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Correlation of in vitro cytotoxicity and clinical response to chemotherapy in ovarian and breast cancer patients.

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Source

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Abstract

During the last years, a number of assays have been developed aiming at predicting the most effective chemotherapy regimen for each individual, avoiding possible toxicity of ineffective drugs. In the present study we have used an in vitro chemosensitivity/chemoresistance assay in order to evaluate cytotoxic treatment in ovarian and breast cancer patients. The assay was applied in 77 ovarian and breast cancer samples and the observed in vitro responses to various chemotherapeutic drugs or combinations of drugs were then correlated to the in vivo responses and the overall clinical data of the examined patients. Direct comparison was possible for 25 cases. The overall positive predictive value of the assay was 50% and the negative predictive value was 57%. However, it was observed that the positive predictive value for ovarian patients was 69% and that the negative predictive value for breast patients was 100%. Therefore this study indicates that although in vitro chemosensitivity/chemoresistance is a valuable assay, further analysis and implications of other factors are required for a general evaluation of cytotoxic treatment for patients with ovarian and breast cancer.