Surgery of the Primary Tumor in De Novo Metastatic Breast Cancer Patients is Associated with Increased Survival: a Nationwide Population-Based Study by the Belgian Cancer Registry (BCR) and the Belgian Society of Medical Oncology (BSMO)

Background & Objectives

• In Western countries, about 50-60% of patients with breast cancer (BC) have distant synchronous metastases at diagnosis (de novo stage IV disease).1• Meta-analyses of retrospective observational studies suggested a survival benefit from primary BC surgery, especially in some specific subgroups of patients, such as women with estrogen receptor (ER)-positive or with low burden disease.1• Three prospective randomized clinical trials investigated the role of surgery on the primary tumor in patients with de novo metastatic BC.1,2,3 but reported conflicting results. The role of locoregional treatment such as surgery and/or radiotherapy of the primary breast tumor still remains highly debatable in this setting.4• We aimed to assess Overall Survival (OS) among de novo metastatic BC patients who underwent Surgery of the primary tumor within 9 months after diagnosis vs patients who did not, adjusting for prognostic factors.

Methods

• Study design: retrospective population-based study.
• Population: 2,627 women diagnosed with de novo metastatic BC from 2005-2014, with data obtained from the Belgian Cancer Registry and linked with administrative health-care databases, followed until 12-09-2014.
• 4-month landmark analysis excluding patients who died or were lost to follow-up after 9 months after diagnosis was performed.
• Baseline patients’ characteristics and treatment received were compared between Surgery or No Surgery groups using Chi² and t-tests.
• OS was estimated using Kaplan-Meier method and compared using log-rank test and adjusted Cox proportional hazards models.
• Subgroup analysis for OS and a sensitivity analysis only including patients who received surgery as an upfront treatment were performed.
• All tests were two-sided and confidence intervals (CIs) were reported at the 95% level. P-values <0.05 were considered statistically significant.

Results

• 1,985 patients were included in the 5-month landmark analysis, 654 in the “Surgery” and 1,331 in the “No Surgery” group.
• Patients receiving Surgery were younger, had better performance status (PS) at diagnosis and had fewer metastatic sites (Table 1).
• Median follow-up: 60.0 months (95% CI, 62.8-65.5).
• Median OS was 41.9 months in the “No Surgery” group vs 60.2 months in the “Surgery” group – adjusted hazard ratio (HR) for age, performance status (PS) at diagnosis, tumor subtype, T status and histological grade 0.59 (95% CI: 0.49-0.69) – figure 1.
• Survival differences were larger in patients with PS 0-1, ER+/HER2- or HER2+ (Figures 1 & 2).
• OS was poor among patients with PS 2-4, while absolute differences were small between patients with triple-negative BC.
• Sensitivity analysis showed similar results (Figures 3 & Table 2).

Conclusions

• Among de novo metastatic breast cancer patients surviving 29 months after diagnosis, those receiving surgery have longer subsequent survival compared to those who did not undergo surgery within 9 months of diagnosis.
• Survival differences were more pronounced among patients with good performance status (0/1) and with ER+/HER2- and HER2+.
• Surgery of the primary tumor may thus be discussed as a potential therapeutic intervention to selected breast cancer patients.

Disclosures

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References