

 ISSN NO. 2320-5407	Journal Homepage: www.journalijar.com INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR) Article DOI: 10.21474/IJAR01/13535 DOI URL: http://dx.doi.org/10.21474/IJAR01/13535	
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RESEARCH ARTICLE

STUDY OF ASSOCIATION OF BICARBONATE LEVELS WITH MORTALITY AMONG PATIENTS OF CHRONIC KIDNEY DISEASE

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Manuscript Info

Manuscript History

Received: 10 August 2021

Final Accepted: 14 September 2021

Published: October 2021

Abstract

Prospective observational study of estimation of serum bicarbonate levels in patients of CKD and association of serum bicarbonate levels with mortality among CKD patients attending department of Internal medicine and Nephrology.

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Introduction:-

Prevalance of CKD is rising because of increasing incidence of diabetes and hypertension among the population.

Metabolic acidosis is a feature of Chronic kidney disease, usually appears when egfr falls below 25ml/min/1.73m². As renal function declines, severity of metabolic acidosis increases. Approximately 1meq/kg of hydrogen ions are generated by metabolism of ingested food in adults. This is balanced by generation of HCO₃ and reabsorption of HCO₃ by kidneys. In CKD patients this HCO₃ balance is impaired.

Methods:-

CKD patients above 18 years age, both male and female patients were taken for the study. The study was conducted among 100 CKD patients between 2019-2021. 73 male and 27 female patients participated in the study.

Out of 100 patients, 68 patients are on maintenance dialysis and 32 patients on medical management. All the Patients are investigated with complete blood picture, renal function tests, serum electrolytes, ultrasound abdomen random blood sugars, hba1c, regular monitoring of blood pressure, complete urine examination and serum bicarbonate levels.

Results:-

Out of 100 patients, 21 patients expired out of which 16 had low serum bicarbonate levels (less than 15 meq). More deaths were observed in patients with CKD stage 5 followed by stage 4.

Interpretation and Conclusion:-

Among 100 patients of CKD maximum numbers of cases were in 5th and 6th decades with major co morbidities being diabetes and hypertension. Among 21 expired cases, patients with low serum bicarbonate level average levels between 10-14 meq, has associated with increased mortality. This study concludes the association of low serum bicarbonate levels with increased mortality among CKD patients.

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