Advancing the Scheduled Time of Hemodialysis Is Beneficial for Maintenance Hemodialysis Patients with Gabapentin Intolerance

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Gabapentin is now widely used for neuropathic pain. Recently, it was reported [1] that gabapentin is to be a therapeutic option in uremic pruritus, thus leading to its increased use in uremic patients. Herein, we describe an unusual case of acute paraplegia and slurred speech, which developed after a single dose of gabapentin for uremic pruritus in a hemodialysis patient. Sequential hemodialysis induced dramatically improved symptoms in this patient.

A 66-year-old female presented complaining of acute onset weakness of both the lower limbs. She underwent maintenance hemodialysis for 11 months with underlying hypertension. She suffered from refractory uremic pruritus for more than 3 months, and gabapentin 300 mg 3 times a week was prescribed following each hemodialysis session for this problem. After 4–5 h, she developed muscle weakness and slurred speech development following the first dose of gabapentin after hemodialysis. It started as an inability to stand up after squatting the following morning. The symptoms were persistent and became more serious at home. Thus, she was brought to our hospital for further investigation. The neurological examination was unremarkable except for de-

creased muscle power in the lower limbs. The laboratory parameters were: serum sodium 137 mmol/l, potassium 4.8 mmol/l, total calcium 9.0 mg/dl, phosphorus 3.6 mg/dl, and creatine kinase 138 IU/l (reference 38–234 IU/l in female). As a result of these findings, gabapentin intolerance was suspected in this patient. The patient underwent 4 h of hemodialysis using an Fx 80 dialyzer (Fresenius Medical Care, Germany) with a flow rate of 500 ml/min and a blood flow rate of 300 ml/min. Within a 24-hour period after the hemodialysis, her muscle power returned to normal. Due to the patient's prompt recovery after hemodialysis, our findings suggested that the patient's paraplegia was more likely associated with the administration of gabapentin. The drug was withheld and the patient underwent scheduled hemodialysis over the following days.

Gabapentin is an anti-epileptic agent indicated for use in the treatment of partial seizures, but is also prescribed for uremic pruritus [1] and restless leg syndrome [2] in patients with end-stage renal disease. Gabapentin is excreted by the kidneys and its half-life is 5–7 h in healthy subjects. In chronic renal failure patients without dialysis, it can prolong to 132 h. In hemodi-

alysis patients, the half-life is 3.8 h during hemodialysis [3]. The adverse effects of gabapentin involve a variety of systems, especially the neurological system.

From this case report, we can come to two conclusions. First, gabapentin intolerance should be considered when bizarre behavior develops in hemodialysis patients after even a single dose of gabapentin. Second, hemodialysis can accelerate excretion of gabapentin; thus, the scheduled time of hemodialysis should be advanced if gabapentin intolerance or toxicity is diagnosed in hemodialysis patients.

References

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