

<https://doi.org/10.29289/259453942025V35S1013>

Breast surgery for metastatic breast cancer: an update of Cochrane systematic review

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Objective: To assess the effects of breast surgery on women with de novo metastatic breast cancer. **Methods:** The inclusion criteria were randomized controlled trials of women with de novo metastatic breast cancer that compared breast surgery plus systemic therapy versus systemic therapy alone on the databases: Cochrane Breast Cancer Specialised Register, PubMed Central and MEDLINE, and Embase (by OvidSP), on April 19, 2023, following the Cochrane handbook methodology. **Results:** This is an update of the Cochrane systematic review published in 2018, approved by the ethics committee and had its research protocol published in 2014. Five randomized clinical trials were selected, including 1,368 women with de novo metastatic breast cancer in the review. Breast surgery does not reduce mortality in women with de novo metastatic breast cancer (hazard ratio [HR] 0.89; 95% confidence interval [CI] 0.75–1.05, $p=0.09$). In subgroup analyses for women with luminal tumors, the addition of breast surgery to systemic treatment appears to increase overall survival, reducing the risk of death by 18% (HR 0.82; 95%CI 0.69–0.96). Breast surgery reduces the risk of local disease progression (HR 0.43; 95%CI 0.32–0.58) and does not improve metastatic disease control (HR 1.19; 95%CI 0.86–1.18). The quality of life of women undergoing locoregional treatment is similar to those undergoing systemic treatment alone in 24 months of follow-up (mean difference 2.74; 95%CI -2.22–7.70). **Conclusion:** Based on existing evidence from five randomized clinical trials, the impact of adding breast surgery to the management of de novo metastatic breast cancer is likely to enhance the local control of the disease. However, breast surgery does not improve overall survival and distant progression-free survival. Locoregional treatment does not seem to affect the quality of life for these women.

Keywords: secondary; breast cancer; breast surgery; breast-conserving surgery; mastectomy; lumpectomy; segmentectomy.