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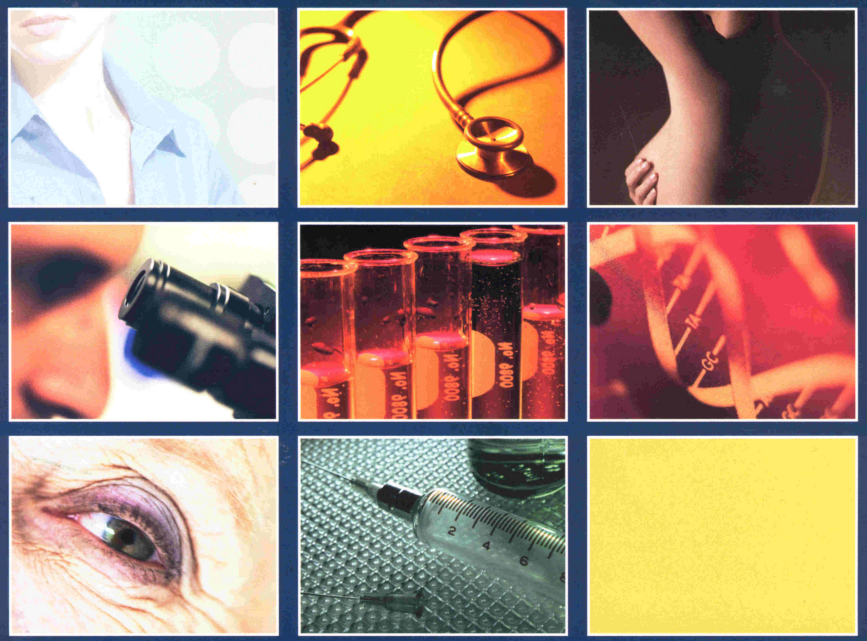
Breast Cancer

Research and Treatment



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The initial response of circulating epithelial tumor cells to primary systemic chemotherapy in breast cancer is highly predictive for final tumor reduction and outcome.

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Background: Having demonstrated in a previous report that the response of CETC during the first cycles of primary (neoadjuvant) chemotherapy perfectly reflects the response of the tumour, in the present study the changes in cell numbers during subsequent cycles and their possible impact on the therapy's outcome were examined.
Patients and methods: In 58 breast cancer patients CETC were quantified during therapy with either EC (epirubicin/ cyclophosphamid) or dose intensified E (epirubicin) followed by taxane, with or without trastuzumab, and subsequent CMF (cyclophosphamid/methorexate/ fluorouracil)
Results: CETC numbers declined more than tenfold (good response) in 65% (her2/neu-negative) and 55% (her2/neu-positive) of patients during EC, and in 60% during dose intensified E, respectively, followed by an increase of CETC in all patients. CETC remained increased, decreasing only when adding CMF. A good initial response correlated with Estrogen-receptor negativity, a poor response with early distant relapse ($p < 0{,}0001$, hazard ratio = 11,91).
Conclusion: Response of CETC already during the first cycles of neoadjuvant treatment predicts the final response of the tumour. Hitherto unknown effects of the release of tumour cells during therapy further our understanding of tumour-blood interaction and may improve access of agents like antibodies to cells. The impact on the further course of disease remains to be evaluated.