UNIVERSITI TEKNOLOGI MARA

THE EFFECT OF PRE-OPERATIVE NEUTROPHIL-LYMPHOCYTE RATIO ON OUTCOME POST CORONARY ARTERY BYPASS GRAFT(CABG) SURGERY

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MMed

May 2019

AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Postgraduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

BACKGROUND: Neutrophils-Lymphocyte ratio (NLR) is an emerging biomarker of inflammation to predict major cardiovascular adverse outcomes, particularly in cardiovascular surgeries.

OBJECTIVES: This study aimed to determine the association between pre-operative Neutrophil-Lymphocyte Ratio (NLR) to outcomes post-coronary artery bypass graft (CABG) surgery.

METHODS: A retrospective cohort study of 137 patients who undergone coronary artery bypass graft (CABG) surgery in the Cardiothoracic department, Specialist Centre, UiTM from Jun 2013 to December 2017 was conducted. Data were extracted from medical records and laboratory databases. The statistical analysis was performed with simple logistic regression coefficient test, by using the Statistical Package for Social Sciences software (IBM SPSS 22.0 for Windows

RESULTS: Patients with higher level of pre-operative NLR >2.5 had significantly longer ICU stay of more than 3 days (Odd Ratio (OR) (95%CI):0.13(0.04,0.39), p<0.001, and longer hospitalization more than 7 days (OR (95%CI: 0.29(0.14,0.62), p=0.001).However, there was no association between pre-operative NLR and mortality rate.

CONCLUSIONS: Elevated pre-operative NLR predicted statistically significant higher patient morbidity and mortality rates. The NLR is also a reliable and inexpensive biomarker, easily available on routine full blood count test. It can be incorporated as part of a management algorithm for patients undergoing cardiac surgery.

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