Nat. Volatiles & Essent. Oils, 2021; 8(5): 1002 - 1006

NVEO
Natural Volatiles &
Essential Oils

Case Report on Management and outcome of Hyponatremia with SIADH

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ABSTRACT:

Introduction: Hyponatremia is the most common electrolyte disorder seen in the hospital. Serious complications of severe symptomatic hyponatremia include cerebral edema, brain herniation, convulsions, obtundation, coma, and respiratory arrest. On the other hand, rapid correction of chronic severe hyponatremia can result in osmotic demyelination syndrome (ODS) and death. The most common cause of hyponatremia in cancer patients is syndrome of inappropriate antidiuretic hormone secretion (SIADH); this oncologic emergency requires immediate treatment. It can lead to increased mortality and morbidity if left untreated. Doctors must be informed and capable of evaluating and determining whether patients are in a fluid and electrolyte crisis. Hyponatremia is defined as an electrolyte abnormality with a sodium level less than 135 meq/L. Nurses should be aware of specific cancers and treatments that put patients at risk for hyponatremia. **Present complaints and investigation**: Weakness, lethargy, headaches, anorexia, and weight gain are symptoms cerebral edema, brain herniation, seizures, obtundation, coma, and respiratory arrest She exhibited a 96-beat-per-minute tachycardia and excellent peripheral perfusion. With a blood pressure reading of 130/76 mm Hg She had bilateral pain sensitivity and only reacted to pain neurologically. Reactive mydriasis is a type of mydriasis that occurs when the temperature was 38°C, a critical care unit for closer monitoring. the observation. The blood sugar level was 7.4 mmol/L, and the sodium level in the ECG, blood chemistry, and osmolality was 253 mOsm/kg. The salt level in the urine was 134mmol/L, and the osmolality was 404 mOsm/kg. Methamphetamine was detected in the urine. A contrasted CT scan of the brain revealed no abnormalities. **Past history:** 6 month ago patient admitted MGIMS hospital Sewagram chief complaint Weakness, lethargy, headaches, anorexia, and weight gain then CBC, HB, Sodium level check she diagnosis hyponatremia she took the treatment for that**. The main diagnosis, therapeutic intervention and outcomes**: After physical examination and investigation doctor diagnose a case hyponatremia with (SIADH) Medical therapy for the patient's syndrome of inappropriate antidiuretic hormone included hypertonic 3 percent saline, intravenous thiamine, multivitamin, and folic acid solution. Treatment for a deficiency in dietary solutes. She take treatment of hypovolemia IV blood plasma transfusion. She was took all treatment and outcomes was good. His sign and symptoms was not reduced , weakness, lethargy, headaches was slightly reduced after medication he was able to him own activity. No any changes in therapeutic intervention. **Conclusion:** The patient was admitted to the hospital with the following chief complaints The patient was admitted to the hospital with the primary complaint of Following the completion of all investigations, the patient was diagnosed with Hyponatremia. is a prevalent condition that is often misdiagnosed, undervalued, and treated inappropriately. Now patient required proper medical intervention and needs good nursing care.

Keywords:- SIADH, Vasopressin; Hyponatremia, Sodium.

Introduction:

Both in hospital inpatients and in the community, hyponatremia is the most prevalent electrolyte imbalance. Hyponatremia can be caused by a variety of factors, but extremes in volume status, such as

dehydration or fluid excess, are prominent triggers, which is frequently given by medical students as the cause of hyponatremia, is an exclusionary diagnostic that, by definition, excludes the possibility of hyponatremia. The majority of cases of hyponatremia are modest and curable. The syndrome of incorrect antidiuretic hormone secretion is frequently thought to be asymptomatic. Hyponatremia is an electrolyte abnormality that is frequently encountered in oncology practice, with the most common symptom being a blood sodium level of less than 135 meq/L. The syndrome of inappropriate antidiuretic hormone (SIADH) is the most common cause of hyponatremia in cancer patients, accounting for up to 30% of all cases. Hyponatremia, serum hypo-osmolality, and urine that isn't completely diluted are all symptoms of SIADH. When there is an excess of total body water compared to total exchangeable body sodium and potassium, hyponatremia occurs. A patient is a person who has been diagnosed with an illness. When the patient's plasma sodium concentration (PNa) falls below 135 mmol/L, he or she is hyponatremic. Severe hyponatremia is defined as a blood sodium level of less than 120 mmol/L, which can cause seizures, obtundation, coma, and respiratory arrest.[1]

Patient information: A 55-year-old married female admitted in AVBR Hospital on date 04/08/2020 with chief complaints Weakness, lethargy, headaches, anorexia, and weight gain, tachycardia , cerebral edema, brain herniation, seizures, obtundation, coma, and respiratory arrest are symptoms

Primary concern and symptoms of patient :- Present case visited/deposited in AVBR Hospital in OPD base on date with complaints of Weakness, lethargy, headaches, anorexia, and weight gain, tachycardia , Before 1 month, there was cerebral edema, brain herniation, convulsions, obtundation, coma, and respiratory arrest. .

Medical and family and psycho-social history :- Patient suffering from hyponatremia with SIADH 6 month ago. Present case belong to nuclear family, in his family belong to middle class family. He was mentally stable. his oriented to date, time and place and he maintained good relationship with family members.

