

Metastatic Breast Carcinoma Masquerading as Obstructive Uropathy: A Rare Clinical Presentation

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ABSTRACT

Breast cancer is the most frequently diagnosed cancer and the leading cause of cancer death in females worldwide, accounting for 23% of total new cancer cases and 14% of total cancer deaths in 2008. Common metastatic sites include the lungs, bones, liver, lymph nodes, and skin. Less frequently it involves the brain, adrenal glands, ovaries, spleen, pancreas, kidney, thyroid, and heart. There are reports of unusual sites of breast cancer metastases; the urinary bladder and retroperitoneum are considered some of these unusual sites. Metastasis usually occurs many years after diagnosis, and the prognosis is poor. Breast carcinoma metastatic to the retroperitoneum has been reported only sporadically. We report a rare presentation of occult breast carcinoma with obstructive uropathy.

INTRODUCTION

Breast cancer is the most frequently diagnosed cancer and the leading cause of cancer death in females worldwide, accounting for 23% of total new cancer cases and 14% of total cancer deaths in 2008 [1]. Common metastatic sites include the lungs, bones, liver, lymph nodes, and skin. Less frequently it involves the brain, adrenal glands, ovary, spleen, pancreas, kidney, thyroid, and heart [2]. There are reports of unusual sites of breast cancer metastases; the urinary bladder and retroperitoneum are considered some of these unusual sites.

Retroperitoneal fibrosis is associated with malignancy in approximately 8% of cases [3]. This association is observed with lymphomas, sarcomas, and many carcinomas, including metastatic diseases from the breast, stomach, colon, lung, and retroperitoneum, which initiates a desmoplastic reaction resulting in retroperitoneal fibrosis [4].

For majority of metastatic breast cancer patients, the primary disease is evident at the time of diagnosis. Metastasis usually occurs many years after diagnosis, and the prognosis is poor. Breast carcinoma metastatic to the retroperitoneum has been reported only sporadically. We report a rare presentation of occult breast carcinoma with obstructive uropathy.

CASE REPORT

A 58-year-old female presented to our facility with vague abdominal pain and bilateral lower limb edema. She had previously undergone a total laparoscopic hysterectomy 10 years back for menorrhagia. Her serum creatinine was noted at 363 $\mu\text{mol/l}$ and the non-contrast computed tomography (CT) scan revealed bilateral moderate hydronephrosis and diffused thickening in the urinary bladder wall without any evidence of urinary tract stones or a retroperitoneal mass. She had been taking high doses of NSAIDs over the past few weeks, and a provisional diagnosis of NSAID-induced acute renal impairment

KEYWORDS: Breast carcinoma, obstructive uropathy

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Figure 1. An MRI of the abdomen shows bilateral uretral obstruction.

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Figure 2. A nephrostogram shows the bilateral ureteral obstruction.

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was made.

As her renal functions did not improve with rehydration, a decision was made to insert double-J catheters. A cystoscopy revealed a normal bladder. A random biopsy was taken, which showed atypical cells in the sub mucosa. Her renal function did not improve despite the presence of adequately positioned stents. She subsequently underwent bilateral insertion of nephrostomy tubes. Subsequently, her renal function became normal

Nephrostograms revealed long bilateral ureteral strictures. An initial diagnosis of probable retroperitoneal fibrosis was made, and a course of steroids was administered. Three weeks later, a trial of nephrostomy tube clamping was done, but she developed severe pain and nephrostomies had to be opened within 1 hour.

In view of the presence of atypical cells on the bladder biopsy, she underwent a PET CT scan. However, it did not reveal any significant pathology. She was also given a course of steroids

that did not have any effect on ureteric obstruction.

Due to the failure of medical management, the decision was made to perform surgical exploration and possible ureterolysis/replacement. During the operation, we noted that the omentum was thickened and nodular. The liver had a mottled appearance and intestines showed small nodules on the serosal surfaces. A frozen section of the biopsy was taken from the omentum. This revealed invasive adenocarcinoma. Biopsies were also taken from liver, appendix, and mesenteric lymph nodes. All these biopsies showed invasive adenocarcinoma. A full work-up of the malignancy was performed. The mammograms did not show any significant abnormality. An ultrasound of the left breast revealed a small non-palpable cyst deep in the breast tissue. Biopsies were taken. It showed invasive lobular adenocarcinoma, which was positive for estrogen and progesterone receptors.

The patient underwent chemotherapy in the form of Paclitaxol and carboplatin. After 2 cycles of chemotherapy, the patient

Figure 3. A whole-body PET-CT shows no metabolically active lesions.

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tolerated nephrostomy tube clamping. The nephrostograms revealed adequate drainage from both kidneys and a significant resolution of ureteric strictures. Both nephrostomy tubes were then removed. Her renal function is normal and her clinical condition has improved.

DISCUSSION

Metastases to the retroperitoneum are rare. These are mostly found in advanced stages with peritoneal dissemination. Information pertaining to retroperitoneum metastases is derived largely from autopsy studies. Known primary sites of origin in descending frequency are gastric cancer, malignant melanoma, breast, and lung [5]. Potential mechanisms contributing to the appearance of secondary bladder tumors could be due to minute viable tumor emboli that pass through the pulmonary circulation without establishing a lung metastasis and subsequently reach the urinary bladder by hematogenous transport.

An earlier report documented a series of 24 patients with hydronephrosis from periureteral breast metastases [6]. In a study by Winston et al., 6 patients (11%) had hydronephrosis caused by metastatic infiltrative lobular carcinoma to the retroperitoneum [7]. It has been suggested that the loss of the cell adhesion molecule, E-cadherin, in infiltrative lobular carcinoma may account for these distinct metastatic patterns [8].

In an autopsy study, Lamovec and Bračkko reported the metastatic pattern of breast carcinoma to the retroperitoneum as a diffuse growth of neoplastic cells that infiltrated in a lymphoma- or leukemia-like fashion [9]. Such metastases may remain clinically silent for a long time, despite their extensiveness.

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