Introduction:
To investigate the predictive value of peripheral blood neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) on in-hospital mortality in patients with spontaneous circulation recovery after cardiac arrest.

Methods:
A retrospective analysis was made of 30 patients who recovered from cardiac arrest in our hospital from April 2012 to November 2018 and were admitted to the intensive care unit for more than 24 hours. They were divided into survival group and death group according to the outcome of discharge. The dynamic changes and differences of NLR and PLR in 24 hours and 48-72 hours after admission to ICU between the two groups were analyzed and compared. Multivariate analysis and ROC curve were used to explore the predictive value of NLR and PLR for in-patient mortality.

Results:
Compared with the survival group, PLR in the dead group was significantly lower within 24 hours of admission to the intensive care department (P < 0.05), while NLR in 48-72 hours was significantly higher (P < 0.05). The NLR of surviving group was significantly lower than that of 24 hours (P < 0.05), while the NLR and PLR of death group were not significantly different (P < 0.05) from that of 24 hours (P < 0.05). Multivariate logistic regression analysis and ROC curve showed that NLR of 48-72 h in ICU was an independent risk factor for predicting in-patient mortality, and had high sensitivity and specificity in predicting death outcomes.

Conclusion:
Neutrophil to lymphocyte ratio, platelet to lymphocyte ratio can help to judge the outcome of patients with cardiac arrest and recovery of autonomic circulation after cardiopulmonary resuscitation.