

Review Article

A Case Report on Dyselectrolytemia in a Geriatric Patient

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ABSTRACT

Dyselectrolytemia is an imbalance in the required amount of electrolytes which are sodium, potassium, calcium, magnesium and chloride in the blood. The symptoms include are vomiting, nausea, fatigue, seizures, Headaches etc. This may be a result of excessive loss of fluids which in turn give rise to this disorder. It includes hyponatremia, hypocalcemia, hypomagnesemia, hypokalemia. It is mainly diagnosed by the blood samples. In this case the patient is treated with sodium, potassium, calcium, magnesium and chloride supplements and with antiepileptic drug.

Keywords: Dyselectrolytemia, hyponatremia, hypocalcemia, hypomagnesemia, hypokalemia, seizures.

INTRODUCTION

Ageing is associated with progressive decline in the cardio and renal-vascular functional reserve compromising the ability of the elderly to maintain homeostasis, especially pertaining to fluid and electrolytes. Any trauma or illness related stress may produce major modifications in plasma electrolytes in the elderly in contrast trivial responses in younger population. The dyselectrolytemias thus produced may result in increase in mortality and morbidity in elderly population.

Various drugs mainly diuretics, produce dyselectrolytemia in the population especially by causing renal impairment. Delayed post operative recovery and increased morbidity and mortality may result from salt and water overload. Hyponatremia was the commonest electrolyte abnormality followed by hypocalcemia and hypokalemia almost to third of all subjects with dyselectrolytemias were asymptomatic. Diabetes mellitus and hypertension were the co morbidities both predating dyselectrolytemias in nearly a third of cases each.

The mean age of those with dyselectrolytemia was 69.6 years with female preponderance. Dyselectrolytemia involving two electrolytes was observed in 309 patients more than 2 electrolytes were distributed in 11 patients. The diagnosis of dyselectrolytemia is based upon the blood samples. We report that patient was treated with sodium, potassium, calcium, chloride and magnesium supplements and with antiepileptic drug.

Case Report

A female patient of age 60 years was admitted in neurology ward with chief complaints of shortness of breath since 2 days and history of seizure one episode. Initially the physician diagnosed as seizure and prescribed with levetiracetam -500mg B.D.(I.V) which is an antiepileptic drug and with lorazepam-2 mg(sos). The serum electrolyte values of patient was found to be

Test	Test Value	Reference Value	Units
Sr.sodium	94	136-146	mmol/lit
Sr.potassium	2.4	3.4-4.5	mmol/lit
Sr.chloride	64	98-117	mmol/lit
Sr.magnesium	1.2	1.6-2.6	mg/dl
Sr.calcium	8.3	8.6-10.3	Mg/dl

Based on laboratory investigations the physician diagnosed as Dyselectrolytemia. The patient was treated with 3%NaCl-15ml/hr in i.v, Tab.shelcal-500mg B.D,magnesiumsulphate - 2gm in 50ml normal saline(2ml/hr),Kcl,duolin

and budesonide(for shortness of breath) and with levetiracetam(for seizure). On the next day the patient present with chief complaint of vomiting and it is treated with ondansetron. By using above medication the serum electrolyte level of

patient on various days was found to be

TEST	DAY-1	DAY-2	DAY-3
Sr.sodium	109mmol/lit	112mmol/lit	118mmol/lit
Sr.potassium	2.5mol/lit	2.8mmol/lit	3.5mmol/lit
Sr.chloride	77mmol/lit	79mmol/lit	82mmol/lit
Sr.magnesium	1.4 mg/dl	1.5mg/dl	1.5mg/dl
Sr.calcium	8.4mg/dl	8.5mg/dl	8.6mg/dl

DISCUSSION

Dyselectrolytemia is an electrolyte disorder which is an imbalance of certain ionized salts. An electrolyte disorder occurs when the levels of electrolytes in the body are either too high or too low. The general functions of electrolytes are help to balance pH and acid base balance in body, facilitate the transport of fluids, regulating the functions of endocrine, neuromuscular and excretory systems. The etiology of dyselectrolytemia is by a loss of body fluids through prolonged, vomiting, diarrhea or sweating. this may also develop due to fluid loss related to burns. Certain medications like diuretics can also cause dyselectrolytemia. Hyponatremia was the commonest electrolyte abnormality followed by hypocalcemia and hypokalemia. Elderly females are more prone to develop various dyselectrolytemias.

CONCLUSION

Dyselectrolytemia is a electrolyte disorder which is characterized by vomiting, nausea, fatigue, seizure, headache. It is a life threatening condition if it is left untreated. The sodium, potassium, calcium, Magnesium and chloride supplements make the patient recover from dyselectrolytemia.

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