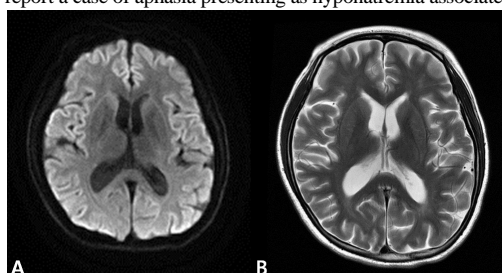


A case of hyponatremia mimicking acute ischemic stroke

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Hyponatremia is one of the most common electrolyte disturbances. Clinical manifestations of hyponatremia range from nausea, muscle weakness to lethargy and coma. We report a rare case of hyponatremia presenting as global aphasia caused by drug-induced syndrome of inappropriate antidiuretic hormone(SIADH). A 33-year-old woman who had been taking benzodiazepine for depression presented with global aphasia. Her verbal output was limited to single word. Neurological examination revealed neither limb weakness nor abnormal sensation. The National Institute of Health Stroke Score was 6 which can be consistent with a moderate stroke. All other general examination was within normal limits. Tongue was moist and pink indicative of euvoletic status. Her initial systolic blood pressure was 99 mmHg and afebrile. Serum sodium concentration on admission was 111 mmol/L. Initial laboratory finding showed WBC 8,560/mm³, CRP 1.16 mg/dL, serum glucose 104.0 mg/dL, BUN 13.5 mg/dL, and serum creatinine 0.89 mg/dL. Serum osmolality was 234 mmol/L, which was lower than normal. Initial serum cortisol and ACTH level were within normal range. Both rapid ACTH stimulation test and thyroid function test were normal. There was no acute lesion such as hemorrhage on brain CT. Brain MRI(Fig. A-B) including diffusion-weighted imaging demonstrated neither evidence of infarction nor malignancy. EEG was also normal waking & sleep (stage I). She was diagnosed with SIADH by benzodiazepine. As intravenous 0.9% sodium chloride was administered, serum sodium level increased gradually. When serum sodium level was 117 mmol/L, she became communicative. On day 3 of admission, serum sodium concentration was 131 mmol/L. On her admission, our first impression was ischemic stroke due to her global aphasia. Global aphasia is very poor-prognostic sign of ischemic stroke that requires emergent thrombolysis. Hyponatremia resulting in global aphasia is a very rare case. In patients with aphasia, it is necessary to exclude the possibility of hyponatremia as well as evaluate neurological emergency including acute ischemic stroke. Therefore we report a case of aphasia presenting as hyponatremia associated with SIADH.



Left Atrial Enlargement with Subclinical Hypothyroidism in Hemodialysis patients

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Background/Aims: Despite the high prevalence of subclinical hypothyroidism in patients with end stage renal disease, little is known about the cardiac features and implications of this disorder in end-stage renal disease(ESRD) patients. The left atrial volume index (LAVI), which is a biomarker of left atrial(LA) dysfunction that integrates the magnitude and duration of diastolic left ventricle(LV) function, is strongly associated with cardiovascular disease and outcomes. This study aimed to investigate the LA enlargement of subclinical hypothyroidism in hemodialysis(HD) patients. **Methods:** This is a cross-sectional study with 60 stable patients who were maintained on HD for more than 3 months. A thyroid function test with blood sampling and echocardiography were conducted. Subclinical hypothyroidism was defined as a thyrotropin (TSH) level over 4.2 mIU/l and normal free T4. **Results:** Of the 60 patients, subclinical hypothyroidism was detected in 12 (20.0%). The patients with subclinical hypothyroidism had lower body mass index (BMI) than the patients with normal thyroid function. However, blood urea nitrogen, creatinine, and lipid profiles including total cholesterol, high density lipoprotein and low density lipoprotein cholesterol, and triglyceride were not significantly different between patients with subclinical hypothyroidism and normal thyroid function. Patients with subclinical hypothyroidism had higher left atrial volume indices (LAVI, $p=0.002$) compared to those with normal TSH levels. **Conclusions:** This study suggests that subclinical hypothyroidism is common and might be implicated in LAE in ESRD patients on hemodialysis.

Table 1. Two-dimensional (2D) echocardiographic findings in euthyroid and subclinical hypothyroidism patients

Echocardiographic parameters	Euthyroid	Subclinical hypothyroidism	p
LVIDd(mm)	54.49 ± 5.05	54.60 ± 6.98	.954
LVIDs(mm)	35.47 ± 6.00	40.89 ± 15.87	.340
IVSd(mm)	9.23 ± 1.889	10.33 ± 2.55	.138
IVSs(mm)	12.23 ± 2.35	13.29 ± 2.56	.282
LVPWd(cm)	9.58 ± 1.82	10.44 ± 2.65	.374
LVPWs(cm)	13.32 ± 2.09	13.86 ± 3.08	.559
LAVI(mL/m ²)	36.21 ± 10.88	49.44 ± 11.48	.002
LVmax	170.00 ± 60.02	180.50 ± 71.00	.882
RWT	0.45 ± 0.05	0.46 ± 0.09	.974
LVEF(%)	63.17 ± 9.83	57.50 ± 19.09	.382