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Molecular adsorbent recirculating system (MARS) treatment in a patient with acute fatty liver of pregnancy; a case report

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Case Study: Acute fatty liver of pregnancy is a rare disorder (1/7,000) unique to pregnancy that is characterized by microvesicular fatty infiltration of hepatocytes. Patients with acute fatty liver of pregnancy carry a bad prognosis. Morecular absobents recirculation system (MARS) has shown beneficial effects on hepatic encephalopathy, hepatorenal syndrome and hyperbilirubinemia. Thus, MARS has been suggested as a potential bridge therapy to sustain liver function in patients awaiting liver transplantation. However, to the best of our knowledge, only one case of MARS treatment has been documented in a patient with acute fatty liver of pregnancy.

We report the case of a previously healthy 28-year-old woman in her first pregnancy with no medical records until the 36th pregnancy week. She was admitted to the hospital due to jaundice and generalized edema. On admission day, laboratory tests revealed acute kidney injury (serum creatinine of 1.84 mg/dL) and acute hepatic failure (AST 63 IU/L, ALT 85 IU/L, total bilirubin 9.94 mg/dL, direct bilirubin 6.67 mg/dL, and ammonia 46.6 umol/L). Abdominal ultrasonography showed that pericholecystic edema and acute hepatic dysfunction. To maintain the decreased liver function, we decided to start MARS (Gambro) and continuous renal replacement therapy (CRRT). However, when we tried to start MARS, she had a normal vaginal delivery. Immediately after the delivery, we started MARS and CRRT treatment. After the first cycle of MARS, laboratory tests revealed AST 39 IU/L, ALT 38 IU/L, total bilirubin 5.66 mg/dL, direct bilirubin 3.89 mg/dL and ammonia 36.6 umol/L. Because of hypotension and decreased urinary output, only CRRT treatment was performed for 7 days. On hospital day 23, she was discharged and 1 month later she visited out patient department. She had a stable general condition and normal hepatic and renal function.