

Her2 Positive Metastatic Breast Cancer Patient without Any Sign of Recurrence 5 years after Cessation of Trastuzumab: A Case Report

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Abstract

Background: HER 2 Metastatic Breast Cancer (MBC) is usually considered incurable. Prognosis has considerably improved over the past two decades with the advent of new therapies such as monoclonal antibodies interfering with the Her2/neu receptor.

Case presentation: We present a case of 61 year old woman with Her2 positive MBC without any sign of recurrence 5 years after the end of trastuzumab and who could be potentially considered cured.

Conclusion: In case of sustained response, stopping trastuzumab is possible without recurrence. We can reasonably hope that patients without recurrence after 5 years, as in our case, are definitely cured.

Keywords: Metastatic breast cancer; Trastuzumab; Recurrence; Cure

Abbreviations: MBC: Metastatic Breast Cancer; FEC: Fluorouracil Epirubicin Cyclophosphamide; CT: Computed Tomography; PFS: Progression Free Survival; ER: Estrogen Receptor; PgR: Progesterone Receptor

Background

While metastatic breast cancer is usually considered incurable, prognosis has considerably improved over the past two decades with the advent of new therapies such as monoclonal antibodies interfering with the Her2/neu receptor.

If median overall survival remains under 50 months, 2% of patients are still alive 10 to 20 years after diagnosis of metastatic disease [1,2]. This implies that for a small subgroup of MBC patients definitive cure could be achieved.

Case Presentation

We present a case of Her2 positive MBC patient without any sign of recurrence 5 years after the end of trastuzumab and who could be potentially considered cured. To our knowledge, this is the first report of a long term maintained complete response after treatment cessation.

A 61-year-old woman without significant past medical history was diagnosed in December 2000 at the age of 47, left breast carcinoma. She received neoadjuvant chemotherapy with 2 cycles of FEC100 followed by breast conservative surgery. Histological examination revealed ypT1cN0 grade III ductal carcinoma with negative ER and PR. Adjuvant treatment consisted of 4 additional cycles of the same chemotherapy regimen and radiotherapy.

Just after completing treatment, CA15-3 increased and bone and liver recurrence were discovered. CT scan found a liver lesion of 13 mm and bone scintigraphy shows three fixations suggestive of bone secondary locations. Overexpression of Her2 was confirmed by immunohistochemistry with retrospective analysis of primitive breast tumor.

She received 4 cycles of paclitaxel combined with trastuzumab. Complete response was assessed by thoracic CT, liver MRI and bone scintigraphy. Chemotherapy was stopped in February 2002. Trastuzumab monotherapy continued until February 2009. In the absence of recurrence after 7 years treatment was stopped following

the patient decision since she feared the side effects associated to long-term exposure to chemotherapy drugs. The patient was seen every 6 months for 5 years with clinical examination, CA15-3 dosing, CT scan and mammography. Last evaluation in July 2014 found no evidence of distant or local recurrence.

Conclusion

With recent approval of pertuzumab as first line treatment, prognosis of newly diagnosed MBC HER2+ has considerably improved [3]. The last update of CLEOPATRA published highlights an overall survival of about 56 months [4].

LOHRA, a multicenter cohort study showed that good responders to 1st line Trastuzumab, without progression after 3 years, had an impressive median PFS of 6.4 years (median OS not reached) [5]. However only a small subset (~2-3%) of MBC patients can achieve relapse-free survival more than 10 years regardless of HER2 status [6].

Regist HER identified four factors associated with long-term survival in a HER2-positive MBC cohort: ER+ or PgR+ disease, metastasis to node/local sites, first-line trastuzumab use, and first-line taxane use [7]. In the small subgroup of patients experiencing complete long lasting response the need to continue trastuzumab for an indefinite period is still unknown. Considering the drug good toxicity profile and fear of recurrence, both physicians and patients are reluctant to stop trastuzumab until disease progression or adverse events occur.

However there is some concern about long-term cardiac toxicity potentially linked to trastuzumab exposure. In the FINHER study a short course trastuzumab was not associated with LVEF decline [8]. In

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the PHARE study, patients treated in the 6 months trastuzumab arm experienced less cardiac events compared to the standard 12 months trastuzumab arm (1,9 vs 5,7% respectively) [9]. Similar results were observed in the HERA study where an increased incidence of cardiac events appeared to be linked to the duration of treatment (7% decrease in LVEF for a period of 2 years versus 4% for a period of 1 year) [10]. Fortunately there is usually a prompt reversibility of LVEF dysfunction when the treatment by trasuzumab is ended [11].

In this new era of constantly rising health costs it is also important to consider cost-benefit ratio. Even if long responding patients represent only a small group, we can imagine their number will grow in the future with the arrival of new drugs. We'll have to take into consideration trastuzumab cost (\$70,000 for a full one-year course) which could be doubled with the addition of pertuzumab.

Future studies will determine the necessary time before considering HER2 therapies withdrawal and will assess risk of relapse. We can reasonably hope that patients without recurrence after 5 years, as in our case, are definitely cured.

Consent: Written informed consent was obtained from the patient for publication of this Case report. A copy of the written consent is available for review by the Editor of this journal.

Competing Interests

none

Authors' Contributions

JR has made substantial contributions to acquisition, analysis and interpretation of data and has been involved in drafting the manuscript.

PF has been involved in revising manuscript critically for important intellectual content.

JMF has made substantial contributions to conception and design. He had given final approval of the version to be published.

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