

A case of solitary bladder metastasis from male breast cancer

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Abstract

Male breast cancer constitutes 0.2 to 1.5% of all malignant tumors. Besides, bladder metastasis from breast cancer is rare; only few cases of urinary bladder metastases from primary breast cancer have been reported. Survival is poor. Patients usually die of their disease within 2 years from the onset of urinary symptoms. We represent a case of a male who was diagnosed with breast cancer metastases to the urinary bladder.

Introduction

Breast cancer is the most common malignancy in women around the world. In male, it counts for 0.2 to 1.5 % of all malignant tumours and 1% of all breast cancer [1]. Metastasis can involve any organ of the body. Commonly, it interests lymph nodes, bone, lung, liver and skin. Some unusual sites of breast cancer metastases were reported; the urinary bladder is considered as one of them.

Urinary bladder metastasis from solid tumors is rare and represents 2% of all bladder neoplasms. Direct extension from the cervix, prostate and colon is not unusual but metastasis from a distant organ is extremely rare. Breast cancer represents a primary site in about 2.5% cases of all metastatic bladder cancer [2] About thirty case reports have been reported in the literature [3,4]. All reported cases in literature involve women. We report the first case about bladder metastases of breast cancer in a man.

Case report

A 76 year-old, alcoholic and heavy smoker man was referred to our institution for a right breast tumor. His medical history was significant for hypertension and diabetes. Clinical examination revealed a 4cm central, ulcerated lump of the right breast with suspicious axillary lymph node. Mammography and ultrasound examination showed an aspect of a malignant mass [Fig1].

Chest radiography, abdominal ultrasound and bone scan were normal. The patient underwent a modified right property mastectomy with homolateral axillary node dissection. The final pathologic report concluded to a 3.5cm invasive ductal carcinoma, Grade II. Both oestrogen and progesterone receptors (ER and PR)

were positive. Two of the 15 lymph nodes removed were invaded by the tumor. Decision was to give the patient 6 cycles of adjuvant chemotherapy (5 Fluorouracil, Epirubicin and Cyclophosphamide) followed by locoregional radiotherapy (internal mammary chain and supra-clavicular region) and hormonotherapy by Tamoxifen.

After the first cycle of chemotherapy, the patient presented a gross hematuria. Pelvic ultrasound examination revealed a 6cm anterior bladder tumour [Fig2]. Cystoscopy with transurethral resection of the bladder tumour was performed. Pathologic analysis showed a metastatic adenocarcinoma similar in appearance to the primary breast cancer with muscular invasion. Immunohistochemical stains, used to confirm the diagnosis, were positive for cytokeratin 7 and negative for cytokeratin 20 and chromogranin. We decided to continue the chemotherapy until 6 cycles and to evaluate the patient after the chemotherapy.

After the end of chemotherapy, the patient underwent a whole body scan (brain, chest, abdomen and pelvis). It revealed the reappearance of 4 cm bladder mass [Fig3], without any other site of metastases. We performed a second transurethral resection. The patient died one day later of heart attack.

Discussion

Breast cancer metastases can occur in almost any organ. Common sites metastases include lymph nodes, lung, liver and bone. However, brain meninges, thyroid, heart, skin, adrenal gland, uterus, omentum, peritoneum, small and large bowel, spleen, pancreas, and gallbladder metastases are also reported [3, 5].

The commonest primary tumors in case of bladder metastasis involve the stomach, lung, skin (melanoma) and breast. This kind of spread of tumor cells is not a common clinical occurrence and 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 haematogenous transport. Other possible routes are extension from retroperitoneal involvement dissemination through the lymphatic or arterial circulation [3].

Our reported case was the seventh solitary bladder metastasis from breast cancer and it was the first metastasis from male breast cancer in the literature [6].

Eighteen cases of metastatic breast cancer to bladder among autopsies were reported in literature [7]. A review of the English literature up to 2000 by Feldman and al revealed 19 cases of patients with breast cancer who had bladder metastases diagnosed while they were alive [8].

All of them had been diagnosed with breast cancer from 7 to 360 months prior to the bladder metastases [8, 9].

Soon and all reported a case of a patient diagnosed with bladder metastases before her breast cancer was discovered [8]. Our patient bladder metastasis was discovered tow months after the diagnosis of breast cancer.

Paula and all reported a case of urinary metastasis diagnosed after 22- year- free disease [10].

Treatment of metastatic breast cancer is chemotherapy and hormonotherapy. ER and PR positive tumors respond to hormonotherapy and are predicted to have higher disease-free survival than patient with ER negative [5].

The expression of ER and PR in the metastatic bladder tumor was expected to be like the primary breast cancer. However, discordant expression of the ER and PR status in primary breast cancer and metastatic bladder was reported in the literature [5, 9]. In our case, the ER and PR expression in the breast carcinoma was positive whereas it was negative in the metastatic bladder tumor .

Survival after the onset of distant metastases is relatively short, even if Poulakis et al. in 2001 reported a patient with breast cancer metastases to the urinary bladder still alive at 5 years from diagnosis [11]. Our patient died 8 months from diagnosis of bladder involvement.

Conclusion

Male breast cancer is rare and bladder metastases from primary breast cancer have been reported occasionally in the literature. If a man with history of breast cancer complains of lower urinary tract symptoms, a careful work up should be considered to rule out an eventual metastasis.

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Figures



Fig1: Mammography: a retractile opaqueness



Fig2: Ultrasonography: a 6 cm papillary tumour in bladder dome



Fig 3: A CT scan revealing a papillary tumour in bladder dome