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Salvage Therapy Of The Extracorporeal Membrane Oxygenation In Liver Transplant Recipient With Severe Acute Respiratory Distress Syndrome During Perioperative Period

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Background : Acute respiratory distress syndrome(ARDS) can be a life-threatening complication and usually requiring Extracorporeal Membrane Oxygenation(ECMO) support. Combined pneumonia and infection cause higher mortality rate in immunocompromised patients in these circumstance. This study aims to evaluate the efficacy and clinical outcomes of ECMO in liver transplant(LT) recipients who develop severe ARDS during the perioperative period.

Methods : From January 2008 to December 2023, patients who underwent LT at Asan Medical Center and required ECMO support due to ARDS within 30 days postoperatively were retrospectively reviewed. The study outcomes included successful weaning from ECMO and patient survival

Results : During the study period, there were 6742 liver transplantations (LT) performed, with 74 patients requiring ECMO support due to ARDS. Of these, 28 developed ARDS within 30 days post-LT. 17 patients (17/28, 60.71%) needed intensive care preoperatively, with mean MELD score of $25.4\pm11.6(6-40)$. Acute kidney injury necessitating continuous renal replacement therapy occurred in all patients during ECMO. 22 veno-venous and 6 veno-arterial ECMO mode were applied in these patients. Pneumonia was present in 13 patients (46.4%), and 6 patients (21.4%) had pre-existing lung parenchymal disease such as interstitial lung disease. Of the 28 patients, 17 (60.71%) were successfully weaned off ECMO, with 13 patients (46.4%) discharging from hospital without complications.

Conclusions : The study indicates a high mortality rate in immunocompromised patients who develop ARDS in the immediate postoperative period. However, ECMO support combined with effective infection control can be a lifesaving treatment in LT recipients

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