LETTER TO THE EDITOR

Treatment of central pontine myelinolysis with plasmapheresis and immunoglobulins in liver transplant patient

doi:10.1111/j.1432-2277.2007.00608.x

Central pontine myelinolysis (CPM) is a central nervous system (CNS) disorder that affects mainly the brainstem. The etiology and pathogenesis of CPM remain unclear, though rapid correction of hyponatremia seems to be the main factor, which triggers this syndrome with signs of dysarthria, paraparesis or quadriplegic [1]. CPM is associated with liver transplantation [2]. Magnetic resonance imaging confirms the diagnosis of CPM. The disease has a poor prognosis and no effective treatment has been established. Bibl [3] successfully treated three women with plasmapheresis (PS), who were suffering from severe CPM. All patients had undergone correction of severe hyponatraemia 3–5 days prior to neurological symptoms. Rodriguez [4] showed in an animal study, that intravenous application of immunoglobulins (IVIG) is capable of promoting a myeline repair in extensive primary demyelination of the spinal cord in mice. However, to the best of our knowledge, the combination of PS and IVIG in a liver transplant patient with CPM has not been reported so far.

A 64-year-old man with alcohol induced cirrhosis underwent an uneventful liver transplantation (LT). He was extubated on the first postoperative day (POD) and discharged from the ICU on the 4th POD. The clinical course of the liver graft during the whole hospital stay was regular, without signs of rejection, and on 5th POD, all values (bilirubine, transaminases, coagulation profile) were within regular limits. On the 13th POD he was readmitted to the ICU due to lethargy, dysarthria, dysphagia and flaccid tetraplegia. The patient’s trachea had to be intubated for artificial ventilation. Magnetic resonance imaging (MRI) showed lesions in the central pons on T2-weighted images suggesting a CPM. Blood test during operation, first and second POD showed an increase in sodium from 136 mmol/l to 156 mmol/l and then return to baseline in the following four days. PS started with daily session over 6 days, with a total of 24 000 ml plasma exchange with albumin. As there was only a slight improvement in tetraplegia, we conducted an IVIG therapy (0.4 g/kg body weight/day; Sandoglobulin®, ZLB Behring, Marburg, Germany) over a period of 5 days. Under this treatment, dysarthria and dysphagia improved. The patient was able to talk and eat. However, the clinical course was complicated because of a methicillin resistant Staphylococcus aureus (MRSA) sepsis. Under linezolid therapy, the sepsis could be controlled within 3 days and the patient recovered. After 40 days on the ventilator, the patient could be extubated and discharged from the ICU 1 week later. Two months after the occurrence of neurological symptoms, the patient was able to walk and had only mild dysarthria and ataxia.

We suppose that osmotic stress may release myelotoxic compounds, which cause demyelination. PS may reduce myelotoxic substances and lead to clinical improvement. Additionally, IVIG therapy appears to be a promising therapeutic option in CPM. Hence, PS and IVIG should be considered as a safe and effective method to improve the clinical outcome of liver transplant patients with CPM.

Disclosure

None.

Fuat H. Saner,1 Susanne Koeppen,2 Marco Meyer,1 Matthias Kohne,1 Stefan Herget-Rosenthal,3 Georgios C. Sotiropoulos,1 Andreas Paul,1 Arnold Radtke,1 Massimo Malagò1 and Christoph E. Broelsch1

1 Department of General-, Visceral- and Transplant Surgery, University Hospital Essen, Essen, Germany
2 Department of Neurology, University Hospital Essen, Essen, Germany
3 Department of Nephrology, University Hospital Essen, Essen, Germany

References


