

## Case Report

# Long-Lasting Complete Remission (15 Years) of Metastatic Breast Cancer (MBC): A Case Report

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**Abstract**

We report a case of a patient with MBC (lymph nodes, cutaneous, gastric, ovarian and peritoneal metastasis) at diagnosis who had an enduring clinical complete remission and survival. She received systemic treatments such as chemo and hormonal therapies with very few side effects, good quality of life and did not receive any surgery. She discontinued oncologic treatment and follow-up for physical impairment after 15 years without documented progressive disease. Survival and outcome of MBC has increased in the last 25 years due to the introduction of new drugs and accuracy of predicting survival and response to different treatment strategies. We also discussed the benefit of surgery of primary tumors in de novo MBC which remains a debating issue.

**ABBREVIATIONS**

MBC: Metastatic Breast Cancer; CR: Complete Response; IV: Intravenous, CT: Scan Computed Tomography Scan; MRI: Magnetic Resonance Imaging; BSC: Best Supportive Care

**INTRODUCTION**

Metastatic breast cancer is incurable. Median survival rates range from one to four years, but on an individual level, survival times of up to 15 years have been reported. Based on data from 1996, long-term survivors do exist but are very rare—ie, less than 5% [1].

Approximately 3% to 5% of Europe and United States breast cancer patients present with de novo metastatic disease, compared to 10% to 25% of Asian patients [2-6]. Long lasting complete remission is rare; on the other hand disease progression, symptomatic or not, is common requiring several treatment changes. Third line treatments or beyond are anything but uncommon and patients experience several toxicities affecting quality of life heavily.

**CASE PRESENTATION**

We report the case of a Caucasian 75-year-old patient presenting with MBC at diagnosis positive for hormone receptor and negative for HER2. In 2001 the patient was sent by the surgeon with radiological and clinical finding of a lump in the left breast. She underwent left breast core biopsy; the diagnosis

was lobular breast cancer, biological characterization was ER 70%, PgR 10%, and MIB-1 10%. Her-2 not available at that time. The patient presented constitutional symptoms such as loss of appetite and weight. Imaging and clinical findings revealed a wide metastatic disease with metastatic axillary lymph nodes, several cutaneous lesions on the trunk and abdomen, gastric metastases (positive biopsy for metastatic breast cancer ER 80%, PgR negative in gastroscopy), abdominal effusion and right ovary enlargement of about 4 cm. Elevation of tumor markers was also detected (CA 15.3 159, CEA 12, CA 125 128) Staging: cT2N2M1, Luminal B.

Considering the tumor burden we decided to omit surgery at that time and begin hormonal therapy with tamoxifen 20 mg per day. She came back after a couple of months of therapy with abdominal symptom worsening, clinical and radiological findings of intestinal sub occlusion suggesting disease progression.

Since the patient was symptomatic and the disease rapidly progressing we decided to give her chemotherapy. She received weekly IV Adriamycin (January-June 2002) with high clinical benefit (resolution of abdominal discomfort, increase in weight) but we observed a growth of the breast lump. We then switched to weekly IV vinorelbine (June 2002-February 2003) with almost clinical and radiological complete response (CR): cutaneous lesions of the chest wall were not visible on physical examination and the palpable breast lump had disappeared such as the lymph nodes. Serum marker levels were within normal range, CT scan negative.

She then started maintenance endocrine therapy with tamoxifen.

She came back in July 2003 with left hemiparesis and aphasia as a result of a stroke (MRI: cerebral vast vascular ischemic event) without any signs of disease progression; tamoxifen was therefore replaced with letrozole. With time neurological symptoms almost resolved. Then she began clinical-instrumental follow up; she received letrozole for ten years until 2013. During this period the patient felt always well, we have never seen any disease progression. She came every 4-6 months, always joking about the fact she healed of breast cancer without even surgery.

In July 2013, a CT scan showed right ovaric enlargement (same as diagnosis) without any elevation of serum marker and the patient was as always asymptomatic. We were not sure if consider this finding as progression, but, after having discussed the issue with the patient, we decided to switch to exemestane (August 2013).

In April 2014 she presented with constitutional symptoms such as loss of appetite and weight, without elevation of serum markers or radiological disease progression. We decided to continue therapy with exemestane.

In august 2014 she was admitted to hospital presenting cutaneous dehydration, anorexia, additional weight loss and worsening of performance status. Diagnostic imaging was negative for certain progression; however, considering age and performance status, we decided to stop exemestane or any other specific treatment and give her best supportive care (BSC). She eventually died at home some months later.

## DISCUSSION

In the last 25 years new treatment options in breast cancer have evolved. For the first time a significant increase in survival time for patients with metastasis from fast-growing grade 3 tumors was seen, the most striking improvement was achieved in the HER2 positive subset.

Median survival increased from 13 to 33 months. Five year survival increased from 10 to 27%. Patients with high grade primary tumors had the shortest post recurrence survival time but their median survival increased significantly by time from 12 to 30 months, 3 year survival from 16 to 38% and 5 year from 5 to 20% [7]. Median survival for HER2 positive patients treated before the introduction of trastuzumab in year 2000 was 14 months and after 2000 29 months, 5 year survival improved from 2 to 31%. Accuracy of predicting survival is crucial for women with de novo metastatic breast cancer as treatment varies widely, from no treatment at all, to removal of primary tumor and aggressive systemic treatment [8]. Many randomized control trials have also reported significant survival benefit from modern chemotherapeutic agents, such as taxanes [9], hormonal therapy [10], endocrine therapy plus a targeted drugs in combination [11,12]. These results indicate that the concept of metastatic breast cancer as a chronic disease controlled by sequential therapies over a long period is realistic.

Is well known that different pathological breast cancer subtypes influence the spreading of tumor cells and the survival of breast cancer patients [13]. Luminal A tumor patients are more

likely to get bone metastases than lung, liver or CNS metastases. Patients with a triple-negative subtype are the least affected by metastasis in the skeleton. They are most likely to develop visceral metastases. Location, numbers of metastases and the subtype influences the overall survival (OS). Altogether, the best OS is found in patients with luminal A subtype, the worst in patients with the triple-negative subtype.

Metastatic pattern in our patient was somewhat unusual considering the subtype: she never developed any bone localization while the most symptomatic was the gastric one.

This patient had a very high median survival (180 months) and an enduring clinical complete remission, both higher than most of the series described in literature even for the most favourable pathological breast cancer subtypes.

We do not know if she had a disease progression at the end or if she died of any different disease at 89 yrs.

The disease was quite sensible to both chemo and hormonal therapy. She suffered very little of side effects, every treatment was very well tolerated but tamoxifen which probably increased the risk of the stroke she experienced. Thus we could say the balance between outcome and side effects has been extremely favourable.

We and the patient considered surgery of primary tumor not mandatory at the time of diagnosis and the enduring complete remission in time did not raise the question again. However this remains a debating issue in MBC de novo: is there a role of surgery or not?

This issue has become even more relevant with the introduction of increasingly sensitive imaging modalities.

Recent studies have suggested that women who undergo surgery for de novo metastatic breast cancer have a significantly lower risk of death as compared to those who do not [14-16].

Most importantly, the benefit of primary tumor surgery increased over time from 1998 to 2009. Although the final results of ongoing randomized studies are awaited, currently available evidence should be discussed with metastatic breast cancer patients.

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