



# Lapatinib Monotherapy in HER2+ Relapsed or Refractory Inflammatory Breast Cancer (IBC): Quality of Life (QOL) Assessment

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## BACKGROUND

- Inflammatory breast cancer (IBC) is a rare, clinically distinct, and aggressive form of primary epithelial breast cancer characterized by severe pain and a poor prognosis.
- The objective of EGF103009, a phase 2, open-label, multicenter study, was to evaluate the efficacy, safety, and pharmacodynamic effects of oral lapatinib administered as a single agent therapy to patients with relapsed or refractory IBC. This analysis focuses on the impact of lapatinib on quality of life (QOL) and pain symptoms.
- Eligible patients were women with a clinical diagnosis of IBC that was relapsed or refractory to prior treatment with an anthracycline and taxane-containing regimen plus trastuzumab.
- Patients for this analysis are those whose tumors overexpress HER2 (+2 or +3 by immunohistochemistry or fluorescence in situ hybridization-positive) with or without coexpression of epidermal growth factor receptor 1 (EGFR).
- A daily oral dose of lapatinib 1,500 mg (6 tablets) was administered at the same time each day. Treatment was administered until disease progression or withdrawal due to unacceptable toxicity or other reasons (e.g., consent withdrawn, noncompliance).
- The QOL analysis population is limited to patients who entered the study after the QOL assessment was added during a study amendment.
- This study has shown lapatinib monotherapy to be clinically active in HER2+ IBC (Kaufman et al., 2008).

## METHODS

- QOL was assessed using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30 (EORTC QLQ C-30) (Version 3.0, 1997) and the Brief Pain Inventory-Short Form (BPI-SF) questionnaire.
- Questionnaires were administered on day 1 prior to initiating treatment and every 4 weeks thereafter.
- The EORTC QLQ-C30 is a 30-item self-reporting instrument that assesses 15 domains composed of 5 functional scales (physical, role, emotional, cognitive, social), 9 symptom scales (fatigue, nausea and vomiting, pain, dyspnea, insomnia, appetite loss, constipation, diarrhea, financial difficulties), and 1 global health status or QOL item.
- Each EORTC QLQ-C30 scale score ranges from 0-100. A higher score for functional scales indicates a healthy level of functioning, and a higher score for global health status/QOL indicates a high QOL. A high score on the symptom scale and on single items indicates a high level of symptoms or problems.
- An EORTC score change of 5 to 10 from baseline constitutes a little change; a score change of 10 to 20 constitutes a moderate change; and a score change greater than 20 indicates a substantial change (Osoba et al., 1998).
- The BPI-SF is a pain-specific instrument that includes 4 severity items measuring worst, least, average, and current pain. The BPI also contains 7 items assessing pain interference with general activity, mood, work, walking ability, relations, sleep, and enjoyment of life.
- The BPI-SF scoring was done by averaging the severity and interference subscales separately, producing two scores: pain severity score and overall pain interference score. The interference subscale was further separated into two components. An average of general activity, walking, and work, produced an activity-related dimension, and the average of relations, mood, and enjoyment constituted the mood-related dimension (Cleeland et al., 1996). Each score ranges from 0-10 with higher scores indicating a higher level of pain/interference.
- Baseline and change from baseline scores were summarized by visit for each of the 15 domains of the EORTC QLQ-C30 and 4 scores from the BPI-SF (pain severity, overall pain interference, activity-related pain interference, and mood-related pain interference).
- Analyses were performed on the HER2+ cohort (N = 126).

## RESULTS

- Because the QOL assessment was added after study launch, only 33 out of 126 patients completed the baseline questionnaires.
- Sixteen of the 33 patients (48%) had partial response to treatment and 9 had stable disease. Table 1 presents the number of patients completing the questionnaires at scheduled visits.
- We report the results only for the visits up to week 20 because very few patients completed the questionnaire after week 20.

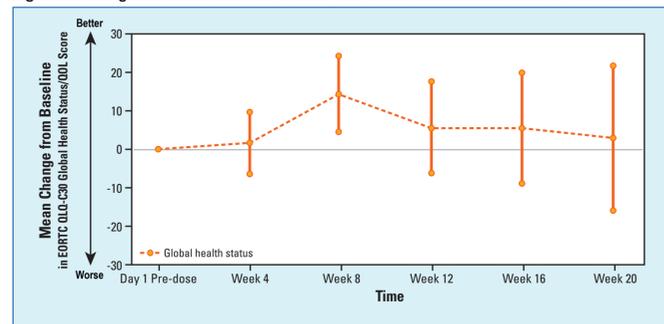
Table 1. Number of Patients Completing<sup>a</sup> the EORTC-QLQ-C30 or BPI-SF at Postbaseline Visits

Visit	Number (%) <sup>b</sup>
Baseline	33
Week 4	26 (79%)
Week 8	21 (64%)
Week 12	20 (61%)
Week 16	13 (39%)
Week 20	12 (36%)
Week 24	9 (27%)
Week 28	6 (18%)
Week 32	5 (15%)
Week 36	4 (12%)
Week 40	2 (6%)
Week 44	2 (6%)
Week 48	1 (3%)
Week 52	1 (3%)

<sup>a</sup>“Completing” was defined as completing at least one question in the EORTC QLQ-C30 or BPI-SF questionnaire.  
<sup>b</sup>Percentage shown is percentage of those who completed baseline questionnaire (n = 33).

