

# Very long response with trastuzumab for metastatic Her2-positive breast cancer

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## Summary

Metastatic Her2-positive breast cancer are very aggressive tumors. With the development of anti-Her2 therapies, the prognosis of such tumors has changed. The author reports the case of a 60-year-old woman, diagnosed with a left Her2-positive breast cancer, revealed by a pathological fracture of the right femur (pT1cN1aM1, Stage IV). She received hormonal treatment in association with trastuzumab. She always is under trastuzumab therapy for four years. Anti-Her2 therapies are effective even in metastatic cancer patients.

*Key words:* Her2-positive; Breast cancer; Metastasis; Trastuzumab; Long response; Targeted therapy.

## Introduction

Her2-positive breast cancer represents about 15-20% of all breast cancers and are known to have poorer prognosis, particularly metastatic breast cancers. Trastuzumab has significantly improved the clinical outcomes of patients with metastatic Her2-positive breast cancer.

The author reports the case of a 60-year-old metastatic Her2-positive breast cancer patient treated with trastuzumab for four years without any sign of recurrence.

## Case Report

The author reports the case of a 60-year-old Caucasian patient diagnosed with a breast cancer in 2012. The patient was hospitalized for a pathological right femoral fracture. She underwent surgery followed by radiotherapy. Biopsy core revealed a poor-differentiated breast cancer, positive for hormonal and Her2 receptors. Mammogram showed a two-cm tumor in the left breast. The patient underwent tumorectomy. The histology was in favor of an invasive ductal breast carcinoma, SBR2, without any lymphatic invasion, positive for estrogen receptors (100%), negative for progesterone receptors, Ki67 at 20%, and Her2 positive. One node was metastatic out of 13. It was a pT1cN1aM1, Stage IV lesion. Computed tomography scan did not show any distant metastases, only the right femoral one.

The patient began the association of letrozole plus trastuzumab plus zoledronic acid infusions. After breast conserving surgery, she received breast and nodes external radiotherapy. Fourteen months later letrozole was switched to exemestane because of joint pains. Three years after diagnosis, two new bone metastases appeared, on cervical and thoracic spine: C2 and T11. Ca15-3 levels were at 74 U/L (normal range < 25 U/L). The patient suffered

from back and neck pains. Exemestane was stopped and the patient began fulvestrant, always in combination with trastuzumab. Four years after first presentation, the patient is always treated with trastuzumab and endocrine therapy. She has already received 73 infusions. She is free from relapse and does not experience any cardio-toxicity.

## Discussion

Therapies that target Her2 have become important agents in the treatment of metastatic breast cancer and have altered the natural course of Her2-positive breast cancer [1]. It is recommended for such tumors be treated with Her2-directed therapy as first and later line treatment [2]. Patients with hormone receptor and Her2-positive metastatic breast cancer may receive Her2-directed therapy in combination with endocrine therapy, especially if their disease is not rapidly progressive or symptomatic. However, for previously untreated patients, the combination of trastuzumab plus taxane plus pertuzumab is preferred [3, 4].

The present patient was treated initially in 2012. Pertuzumab was not available at this time. She is a long responder to trastuzumab, that is well-tolerated. For the present patient we discussed the treatment of the two bone localizations, since it was an oligometastatic disease. The focal treatment of the metastases was not performed. After four years of bisphosphonate, the patient presented with a tooth fracture that led to stop them. If the patient relapses, the next treatment will be ado-trastuzumab emtansine TDM1 [5].

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## Conclusion

The author reports the case of a long surviving metastatic Her2-positive breast cancer patient under trastuzumab plus endocrine therapy. This case suggests the efficacy of Her2-targeted-therapy in metastatic settings.

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