopic evaluation did not observe any intra-luminal disease. Cystoscopy noted an inflammatory mass involving the posterior bladder wall and biopsies were taken. Left ureteric stenting was performed, but due to tumour distortion the right ureteric orifice was not identifiable. Biopsy revealed a poorly differentiated neoplasm, with a pattern of infiltrating small cells in single file with immunohistochemistry identifying this as metastatic lobular BC (images 1 and 2)

Image 1: Histological image of invasive lobular breast carcinoma with H&E staining (Haematoxylin and Eosin stain)

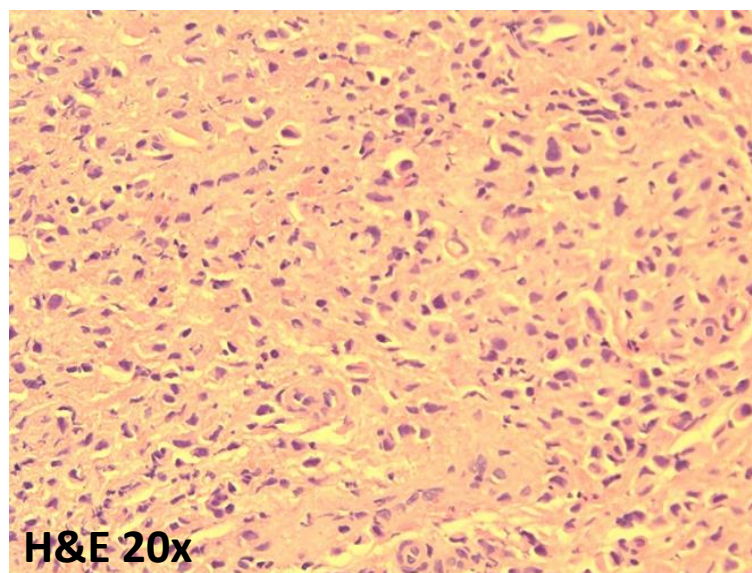
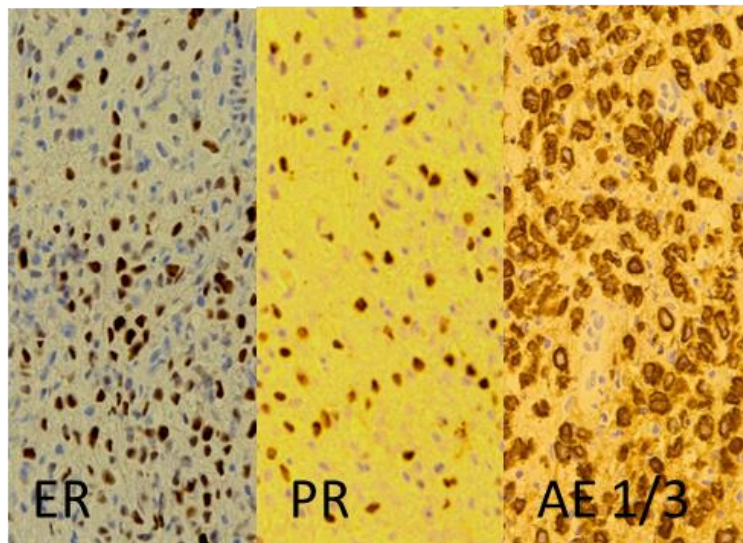


Image 2: Immunohistochemical staining confirms metastatic lobular breast cancer (Estrogen receptor stain, Progesterone receptor stain, cytokeratin AE 1 & 3 stains)



In the coming weeks, the patient had increased abdominal pain and symptoms of intermittent obstruction. MRI of the small bowel noted irregular thickening of the terminal ileum and caecum, with significant peri-enteric stranding. Multidisciplinary input recommended surgical management. Potential options included multi-visceral resection versus defunctioning ileostomy. Initial laparoscopy identified a significant inflammatory mass involving the ileum and conversion to laparotomy was performed to attempt mobilization. The mass was firmly adherent to the lateral sidewall and adjacent structures including the ureters(which were not identifiable).In addition, there was dense nodal disease along the root of the small bowel mesentery and occult peritoneal disease identified involving the small bowel and dome of the bladder. It was decided to perform a defunctioning proximal ileostomy without oncological resection. Biopsies of the mass and peritoneal disease confirmed metastatic ILC at multiple sites. The patient made a satisfactory post-operative recovery and commenced chemotherapy.

Discussion

Metastases to the urinary bladder are rare. The majority are prostate, cervical and colorectal cancers, which can directly invade the urinary bladder⁴.Metastatic breast lesions to the urinary bladder are extremely rare. The majority of reported cases have been in the setting of disseminated primary BC⁵.Feldman *et al.* suggested that invasion of the bladder is a late complication of primary BC, with a median time of occurrence being 90-months,but may be as late as 30years².Our patient presented with bladder involvement around 96-months post initial diagnosis.

ILC (14% of primary BC) is much less common than invasive ductal carcinoma (IDC) (80%)⁵. It has been shown that these two subtypes of BC have very different patterns of metastases. Winston *et al.* suggested that lobular BC migrates via the retroperitoneum to the abdominal region to invade organs such as the bowel and bladder⁶.Retroperitoneal extension of ILC occurs in 3.1%compared with 0.6%of IDC patients⁷.This is further supported by Feldman *et al.* who observed that ILC accounts for 33%of metastatic breast to bladder cancers³.

Treatment of metastatic BC to the urinary bladder comprises of surgery, radiotherapy, chemotherapy and hormonal therapy options. Local resection with trans-urethral resection of bladder tumour aids diagnosis, can alleviate ureteric obstruction, and facilitate ureteric stenting. Where ureteric stenting is not possible, percutaneous nephrostomies may be placed to improve renal function³. Radiotherapy has a role in improving symptomatic haematuria and providing local disease control⁸. Definitive surgical treatment can involve multi-visceral resection in suitable patients⁹.

Declaration of Conflicts of Interest:

The author declares no conflict of interest.

Corresponding Author:

Mr Daniel McNicholas

Department of Urology,

Connolly Hospital,

Blanchardstown,

Dublin.

E-mail: danielmcnicholas3@gmail.com

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