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## Neutrophil-to-Lymphocyte Ratio Predicts Acute Cellular Rejection in Living Donor Liver Transplantation

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**Introduction** : The neutrophil-to-lymphocyte ratio (NLR) predicts poor prognosis in several conditions including transplantation. The aim of the study was to evaluate the effectiveness of NLR in prediction of ACR after living donor liver transplantation (LDLT).

**Methods** : This was a retrospective study of patients who underwent liver biopsy after LDLT from 2009 to 2017. The NLR was calculated 4 weeks before transplantation, at the time of transplantation, and immediately prior to liver biopsy. The correlations between NLR values and the incidence of ACR were investigated.

**Results** : Eighty-one patients were reviewed (ABO-compatible (ABOc) = 66, ABO-incompatible (ABOi) = 15)). ACR occurred in 19 (28.8%) ABOc LDLT. ACR occurred within 1 month after transplantation in 15 (78.9%) ABOc LDLT. There was no significant difference 4 weeks before transplantation (ACR: no-ACR =  $2.54 \pm 1.15 : 3.68 \pm 2.08$ , P = 0.06) and transplantation (ACR: no-ACR =  $20.53 \pm 13.39 : 17.73 \pm 8.74$ , P = 0.06). However, NLR immediately prior to biopsy was significantly lower in the ACR group (ACR:no-ACR =  $5.82 \pm 3.42 : 28.66 \pm 22.66$ , P < 0.001). Liver function tests (LFT) in the ACR and no-ACR groups in ABOc LDLT were not significantly different. For prediction of NLR for ACR within 1 month in ABOc, the ROC revealed an AUC of 0.969. The NLR cut-off of 9.67 had a sensitivity 94.1% and specificity 86.7%.

**Conclusions** : NLR could be a non-invasive predictor of subclinical early ACR in ABO-compatible LDLT.

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