

A 52 year old male with Chronic Kidney Disease associated with Alzheimer's disease case report

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Abstract

For a long period of time it is believed that the ill effects of kidney disease often effect the cognitive functions. The association between chronic kidney disease (CKD) and Alzheimer's disease (AD) have been identified in many clinical studies. It is said that the improvement of the kidney function will improve the cognitive function of the individual. A 52 year old man was brought to medicine OPD with a complain of swelling of lower extremities and his family members complain about his loss of memory on some occasions. He was hospitalized and treatment was started using oral and intravenous medications.

Keywords: cognitive, association, chronic, swelling, memory.

INTRODUCTION

Chronic kidney disease (CKD) is a group of diseases that affect your nephrons and limit their ability to keep you well by allowing you to perform the normal filtering activities.(1) If your renal condition progress, unwanted remains or waste in your blood can accumulate to seriously high levels, making you feel uncomfortable and eventually ill.(2)

Acute kidney diseases like calculi, inflammation or pus formation etc. if left untreated can become a chronic kidney disease and may develop permanent damage to the kidneys(3). The prolonged disturbance or damage to one or both the kidneys can effect the cognitive function of the individual, mostly effecting the ability to memorized something(4). Chronic kidney disease is a disease which must be diagnosed at the early stage and given proper treatment in order to prevent certain complications and even death, as many people died due to this disease conditions.(5)

Case presentation:

A 52 year old man was brought to medicine OPD with a complain of swelling in the lower extremities and difficulty in passing urine. The family members stated that the patient was behaving normally in the past month, but 3 weeks back there is swelling in his lower extremities and the patient was feeling lethargic. He rest in his house for a couple of weeks hoping that the swelling will disappear. After 3 weeks the swelling did not disappear but was increasing and the patient was passing urine very less, the family members also complain that he is having short term memory loss like he could not remember what food he has eaten the day before and could not remember whether he had taken his medications or not.

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How to cite this article: Lalrinsanga, Pratibha Wankhede, Roshan Umate, A 52 year old male with Chronic Kidney Disease associated with Alzheimer's disease case report, J PHARM NEGATIVE RESULTS 2022;13: 918-920.

Access this article online

Quick Response Code:



Website:
www.pnrjournal.com

DOI:
10.47750/pnr.2022.13.03.139

On physical examination, the patient is having a swelling in his lower extremities which made movement difficult. He also have ascites which made breathing difficult when the patient is lying flat. Vital signs including respiration rate were all close to normal. Several investigations were done like blood sample, x-ray and ultrasound was done in order to diagnosed the patient. USG report reveals pleural effusion, bilateral renal calculi and grade II prostatomegaly. After several investigations the patient was referred to medicine department for further management.

On admission to the medicine ward the patient was catheterized in order to improve urine output and intake and output was maintained to know the fluid level of the patient. Patient was placed in a semi fowlers position and oxygen was given using nasal prong at 2 liters. Medications was given orally and intravenously. The patient was showing signs of improvement and the swelling was reducing day by day. His vital signs were normal and his prognosis was good.

Discussion

Chronic kidney disease is a disease which can be fatal if not given proper treatment. The crude death rate among individuals with chronic kidney disease was 134 per 1000 cases. (6-12) Many times the signs and symptoms are often neglected at the early stage and only get medical help when the conditions becomes very severe and sometimes incurable. It is crucial to aware the community about the early signs and symptoms of chronic kidney disease.(13-21)

A scientific study was done in 2018 regarding the relation between chronic kidney disease and cognitive functions and found out that vascular injury can be a major cause of it. The deposition of calcium in the blood vessels makes the blood vessels stiff calcification appears. It is believed that the disturbance in the blood flow due to vascular stiffness is responsible for the poor cognitive functions in patients with chronic kidney disease.(22-30)

Another research shows that the massive accumulation of urinary toxins can directly affect the cognitive functions as the blood flows through different organs of the body. Patients with chronic kidney disease have a high accumulation of parathyroid hormones in the blood and this hormone can pass through the blood brain barrier and is widely distributed in the central nervous system.(31-37)

Conclusion

In India it is estimated that 13-15.04% of the total population are having chronic kidney disease and this is a large number. It is essential for the community to be aware of this disease conditions and given proper teaching according to the needs of the patient. Certain disease conditions like diabetes mellitus, hypertension, etc. can lead to chronic kidney disease as their complications and proper treatment and teaching must be given to this high risk groups. In this case

the patient's condition is not caused by other factors but due to renal calculi. Patient was very supportive to his treatment and shows improvement day by day. There were no signs of complications and prognosis was good.

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