CASE REPORT-VAKA ÇALIŞMASI

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A RARE CAUSE OF ACUTE HYPONATREMIA: PSYCHOGENIC POLYDIPSIA

AKUT HİPONATREMİNİN NADİR NEDENİ: PSİKOJENİK POLİDİPSİ

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Abstract

Psychogenic polydipsia is a psychiatric condition characterized by excessive drinking of water. In studies conducted regarding psychogenic or primary polydipsia, it's been reported in patients with psychiatric disorders. Excessive drinking of water can lead to excessive fluid loading and electrolyte imbalance. We aimed to present a patient case with psychotic disorder who developed hyponatremia due to extreme water drinking and applied to emergency service with loss of consciousness. Case Presentation: Thirty-four-year-old male, secondary school graduate, single, living with his family was applied to emergency room clinically unconscious. In physical examination, general situation was bad, glasgow coma scale score point was 8. Minimal brain edema was detected in cranial computed tomography (CT). In laboratory tests Na: 109 mmol / L (136-145 mmol / L). The patient who was diagnosed with schizophrenia used drugs he could not remember its name. For the past 3 years, the patient has been using amylsulpride 1200 mg / day, valproic acid + sodium valproate 1000 mg / day and clozapine 600 mg / day. The patient was treated in emergency room with 150 ml 3% hypertonic infusion twice in 20 minutes to increase the Na concentration in the first hour by 5 mmol / L and to relieve symptoms. As conclusion, hyponatremia patients may apply to emergency room with nonspecific symptoms such as nausea and vomiting at the onset and consciousness changes that may progress to coma. Psychogenic polydipsia-associated hyponatremia should be considered in patients with similar clinical findings and psychiatric history admitted to emergency room.

Keywords: Hyponatremia; psychogenic polydipsia; water intoxication

Giriş

Psikojenik polidipsi, aşırı su içme ile karakterize bir psikiyatrik durumdur. Yapılan çalışmalarda Psikojenik veya primer polidipsi psikiyatrik bozukluğu olan hastalarda bildirilmiştir. Aşırı su içilmesi sıvı yüklemesine ve elektrolit dengesizliğine yol açabilir. Bizler, psikotik bozukluğu olan Aşırı su içilmesi nedeniyle hiponatremi ve bilinç kaybı gelişmesi sonucu acil servise başvuran bir olgu sunmayı amaçladık.Vaka sunumu: Otuz dört yaşında, ortaokul mezunu, bekâr, ailesi ile beraber yaşayan erkek hasta acil servis kliniğimize bilinci kapalı vaziyette getirildi. Yapılan muayenesinde genel durum kötü, bilinç kapalı Glasgow Koma Skalası (GKS) 8, kranial bilgisayarlı tomografi (BBT)'sinde minimal beyin ödemi değerlendirildi. Laboratuvar tetkiklerinde Na:109 mmol/L (136-145 mmol/L), tespit edildi. Şizofreni tanısı alan hasta bu süre zarfında ismini hatırlayamadığı ilaçlar kullanmış. Son 3 yıldır amilsulprid 1200 mg/gün,valproik asit+sodyum valproat 1000 mg/gün ve klozapin 600 mg/gün ilaçlarını kullanıyormuş. Hastaya Acil serviste, ilk 1 saatte Na konsantrasyonunu 5 mmol/l artırmak ve semptomların gerilemesini sağlamak amacıyla 150 ml %3'lük hipertonik infüzyonunu 20 dakikada gidecek şekilde 2 defa uygulandı. Sonuç olarak, hiponatremi hastaları, başlangıçta bulantı kusma ve tablo komaya kadar ilerleyebilen bilinç değişikliği gibi nonspesifik klinik bulgularla acil servise başvurabilirler. Benzer klinik bulgularla acil servise başvuran psikiyatrik öyküsü olan hastalarda psikojenik polidipsiye bağlı gelişen hiponatremi akla gelmelidir.

Anahtar Kelimeler: *hiponatremi; psikojenik polidipsi; su zehirlenmesi*

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1. Introduction

Psychogenic polydipsia is a psychiatric condition characterized by excessive drinking of water. (Cronin RE.,1987). For the first time, in 1933, Hoskins and Sleeper described polyuria in schizophrenic patients. Then, in 1938, a 31-year-old female schizophrenic patient who had undergone convulsions after excessive water consumption was published by Baharal (Illowsky BP.et al., 1988;Bremner AJ.et al.,1991). In studies conducted regarding psychogenic or primary polydipsia, it's been reported that about 6-20% of psychiatric patients could be affected .(Verghese C.et al.,1996).

Fatal water intoxication has been described in many different clinical situations in the literature. The most common being the term "psychogenic polydipsia" while others as; Polydipsia-hyponatremia syndrome (PHS), hysterical polydipsia, compulsive polydipsia, primer polydipsia, dipsomania, potomania, water poisoning, psychogenic water poisoning and spontaneous water poisoning. Unspecific symptoms such as nausea and vomiting may be seen early in patients, and there may be changes in mental and psychotic symptoms. This may cause delay in the diagnosis. Early diagnosis is very important to prevent severe hyponatremia that can result seizures, coma and death (Farrell DJ.et al., 2003) In this article, we aimed to present a patient case with psychotic disorder who developed hyponatremia due to extreme water drinking and applied to emergency service with loss of consciousness.

