

PUBLICATION DETAILS JANUARY 2026 – MARCH 2026



Name of the faculty: Dr. K Shailaja

Journal Article: Assessment of Augmented Renal Clearance and Estimation of Glomerular Filtration Rate in ICU Patients.

Author's name: K Shailaja, Preethi P, Sneha Mavis M, Sowndharya S, Tharani A

Abstract:

AIM And Objectives: The study aimed to estimate the prevalence and risk factors of Augmented Renal Clearance (ARC) in critically ill Intensive Care Unit (ICU) patients and compare Glomerular Filtration Rate (GFR) estimates using the Cockcroft-Gault (CG), Modification of Diet Renal Disease (MDRD), and Chronic Kidney Disease-Epidemiology Collaboration (CKD-EPI) equations. **Study Design:** A purposive sampling technique was used to conduct a cross-sectional study among 80 patients who were hospitalized in the ICU. Data collection was performed over 3 months. The Statistical Package for Social Sciences, version 23, was used to analyze the data. ARC prevalence was calculated and multivariate logistic regression was used to identify risk factors. Various mathematical estimates of Creatinine Clearance (CrCl) were compared using Spearman's correlation and Bland-Altman plots. **Results:** ARC was present in 38 (46.3%), 39 (47.6%), and 30 (37.5%) patients based on CG, MDRD, and CKD-EPI equations respectively. Multivariate logistic regression analysis showed that age ($p = 0.013$), cerebrovascular accident ($p = 0.010$), and hypertension ($p = 0.014$) were independent risk factors for ARC. Bland Altman plots revealed a bias of -

4.84ml/min/1.73m² between the CG and CKD-EPI equation and -12.09 ml/min/1.73m² between MDRD and CKD-EPI. The correlation coefficient between the CG and CKD-EPI equations was 0.763, whereas it was 0.743 for the MDRD and CKD-EPI equations. Conclusion: The significant independent risk factors were age, hypertension, and Cerebral Vascular Accident. In our population, estimated GFR by the MDRD and CG equations showed moderate agreement with eGFR measured by the CKD-EPI equation.

Journal name: Research Journal of Pharmacy and Technology

Article URL: <https://www.rjptonline.org/AbstractView.aspx?PID=2026-19-1-50>