E59

The Role Of Extracorporeal Membrane Oxygenation As Salvage Therapy In Adult Liver Transplant Recipients: A High-volume Transplantation Center Experience

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Background : Extracorporeal membrane oxygenation (ECMO) has been used sporadically in adult orthotopic liver transplantation (OLT) recipients to treat acute cardiopulmonary failure. This retrospective study aimed to identify OLT patients benefiting from ECMO support.

Methods : We reviewed 109 OLT patients who received ECMO support for more than 24 hours from January 2007 to December 2020.

Results : Twelve recipients (11.01%) experienced reapplication of ECMO after weaning during the same hospitalization period. A total of 57 recipients (52.29%) were successfully weaned from ECMO, but only 47 (43.1%) survived until hospital discharge. The 109 enrolled OLT recipients who received ECMO support during the perioperative period had a 1-year survival rate of 42.6%. Multivariate analyses identified ECMO treatment prior to 2011 (p=0.045), septic shock as the indication for ECMO treatment (p=0.001), and a total bilirubin level ≥5mg/dl (p=0.024) as significant and independent risk factors associated with in-hospital mortality.

Conclusions : The outcomes of adult OLT recipients treated with ECMO were acceptable in terms of weaning success and survival until hospital discharge. This study confirmed that ECMO treatment for recipients with septic shock and elevated bilirubin levels may be associated with higher in-hospital mortality and demonstrated the importance of a multidisciplinary ECMO team approach.

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