

Ki-67 as a Predicting Factor of Neoadjuvant Chemotherapy Clinical Response for Local Advanced Breast Cancer in Indonesia

Diani Kartini¹, Ahmad Kurnia¹, Yasser Jayawinata², Levina Chandra Khoe³, Kevin Varian Marcevianto²

¹Division of Surgical Oncology, Department of Surgery, Dr. Cipto Mangunkusumo General Hospital, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia

²Department of Surgery, Dr. Cipto Mangunkusumo General Hospital, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia.

³Department of Community Medicine, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia

Abstract

Background: Breast cancer is one of the most common health problems in Indonesia where 42.7% of patients have been diagnosed with Local Advanced Breast Cancer (LABC). Neoadjuvant chemotherapy (NAC) is aimed to decrease the tumor size to be operable and decrease mortality. Ki-67 is highly expressed in the cell proliferation phase, while chemo-therapy agents work effectively by targeting this proliferation. This study evaluates the utility of Ki-67 in LABC patients of the Asian-Indonesian population.

Methods: This is a retrospective cohort study. Ki-67 data was from the medical record based on the immunohistochemistry staining with >20% cut off point. Clinical response was measured based on the WHO criteria after the third chemotherapy cycle.

Result: The majority of subjects in this study were 50 years old, with T4 tumor size, N1 lymph node involvement, NST histopathological type, grade 2, ER-positive, PR-positive, HER2-negative, high Ki67 expression, and luminal B subtype. 52.1% of all subjects showed 'poor' clinical responses to NAC. There was no significant association between subjects' characteristics and the NAC Clinical response. Moreover, there was no significant association between Ki-67 and chemotherapy clinical response ($p=1$).

Conclusion: There is no statistically significant association between Ki-67 expression and NAC clinical response of LABC patients in Indonesia.

Key words: Ki-67, neoadjuvant chemotherapy, local advanced breast cancer, clinical response, Indonesia