

Plasma exchange successfully treats extrapontine myelinolysis, occurred after acute hyponatremia

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Background: Osmotic demyelination syndrome (ODS) primarily occurs after rapid correction of severe hyponatremia. There are no proven effective therapies for ODS, but we describe the second case showing the successful treatment of Osmotic demyelination syndrome (ODS) by plasma exchange, which occurred after rapid development of hyponatremia

Case presentation: A 58-year-old man presented with decreased mentality, pre-renal AKI, diarrhea due to infectious colitis. The patient was treated with isotonic saline 3 liters per day for 3 days. Three days later, he developed hyponatremia with serum sodium levels rising from 123.5 mEq/L to 157.3 mEq/L. 7 days after developing hyponatremia, Despite medical treatment, his mentality did not improve and a brain MRI revealed symmetrical high signal intensity in the both head of caudate nucleus, putamen and medial aspect of temporal lobe, (hippocampus), suggesting extrapontine myelinolysis. We diagnosed him with extrapontine myelinolysis associated with the rapid development of hyponatremia and treated him with plasma exchange. After 9 consecutive plasma exchange sessions, his neurologic symptoms were markedly improved except for mild rigidity. After the plasma exchange sessions, we examined the patient to determine the reason for his symptoms upon presentation to the hospital. He was discharged and treated as an outpatient without any medical treatment.

Conclusion: We should keep in mind that acute hyponatremia and extrapontine myelinolysis can be associated with acute hyponatremia, and that extrapontine myelinolysis due to acute hyponatremia may be effectively treated with plasma exchange.
Keywords: Osmotic demyelination syndrome, Extrapontine Myelinolysis, Acute Hyponatremia, Plasma exchange

