A Pilot Study to Examine the Feasibility of Personalizing Treatment Options of Elderly Breast Cancer Patients through Individual Risk Profiling

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Introduction
The escalation of breast cancer incidence and aging population have resulted in an increasing trend of breast cancer patients in Hong Kong. It is a particular challenge to decide whether surgery should be part of the optimal treatment for this group of patients. An avoidable operation and its potential complications not only cause older patient suffering, but also incur healthcare burden and hospital costs. Studies have shown that for frail elderly with limited life expectancy, primary hormonal therapy alone may be appropriate with equivalent survival. Patients with longer life expectancy on the other hand may have survival benefit from surgery and subsequent therapy. A comprehensive geriatric assessment (CGA), which is a multidimensional interdisciplinary evaluation of an elderly's medical, psychological and functional capability, would be useful to predict the survival probability and assist the decision making for the optimal management.

Objectives
A pilot study to examine the feasibility of conducting CGA in elderly breast cancer patients

Methodology
Consecutive new patients, who are aged 70 or above with a diagnosis of non-metastatic stage I to III breast cancer, were recruited from July to December 2017. CGA was conducted. The decision of treatment was independently made regardless of the study assessment.

Result
Twenty-four patients were recruited during the study period. Nineteen of them received surgical treatment whereas five received non-surgical treatment (four primary hormonal therapy and one primary radiotherapy). Worse functional status
with higher Eastern Cooperative Oncology Group (ECOG) score (p=0.028), higher degree of dependence as assessed by the Barthel Index of Activities of Daily Living (p=0.015) and Instrumental Activities of Daily Living (p=0.018), cognitive impairment as determined by the Hong Kong version of Montreal Cognitive Assessment (HK-MoCA) (p=0.006), and very high Charlson comorbidity index (>5) (p=0.047) were significantly related to non-surgical treatment. Other assessments including Geriatric Depression Scale Short Form 15, body mass index, American Society of Anaesthesiologists (ASA) grade, polypharmacy and geriatric syndromes were not found to be significant.

This pilot study confirmed the feasibility in conducting CGA to personalize treatment options for older breast cancer patients. A larger prospective trial is needed to validate the impact of each CGA domain in relation to the treatment outcome.