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Extremely Severe Hyponatremia With Serum Sodium Level Below 100 mEq/L Induced Central Pontine Myelinolysis : A Case Report

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Case Study : Background : Central pontine myelinolysis occurs during severe hyponatremia and several neurologic symptoms can occur. Some patients with this disease can have neurologic recovery. This case is about central pontine myelinolysis caused by severe hyponatremia with serum sodium level below 100 mEq/L and had neurologic recovery. Case presentation : A 67-year-old male with a medical history of hypertension medication on hydrochlorothiazide, visit emergency room with mental change. He had history of alcohol drinking for a week with poor oral intake. On initial evaluation, he presented drowsy mentality and his blood pressure was 107/65 mmHg, pulse rate was 69 beats/min, respiratory rate was 13 breaths/min on oxygen 15L/min via reservoir mask and body temperature was 36.2°C. Laboratory work up revealed the following data; white blood cells, 21,270/uL; hemoglobin, 9.6g/dL; serum creatinine, 0.7mg/dL; blood urea nitrogen, 16mg/dL; serum glucose, 144mg/dL; serum sodium below 100mEq/L; serum potassium 2.5mEq/L, serum chloride 59mEq/L; serum osmolality 206mOsm/kg; spot urinary sodium 32mEq/L. Brain CT without contrast revealed soft tissue contusion, and Rt. inferomedial orbital wall fracture. The patient was treated with normal saline hydration. After 2 hours serum sodium level was measured with 100mEq/L. Serial serum sodium level is depicted in Figure 1. His mental status was still drowsy even after correction was completed at hospital day (HD) 7. Then we conducted brain magnetic resonance imaging. It revealed symmetric increased signal intensity on DWI, FLAIR at both pons, basal ganglia, both thalami area which correalate with central pontine myelinolysis (Figure 2). After rehabilitation he had spontaneous motor movement on both upper, and lower extremity and was able to speak on HD 61. He was transferred to another center for rehabilitation. Discussion : This case presents extremely severe hyponatremia patient due to combination of hydrochlorothiazide, starvation, and alcohol consumption which resulted in central pontine myelinolysis.

figure 1.png

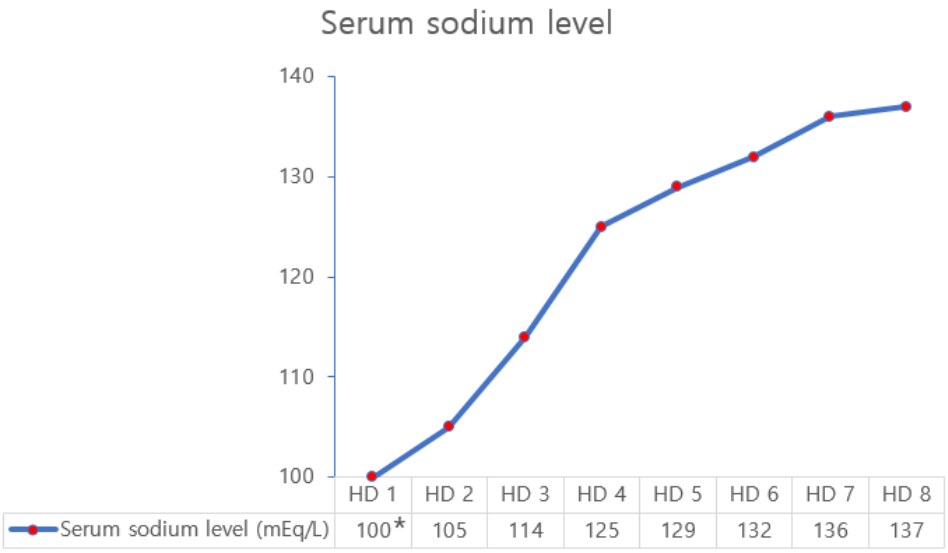
Serum sodium level
140
130
120
110
100
HD 1
HD 2
HD 3
HD 4
HD 5
HD 6
HD 7
HD 8
Serum sodium level (mEq/L)
100*
105
114
125
129
132
136
137

figure 1.png

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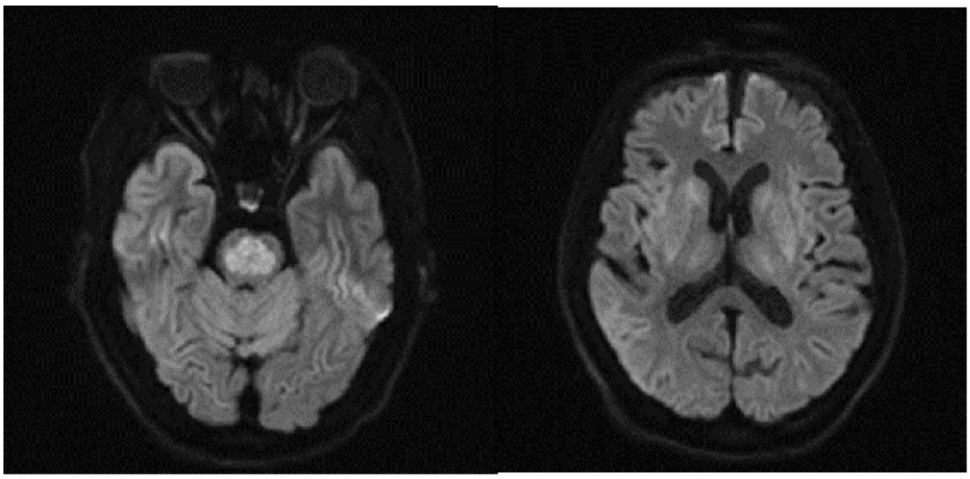
Beyond Challenges, Towards Healthier Kidney

(A) (B)



(C) (D)