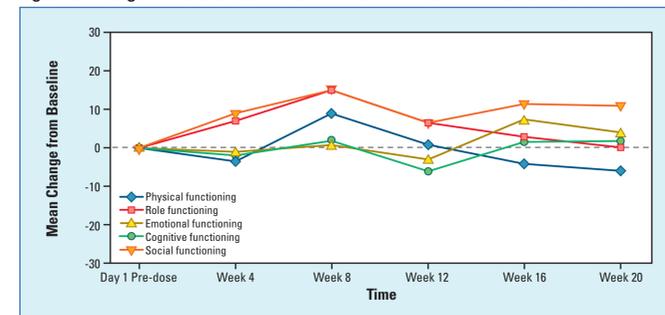
- For patients who stayed on treatment, mean scores for global health status were higher during the various scheduled visits than at baseline, suggesting improvement in the level of QOL (Figure 1).
- At week 8, moderate improvement (10-20 points) in average EORTC QLQ-C30 scores was observed for global health status (Figure 1), role functioning, and social functioning subscales (Figure 2).

Figure 1. Changes From Baseline for EORTC QLQ-C30 Global Health Status/QOL Scale<sup>a</sup>



<sup>a</sup>The bars indicate ± 1.96 standard errors.

Figure 2. Changes From Baseline for the Five EORTC QLQ-C30 Functional Scales



- Average scores for symptom domains (except diarrhea) were mostly lower during the various scheduled visits than at baseline, suggesting improvement in patient symptoms (Figures 3 and 4).
- The increase in the diarrhea score at week 4 indicated worsening of diarrhea after starting treatment.

Figure 3. Changes From Baseline for Five EORTC QLQ-C30 Symptom Scales

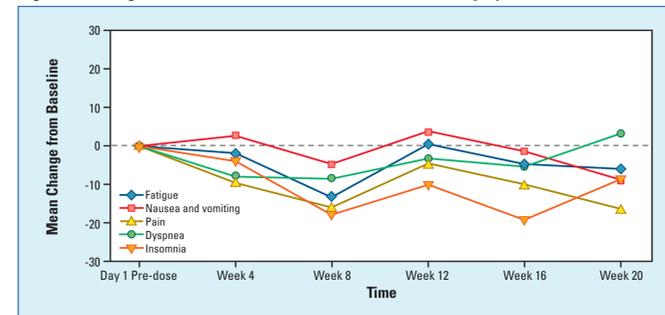
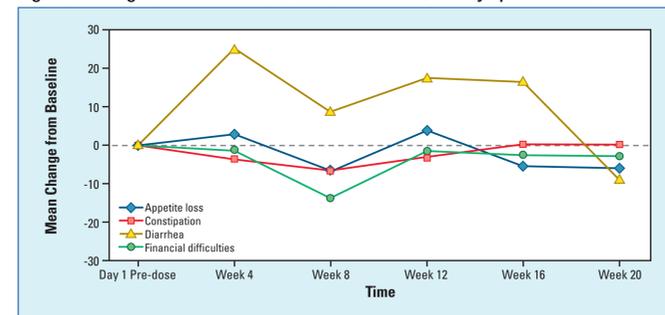
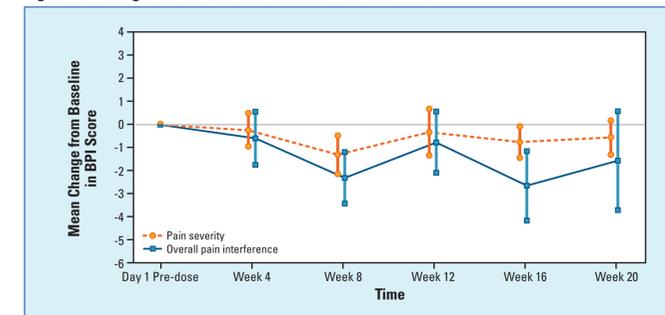


Figure 4. Changes From Baseline for Four EORTC QLQ-C30 Symptom Scales



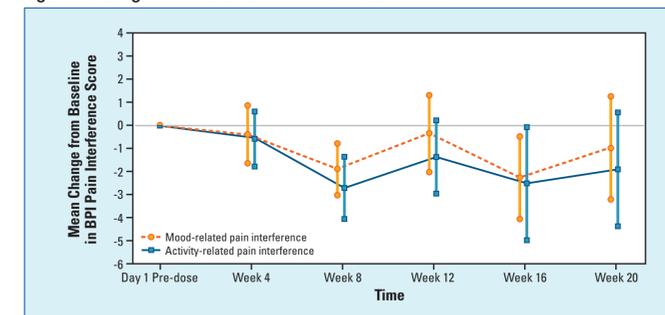
- The mean BPI-SF subscale scores indicated less pain and less pain interference experienced by the patients (Figures 5 and 6).
- The largest decrease on the mean pain severity score was observed at the week 8 visit. This finding is consistent with the result in the pain symptom subscale in EORTC QLQ-C30 (Figure 3).

Figure 5. Changes From Baseline for BPI-SF Pain Scores



Scores range from 0-10; a higher score indicates a higher level of pain/interference.

Figure 6. Changes From Baseline for BPI-SF Pain Scores



Scores range from 0-10; a higher score indicates a higher level of pain/interference.

## CONCLUSIONS

- Results suggest that lapatinib monotherapy may improve level of functioning/QOL and provide relief from most symptoms, including pain, in the short term.
- A limitation of this study is that only a small percentage of the intent-to-treat population completed any health outcome questionnaire, and those who did may or may not represent the study population.
- These QOL benefits add to the clinical improvement associated with lapatinib therapy in these heavily pretreated patients with an aggressive form of breast cancer.

## REFERENCES

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