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Original Article

A Study of Estimated Glomerular Filtration Rate In Chronic Kidney Disease

Krishna Murthy N, Nandini Takkalaki, Ashakiran S, Shashidhar K N, Ganesh G, Harish R.

Department of Biochemistry, Sri Devaraj Urs Medical College, Kolar.

ABSTRACT

Background: *Chronic kidney disease is a life threatening disease, which is a common cause of mortality and morbidity. The chronic kidney disease patients are at high risk of developing end stage renal disease, cardiovascular complications and stroke. Therefore, we carried out this study to know the functional status of kidneys in chronic kidney disease cases and to classify the chronic kidney disease into different stages by calculating estimated glomerular filtration rate.*

Material and Methods: *Twenty five cases of chronic kidney disease, between 25-70 years of age of either sex, admitted at R.L.Jalappa Hospital and Research Centre, Kolar, India and twenty five healthy age and gender matched controls were enrolled into the study. For calculating estimated glomerular filtration rate serum creatinine values, age, sex, race, and weight of the patients are considered.*

Results: *The mean estimated glomerular filtration rate in cases was 22.096 and in control group 118.28($p<0.001$) as per Cockcroft Gault Equation and as per Modification of Diet in Renal Disease equation in cases it was 18.176 and in controls 113.796($p<0.001$). The estimated glomerular filtration rate was significantly low in cases when compared with healthy subjects.*

Conclusion: *Estimated glomerular filtration rate better predicts the functional status of kidneys and is more accurate than serum creatinine and can be used to classify chronic kidney disease.*

Key words: *Chronic kidney disease (CKD), Cockcroft Gault Equation (CCG), Estimated Glomerular Filtration Rate (eGFR), End Stage Renal Disease (ESRD), glomerular filtration rate (GFR), Modification of Diet in Renal Disease(MDRD), Serum creatinine.*

INTRODUCTION

The estimated prevalence of CKD is approximately 10-15% in most countries. As per NHANES III data, the prevalence of chronic kidney disease was 37.8% among patients older than 70 years. The term end stage renal disease represents a stage of CKD, where there is accumulation of fluid, electrolytes, toxins like ammonia, uric acid which are normally excreted by kidney result in uremic syndrome, which ultimately leads to death.[1]

Corresponding Author:
Dr. Krishna Murthy N,
Prof. & HOD
Department of Biochemistry,
Sri Devaraj Urs Medical College,
Kolar,
Karnataka.
Mob: 9886848234
E_Mail: krisvita@gmail.com