Change in mammographic density of the contralateral breast as a measure of therapy response in breast cancer treatment

Faculty:
Assoc Professor Mikael HARTMAN
Email: mikael_hartman@nuhs.edu.sg

Project Description:

Breast cancer is the most common female cancer worldwide. In Singapore, the promotion of disease awareness and a nation-wide screening programme has led to earlier detection and low mortality. However, with Westernization, the growing trend in incidence has made clinical management of breast cancer a healthcare priority. Current approaches to adjuvant therapy allocation rely largely on a physician’s assessment of the patient’s risk of recurrence as well as the hormone receptor and HER2 status of her tumour. However, it is difficult to obtain timely and accurate information on patient response. Prognosticators do not accurately reflect an individual’s response to adjuvant therapy. While genetic approaches show great promise in predicting prognosis, its clinical utility remains limited in view of high costs and conflicting published data.

Therefore, an easily accessible and cost-effective tool needs to be used in the meantime. This study aims to determine the tripartite relationship between therapy, contralateral breast density and mortality. We hypothesize that therapy-induced reduction of breast density will decrease one’s risk of disease-specific mortality. The five-year relative survival rates among a historical cohort of patients while undergoing adjuvant therapy will also be contrasted by their change in breast density, adjusting for hormonal and reproductive covariates. Early detection of therapy failure will allow timely re-allocation of existing resources and minimize patient exposure to undesirable side-effects of unnecessary or inappropriate medication.