

## High Preoperative Recipient Neutrophil-Lymphocyte Ratio Is Associated With Postoperative Creatinine Level After Kidney Transplantation

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### Abstract

*Objective:* It is known that neutrophil-lymphocyte ratio (NLR) is an indicator of inflammatory status. The inflammatory response plays a major role in the reaction of ischemic injury and reperfusion to kidney grafts. We studied the effect of high preoperative in recipient in association to the risk of high creatinine levels after kidney transplantation.

*Method:* In this retrospective study, 33 patients were enrolled in this study between 2017 and 2020 in Sardjito General Hospital in Yogyakarta. In the recipient patient, we observed the preoperative NLR and compared it with the postoperative creatinine level. The data were compared and analyzed by Wilcoxon and Spearman.

*Result:* The results of this study showed that the mean of preoperative NLR in these 33 patients was 4.17, with a range of 1.52-13.8. The mean of postoperative creatinine levels was 10.51, with a range of 0.67-8.95). The postoperative creatinine levels were higher in patients who had low preoperative NLR, and statistically ( $P=0.00$ ). In addition, the correlation is weak and had a positive correlation direction ( $r=0.379$ ), this means that when the preoperative NLR is higher, the postoperative creatinine rate is also higher.

*Conclusion:* Our study showed that there is a significant association between preoperative NLR and postoperative creatinin levels in recipient. It is showed when the preoperative lymphocyte neutrophil ratio is higher, the postoperative creatinine rate is also higher. This study demonstrated that NLR can be used as predictor factor for determining postoperative transplantation complications.

**Keywords:** Neutrophil-lymphocyte ratio, kidney transplantation