

Impact of Intraoperative Norepinephrine Support on Pediatric Living Donor Liver Transplantation Outcomes

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Abstract

Aim Norepinephrine (NE) is often administered during the perioperative period of liver transplantation. However, its role and safety profile have yet to be evaluated in pediatric living donor liver transplantation (LDLT). The aims of this study was to analyze the effect of intraoperative NE infusion on recipients' survival following pediatric LDLT. Methods A retrospective study of 430 pediatric patients receiving LDLT between 2014 and 2016 at Renji Hospital was conducted. We evaluated patient survival among recipients who received intraoperative NE infusion (NE group, 85 recipients) and those that did not (Non-NE group, 345 recipients). Results The number of children aged over 24 months and weighing more than 10 kg in NE group was more than that in Non-NE group. And children in NE group had longer operative time, longer anhepatic phase time and more fluid infusion. After multivariate regression analysis and propensity score regression adjusting for confounding factors to determine the influence of intraoperative NE infusion on patient survival, the NE group had a 169% more probability of dying. Although there was no difference in mean arterial pressure changes relative to the baseline between the two groups, we did observe increased heart rates in NE group compared with those of the Non-NE group at anhepatic phase ($P=0.025$), neohepatic phase ($P=0.012$) and operation end phase ($P=0.017$) of the operation. Conclusion Intraoperative NE infusion was associated with poor prognosis for pediatric LDLT recipients. We recommend the application of NE during pediatric LDLT should be indicated carefully to avoid potentially hazardous effects.

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