

Research Project

B-CaSS - Breast Cancer Symptom Study: Cancer-related cognitive impairment

Third-party funded project

Project title B-CaSS - Breast Cancer Symptom Study: Cancer-related cognitive impairment

Principal Investigator(s) [Katapodi, Maria](#) ;

Co-Investigator(s) [Conley, Yvette](#) ; [Miaskowski, Christine](#) ;

Organisation / Research unit

Departement Klinische Forschung

Department

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Status Completed

Early detection of breast cancer and advances in treatment have considerably increased the probability of survival for patients. However, patients who receive advanced treatments also experience short and long term side effects. Approximately 75% of breast cancer patients experience cancer related cognitive impairment (CRCI) prior to, during, or after treatment. CRCI remains a significant long-term problem for about 35% of breast cancer survivors. CRCI may interfere with patients' self-care activities, such as ability to adhere to treatment, manage side effects, and re-integrate into the workforce, which can have a negative impact on their quality of life. Current studies provide conflicting evidence about subgroups of breast cancer patient who might be at higher risk for experiencing CRCI. Little is known about the contribution of genetic variations in the catecholaminergic and serotonergic pathways in the development and severity of CRCI. Finally, although acupuncture is being recommended for the management of hot-flashes and pain in cancer patients, there is little evidence that acupuncture can contribute to the management of CRCI.

The specific aims of this study are to:

- Identify subgroups of breast cancer patients who are at higher risk for CRCI (accounting for demographic characteristics and clinical predictors) during the first 6 months after surgery
- Explore associations between catecholaminergic and serotonergic genes with CRCI subgroup membership
- Evaluate the efficacy of acupuncture to reduce CRCI

The aims of the study will be addressed with quantitative, prospective, longitudinal, observational data collected in the U.S. regarding symptom burden among breast cancer patients prior to surgery and up to 60 months post systemic treatment (Aims 1 and 2); Aim 3 will be addressed with data collected in Germany for a prospective, single blind, randomized, controlled, multi-group comparison trial, which examined the efficacy of acupuncture for alleviating multiple symptoms in breast cancer patients receiving radiotherapy.

Studies from all over the world report CRCI in breast cancer patients, since treatment protocols are implemented almost identically in western countries. This project will bring the long-term management of CRCI among breast cancer patients to the forefront of personalized care, and provide a better understanding of possible contributions of genetic variations of common neurotransmitters (i.e., catecholamines and serotonin) increased CRCI burden. A non-pharmacological intervention (i.e., acupuncture) may prove efficacious and effective for alleviating CRCI. The study will contribute to precision medicine research in Switzerland.

Financed by

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Add publication**Published results**

4617629, Kohler, Carmen; Chang, Ming; Allemann-Su, Yu-Yin; Vetter, Marcus; Jung, Miyeon; Jung, Misook; Conley, Yvette; Paul, Steven; Kober, Kord M.; Cooper, Bruce A.; Smoot, Betty; Levine, Jon D.; Miaskowski, Christine; Katapodi, Maria C., Changes in Attentional Function in Patients From Before Through 12 Months After Breast Cancer Surgery, 0885-3924, Journal of Pain and Symptom Management (JPSM), Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

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