The use of molecular adsorbent recirculating system and single-pass albumin dialysis as liver support: The experience of the Centro Medico Nacional 20 de Noviembre

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Introduction and Objectives: Acute on chronic liver failure (ACLF) describe a state of severe liver dysfunction. Extracorporeal liver support (ECLS) is a system that performs filtration and detoxification functions within an external device with the goal of reducing mortality or bypassing liver transplantation. The objective was to evaluate the effects of the molecular absorbent recirculating system (MARS) and single-pass albumin dialysis (SPAD) in patients with acute-on-chronic in a tertiary Mexican hospital.

Materials and Patients: : Retrospectively, a search was performed in the internal electronic system with patients who required MARS or SPAD from 2016 to 2022.

Results: The results show a total of 18 patients with the diagnosis of acute on chronic liver failure who received treatment with MARS or SPAD. It was observed that 50% of the patients were women, with a mean age of 37.8 years.

The cause of the chronic liver disease was autoimmune hepatitis in 5 cases, 5 primary biliary cholangitis, 3 as cryptogenic cirrhosis, 2 viral, 1 hepatocarcinoma, 1 metabolism errors and 1 graft rejection. Within the support therapies used, it was found that 28% of the patients received MARS and 72% received SPAD, with a total of 49 sessions.

Clinically 77% of patients experienced improvement in hepatic encephalopathy and 66% improvement in renal function. At the end of the 90-day follow-up period, an overall survival rate of 52.94% was recorded.

Conclusions: These findings support the effectiveness of MARS and SPAD as viable ECLS options in patients with ACLF. The positive results in the improvement of encephalopathy and renal function, together with the survival rate, indicate the potential of these therapeutic approaches in the management of patients in this clinical setting. The sample size was small, which may affect the generalizability of the results.

Ethical statement

The protocol was registered and approved by the Ethics Committee. The identity of the patients is protected. Consentment was obtained.

Declaration of interests

None

Funding

None

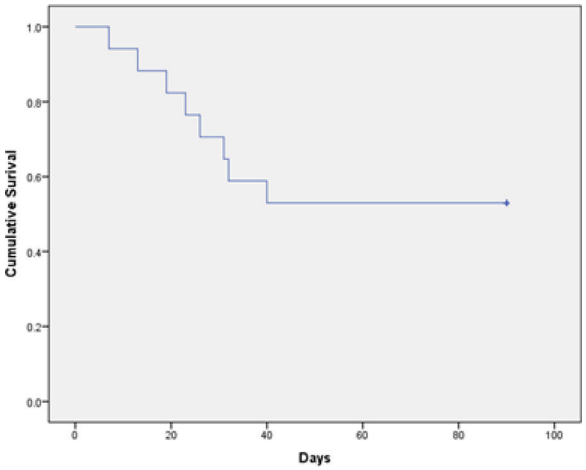

Figure 1. Cumulative survival of patients treated with extracorporeal liver support.

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Hepatitis C Virus NS5A and Core protein induce hepatic stellate cells activation promoting fibrosis-related gene regulation on hepatocytes.

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Introduction and Objectives: Chronic HCV infection leads to the development of liver fibrosis mediated by intercellular communication between hepatocytes and hepatic stellate cells (HSCs). The diverse molecular pathways involved in the development of fibrosis in hepatocytes derived from HSC activation induced by viral proteins remain to be fully determined. Our aim is to determine differentially expressed genes associated with fibrotic processes in hepatocytes (Huh7) that express the HCV NS5A or Core protein during co-culture with HSC (LX2).

Materials and methods: Huh7 cells were transfected to express NS5A or Core proteins and co-cultured with HSC-LX2 cells. Viral protein expression and expression of TGFβ1, Col1, and aSMA was