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[Intervention Review]

# Addition of drug/s to a chemotherapy regimen for metastatic breast cancer

Daria J Butters<sup>2</sup>, Davina Gheri<sup>1</sup>, Nicholas Wilcken<sup>3</sup>

<sup>1</sup>Systematic Reviews and Healthcare Assessment, NHMRC Clinical Trials Centre, The University of Sydney, Camperdown, Australia.

<sup>2</sup>PAREXEL International Ltd, Uxbridge, UK. <sup>3</sup>Medical Oncology, Westmead and Nepean Hospitals, Westmead, Australia

Contact address: Davina Gheri, Systematic Reviews and Healthcare Assessment, NHMRC Clinical Trials Centre, The University of Sydney, Locked Bag 77, Camperdown, NSW, 1450, Australia. [ghersid@who.int](mailto:ghersid@who.int).

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## ABSTRACT

### Background

The addition of a chemotherapy drug or drugs to an established regimen is one method used to increase the dose and intensity of treatment for metastatic breast cancer.

### Objectives

To identify and review the randomised trial evidence in the first line management of women with metastatic breast cancer that evaluates the addition of one or more chemotherapy drugs to an established regimen.

### Search strategy

We searched the specialised register maintained by the Editorial Base of the Cochrane Breast Cancer Group on 2nd August 2005 using the codes for “advanced breast cancer” and “chemotherapy”.

### Selection criteria

Randomised trials that evaluated a first line regimen of at least two chemotherapy drugs, and compared it to that same regimen plus the addition of one or more chemotherapy drugs in women with metastatic breast cancer.

### Data collection and analysis

We collected data from published trials and assessed studies for eligibility and quality. Two authors extracted data independently. We derived hazard ratios (HR) from time-to-event outcomes where possible, and a fixed effect model was used for meta-analysis. We analysed response rates as dichotomous variables and extracted toxicity data where available.

### Main results

We identified 17 trials reporting on 22 treatment comparisons (2674 patients randomised). Fifteen trials (20 treatment comparisons) reported results for tumour response and 11 trials (14 treatment comparisons) published time-to-event data for overall survival. There were 1532 deaths in 2116 women randomised to trials of the addition of a drug to the regimen and control (the regimen alone). There was no detectable difference in overall survival between these patients, with an overall HR of 0.96 (95% CI 0.87 to 1.07, P = 0.47) and no statistically significant heterogeneity. We found no difference in time to progression between these regimens, with an overall HR of

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0.93 (95% CI 0.81 to 1.07, P = 0.31) and no statistically significant heterogeneity. Addition of a drug to the regimen was favourably associated with overall tumour response rates (OR 1.21, 95% CI 1.01 to 1.44, P = 0.04) although we observed statistically significant heterogeneity for this outcome across the trials. Where measured, acute toxicities such as alopecia, nausea and vomiting and leukopenia were more common with the addition of a drug.

#### **Authors' conclusions**

The addition of one or more drugs to the regimen shows a statistically significant advantage for tumour response in women with metastatic breast cancer but the results suggest no difference in survival time or time to progression. The positive effect on tumour response observed with addition of a drug to the regimen was also associated with increased toxicity.

## **PLAIN LANGUAGE SUMMARY**

### **Addition of drugs to a chemotherapy regimen for metastatic breast cancer**

Advanced breast cancer is treatable but not curable. Women with advanced breast cancer have an average survival of about 2 years, although some women may live for many years beyond this. It is therefore important to investigate different chemotherapy treatment options. Chemotherapy can improve survival for women with metastatic breast cancer, but it can also cause toxic side effects. Of interest is whether there is any benefit to increasing the dose intensity of a regimen, particularly given the potential harm caused by more dose-intensive treatment. This review investigated the value of adding one or more chemotherapy drugs to a chemotherapy regimen. We found that the addition of chemotherapy drug/s to a regimen improved tumour response but there is insufficient evidence to determine if there is an impact on overall survival.