Relevant past intervention with outcomes:- History of hyponatremia with SIADH 6 month back for which she was hospitalized for 10 days after investigation was observed he took treatment for that and his outcomes was good.

Physical examination and clinical findings :

State of health was unhealthy ,thin body built, the height of patient is 160cm and weight is 60kg.vital signs are normal , She exhibited a 96-beat-per-minute tachycardia and excellent peripheral perfusion. With a blood pressure level of 130/76 mm Hg, you're in good shape. She was sensitive to pain on both sides and only reacted to it neurologically. Reactive mydriasis is a kind of mydriasis that arises when the temperature rises above 38°C, necessitating admission to a critical care unit for closer observation. the realization The blood sugar level was 7.4 mmol/L, and the sodium level was 253 mOsm/kg in the ECG, blood chemistry, and osmolality. The urine salt level was 134mmol/L, and the osmolality was 404

mOsm/kg. The urine contained methamphetamine. A CT scan of the brain with contrast revealed no abnormalities. The immune system has been weakened.[2]

Timeline:- Patient was visited in AVBR Hospital on OPD base with cheif complaint of, lethargy, headaches, anorexia, and weight gain, tachycardia, cerebral edoema, brain herniation, seizures, obtundation, coma, and respiratory arrest are some of the symptoms that might occur. The patient was given hypertonic 3 percent saline, as well as an intravenous infusion of thiamine, multivitamin, and folic acid solution. Treatment for a deficiency in dietary solutes. She receives IV blood plasma transfusion treatment for hypovolemia. He underwent all treatments and had a positive outcome.

Diagnostic Assessment :- During physical examination and ECG, blood chemistry sodium level all routine blood test was done in blood. Doctor diagnosed a case of hyponatremia with (SIADH) syndrome of inappropriate antidiuretic hormone secretion

Diagnostic Evaluation :-

Diagnostic challenging :- No any challenging during diagnostic evaluation.

Diagnosis :- After physical examination and investigation doctor diagnose a case of hyponatremia with (SIADH) syndrome of inappropriate antidiuretic hormone secretion.

Therapeutic intervention:

The patient was given hypertonic 3 percent saline, as well as an intravenous infusion of thiamine, multivitamin, and folic acid solution. Treatment for a deficiency in dietary solutes. She receives IV blood plasma transfusion treatment for hypovolemia. An iv bolus of 100 ml of 3 percent in HS for weakness can be used to keep the infusion rate stable. It can be given up to two more times at 10-minute intervals before being stopped once the acute symptoms have passed. She received every treatment and had a positive outcome. His signs and symptoms had subsided, and he was able to resume his normal activities. There has been no change in therapeutic intervention.

NSAIDs (nonsteroidal anti-inflammatory drugs) iv od For the treatment of the syndrome of inappropriate antidiuretic hormone secretion, hydrochlorothiazide IV od is used. Furosemide is available in doses ranging from 20 mg intravenously every 8 to 24 hours to 40 mg p.o. every 8 to 24 hours. The usage of this loop diuretic is especially beneficial in people who are likely to have a short-term SIADH. [3]

Follow-up and Outcomes :

Clinical and patient assessment outcomes:- Patient condition was improved.

Important follow-up diagnostic and other test results:- To preventing of disease and trying to reserve any sign and symptoms that have appeared because of reduced Weakness, lethargy, cerebral edema. Doctor advised follow up after 1month and advice blood investigation to know the further disease progression .

Intervention adherence and tolerability:- patient took all prescribed medication regularly. He also follow up dietecian advised. Dietician was advised thiamine, multivitamin, and folic acid solution and rich in protein supplementation. His intervention adherence was satisfactory.

Discussion:

In the context of MDMA use, case studies of hyponatremia caused by a SIADH as well as water intoxication have been widely described. The beginning of a SIADH and water toxicity in the same patient, as determined by blood and urinalyses, is depicted in our case. In this case, both direct and indirect strategies for producing SIADH have been proposed, although none has been thoroughly examined. Pharmacodynamics, which include increased extracellular concentration and presynaptic depletion, explain higher levels of serotonin. SCC was less common among Australian migrants. Additionally, newcomers had higher ORs than those who emigrated to Australia early in life or who had lived in Australia for a long time.[4]

In the context of MDMA use, hyponatremia produced by a SIADH as well as water intoxication have both been well described. Our case illustrates the onset of a SIADH and water toxicity in the same patient, as determined by blood and urinalyses. Both direct and indirect pathways have been postulated to induce SIADH in this circumstance, although neither has been thoroughly defined. Higher levels of serotonin are explained by pharmacodynamics, which include increased extracellular concentration and presynaptic depletion.[5] Kumar et. al.[6] reported on hyponatremia as initial presenting feature of normal pressure hydrocephalus in elderly patient. Few studies on related aspects of hyponatremia were reviewed[7-10].

Conclusion:

The patient was admitted to hospital with chief complaint of. After all investigation patient was diagnosed with a case of Hyponatremia is a prevalent condition that is often misdiagnosed, undervalued, and treated inappropriately. Hyponatremic patients require planned interventions, which are in low supply. Everything has been thoroughly discussed. two complimentary approaches to treating SIADH-related symptoms in the goal of raising hyponatremia awareness, streamlining treatment, and improving prognosis. In our scenario, good clinical assessment, skilled nursing care, and the application of effective forensic studies are all required to protect patients from such a critical health condition.

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