2. Case Report

Thirty-four-year-old male, secondary school graduate, single, living with his family was applied to emergency room clinically unconscious. In physical examination, general situation was bad, glasgow coma scale score point was 8. Minimal brain edema was detected in cranial computed tomography (CT). In laboratory tests Na: 109 mmol / L (136-145 mmol / L), Urea: 6 mmol / L, Creatine: 0,52 mmol / L, Potassium 4,42 mmol / L, Chlorine 69,9 mmol / L, Glucose 109 mmol / L. Arterial blood gas analysis pH: 7,49, pCO2: 25,7 pO2: 60,3. In urine analysis, a density of 1001 mg / dL (1005-1030 mg / dL) was detected.

In the archive review of the patient, he first applied to the psychiatric outpatient clinic in 2003 for aggressive behavior, percussion delusions, anger explosions, and delusions. The patient who was diagnosed with schizophrenia used drugs he could not remember its name. For the past 3 years, the patient has been using amylsulpride 1200 mg / day, valproic acid + sodium valproate 1000 mg / day and clozapine 600 mg / day. The patient's general condition was good until last week; the patient was admitted to the emergency department after worsening of consciousness after agitation and aggressive behaviors developed in the last 2 days. According to the information from the family of the patient, they said that he drank a lot of water and made urine very often and that he drank a lot of water in the last week. In other examinations, no pathology was found and the patient was diagnosed as psychogenic polydipsia due to excessive water intake and acute hyponatremia due to it.

The patient was treated in emergency room with 150 ml 3% hypertonic infusion twice in 20 minutes to increase the Na concentration in the first hour by 5 mmol / L and to relieve symptoms. The patient's level of conscious was improved during the treatment in emergency room, and then he was transferred to intensive care unit for follow-up and treatment. Treatment was continued with sodium chloride and water restriction. He was discharged with the recommendation to apply to the psychiatric outpatient clinic after the sodium value increased to 137 mEq/L and the general condition improved.

3. Discussion

Excessive water drinking in our case was diagnosed as psychogenic polydipsia based on the history and the examinations of the results. Excessive intake of polydipsia or fluids is often seen in patients with psychiatric disorders, particularly schizophrenia, when in fact there is no need for water. Sudden and / or severe hyponatremia that develops as a result of a condition defined as water intoxication may lead to brain edema leading to neurological and psychiatric symptoms. For this reason, continuous ingestion of fluids in large quantities may result in a potentially fatal medical problem .(De Leon J.et al.,1994).

Polydipsia, which develops in psychiatric patients, is totally voluntary in some cases. Excessive water intake of patients with hypersensitivity to vasopressin is caused by an increase in the dopaminergic activity and consequently the elevated dopamine level stimulating the thirst center. The etiopathogenesis of psychogenic polydipsia remains uncertain despite this theories .(Dundas B.et al.,2007). An organic cause was not found as a result of the examinations performed in our case. The fact that the patient was treated for a long period due to schizophrenia in the archive scan was consistent with the literature in that the vast majority of psychogenic polydipsia cases occurred in chronic schizophrenic patients.

Psychogenic polydipsia or primer polydipsia is characterized by low plasma sodium. Hyponatremia may exacerbate psychotic symptoms, sodium deficiency may imitate early symptomatic psychosis or bipolar disorder. (Dundas B.et al.,2007). Acute-onset hyponatremia may induce delirium and behavioral changes that may resemble psychomotor agitation or retardation. Our patient initially showed agitation and aggressive behavior, and then the consciousness was closed. We think that the cause of acute hyponatremia due to excessive water intake is the rapid change of consciousness that develops within a few days.

Early diagnosis is important in reducing morbidity and mortality associated with hyponatremic encephalopathy. Prior symptoms in the hyponatremic clinic include nausea, vomiting, disorientation, headache, fatigue, numbness, confusion and muscle cramps. Most patients do not show symptoms until serum [Na +] <125 mEq / L8. Patients with chronic hyponatremia may exhibit nonspecific symptoms at lower serum [Na +] levels, usually up to <120 mEq / L. As hyponatremia progresses, patients

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may react improperly to verbal and painful stimuli and may exhibit bizarre behavior or psychiatric symptoms such as auditory or visual hallucinations may be observed. Cerebral edema progression may lead to supratentorial cerebral herniation, which may lead to seizures, or may result in respiratory arrest due to compression of the brainstem (Siegel AJ, 2008). The serum sodium level of the patient was measured as 109 mEq / L.

Treatment should aim to increase the Na level rapidly in cases of acute hyponatremia. It is known that hyponatremia is a risk of osmotic demyelination when corrected very fast. However, in the hyponatremic guideline of 2014, it was underlined that the brain edema caused by hyponatremia should be eliminated immediately. Inadequately treated hyponatremia due to slow infusion may result in permanent damage due to brain edema, herniation or even death. Therefore, the 2014 hyponatremia guide takes rapid treatment of hyponatremia as priority, despite the risk of osmotic demyelination (Spasovski G.et al., 2014). Encephalopathy may progress to seizure and coma, which require aggressive correction with hypertonic solutions such as 3% saline, to reduce neurological morbidity and death risk with respiratory arrest (Nzerue CM.et al., 2003). An aggressive treatment protocol was applied to prevent complications of hyponatremia in our case.

4. Conclusion

Hyponatremia patients may apply to emergency room with nonspecific symptoms such as nausea and vomiting at the onset and consciousness changes that may progress to coma. Psychogenic polydipsia-associated hyponatremia should be considered in patients with similar clinical findings and psychiatric history admitted to emergency room.

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