Title: New Insights in the Era of Clinical Biomarkers as Potential Predictors of Systemic Therapy-Induced Cardiotoxicity in Women with Breast Cancer: A Systematic Review

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Summary: Our systematic review entitled "New insights in the era of clinical biomarkers as potential predictors of systemic therapy-induced cardiotoxicity in women with breast cancer", is an extensive literature review of human clinical studies conducted during the period 2013-2023, each of which investigate current and/or newly identified biomarkers as predictors and/or detectors of cardiotoxicity in patients treated with breast cancer therapy. The current state of the art in the management of cardiotoxicity involves the use of traditional biomarkers, which, however, hold certain limitations in the ability to predict and/or detect cardiotoxicity at the early stages prior to permanent, irreversible cardiac failure. Our systematic review significantly adds on the existing knowledge on the current and/or newly investigated biomarkers that have the potential to identify patients at higher risk to develop cardiotoxicity during and/or prior to initiation of cancer therapy. This study could inform ongoing and/or future clinical studies on promising biomarkers currently available for validation hence expanding the panel of biomarkers for assessing cardiotoxicity in breast cancer patients. This will allow the prompt and accurate risk stratification of patients that are susceptible for cardiotoxicity contributing to improved patient's overall survival and quality of life and ultimately to reduced healthcare costs. Towards this direction, the authors of this study aim to explore the utility of novel biomarkers and develop a risk stratification model for the prediction and/or early detection of cardiotoxicity in breast cancer patients through the CardioCare project funded by Horizon 2020 (945175).

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[1] "et al." is an abbreviation for the Latin phrase "et alia" which translates to "**and others**" in the English language.