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MARS SYSTEM FOR ACUTE LIVER FAILURE DUE TO HEPATITIS A, COMPLICATED BY ACUTE RENAL FAILURE. CASE PRESENTATION.

M. SEBASTIÁN-DÍAZ, J. ESTEFAN GARFÍAS, R. ZARAGOZA RODRÍGUEZ, P. VISOSO PALACIOS. INTENSIVE CARE NEPHROLOGY SERVICES, HOSPITAL CENTRAL SUR, PEMEX, MEXICO CITY.

Case presentation

Acute liver failure is characterized by coagulopathy and encephalopathy, which may progress and cause multi-organ failure, including death, within eight weeks following the presentation of symptoms. This condition requires support for recovery or to serve as a bridge to liver transplant. The MARS system is an option for treating this type of condition. A 26-year-old man with weakness, adynamia, vomit, and abdominal pain was admitted in August 2010. Patient was administered acetaminophen and quinolones for suspected infectious gastroenteritis. Five days later the patient showed at the emergency room and was admitted to the hospital for various tests and diagnosed with infection due to hepatitis A, IgM positive. His symptoms were treated, and he was discharged 24 hours later. He returned three days later, and due to elevated hepatic enzymes and oral intolerance, he was transferred to the ICU and administered hemodialysis due to overhydration, anuria, metabolic acidosis, and nitrogen retention. Due to lack of response, he was transferred to our unit, where the diagnosis was confirmed: hepatitis A seropositive and hepatitis B, C, CMV, and Epstein-Barr negative

. Upon admission, he presented bleeding at the catheter insertion site and thrombosis of the right basilic vein. Anticoagulation was performed using LMWH, then orally. On September 17, once coagulation times had improved, the catheter was removed and relocated to left jugular level. The Molecular Adsorbents Recirculating System (MARS) was used. Patient received five eight-hour sessions with hemodialysis, bicarbonate buffer, UF 500 mL, QB 200 mL/min, QD 500 mL/min, 600 mL of human albumin 20% with no complications. Liver function tests showed improvement and a decrease in bilirubin levels after each session. The patient began urination after the first session (0.5 mL/kg/hr) and entered into the polyuric phase eight days later, recovering full renal function three months later. The patient presented nosocomial pneumonia caused by Staphylococcus Epidermidis and was administered Meropenem with an adequate response.

Conclusions

Albumin causes the amalgamation of a large amount of substances implied in the development ov hepatorenal syndrome, hepatic encephalopathy, and hemodynamic instability, and the MARS system has been associated with improved bilirubin and ammonia levels and, therefore, improved encephalopathy and hepatic regeneration. Although there are no studies that absolutely support this type of procedure, it is evident that its use and multidisciplinary support make the pathology to present fewer complications and a better outcome

Contact
janette.estefan@pemex.com

mariosebastian01@gmail.com