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Hiccup-Induced Syndrome of Inappropriate Antidiuretic Hormone Secretion Leading to Severe Hyponatremia

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Case Study : A 36-year-old woman presented to the emergency department with dyspnea and persistent upper respiratory symptoms despite 14 days of treatment for tonsillitis. Additionally, she developed hiccups three days prior to admission. Initial evaluation revealed severe hyponatremia and normal vital signs, with no signs of dehydration. Laboratory results indicated severe hyponatremia with sodium levels at 122.4 mmol/L, potassium at 2.9 mmol/L, chloride at 89.0 mmol/L, and osmolality at 246 mOsm/kg. Additionally, the patient's BUN was 6.4 mg/dL, creatinine was 0.40 mg/dL, glucose was 123 mg/dL, CRP was 0.1 mg/dL, and uric acid was 1.7 mg/dL. Urine electrolyte analysis revealed levels of sodium (103 mmol/L), potassium (6.3 mmol/L), chloride (69 mmol/L), creatinine (7.62 mg/dL), urea nitrogen (79.8 mg/dL), and osmolality (241 mOsm/kg). The fractional excretion of uric acid measured 12.7% on the day after admission. Thyroid function tests and ACTH stimulation test showed normal results. The ADH (vasopressin) level was found to be 4.51 pg/mL (normal range is below 14.4 pg/mL). She was subsequently diagnosed with syndrome of inappropriate antidiuretic hormone secretion based on euvolemic status, decreased serum osmolality, relatively high urine osmolality, normal cortisol levels, kidney function, and thyroid function, as well as the persistence of ADH levels despite hyponatremia. The patient received treatment with water restriction and intravenous 3% saline, but hyponatremia persisted along with persistent hiccups. To alleviate the hiccup, proton pump inhibitors, baclofen, and metoclopramide were administered. After five days of hospitalization, the hiccup ceased. Subsequently, hyponatremia corrected from 123.1 to 131.4 mmol/L over two days, leading to discontinuation of continuous 3% saline. This case underscores the significance of recognizing rare etiologies in the presentation of hyponatremia and emphasizes the necessity for thorough evaluation in atypical clinical scenarios.

Figure1.jpg

Figure 1. Symptoms, therapeutic drugs and fluid and changes in hyponatremia