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TRANSPLANTATION: TRANSFORMING THE LANDSCAPE TOWARDS A NEW HORIZON

CORRELATION BETWEEN 24 HOUR URINE CREATININE CLEARANCE, ESTIMATED GFR AND MEASURED GFR WITH DTPA RENAL SCAN IN LIVING KIDNEY DONORS

Devamalar Simatherai1, Wong HS1,2, Yakob S1

1. Department of Nephrology, Hospital Selayang
2. Clinical Research Centre, Hospital Selayang

INTRODUCTION

Accurate determination of GFR is crucial in living kidney donors as it enables a safe selection of a kidney donor. Current guidelines do not recommend a donor with an estimated GFR less than 80 ml/min/1.73m². There is however no clear consensus on the best mode of GFR measurement besides inulin clearance, which is considered the gold standard of measuring GFR.

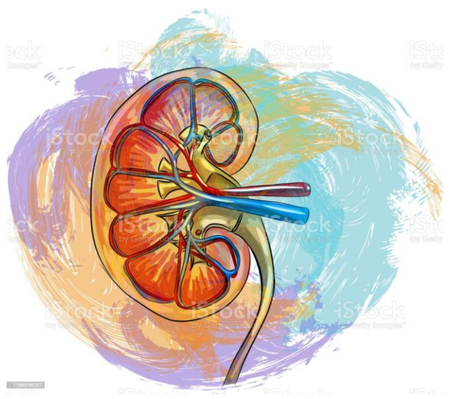
AIM & METHODOLOGY

The aim of this study was to examine the correlation between estimated GFR, measured GFR and 24 hour urine creatinine clearance in living kidney donors.

This retrospective cohort study examined 50 potential living kidney donors whereby their estimated GFR was calculated using the CKD-Epi equation, measured GFR via Tc99 DTPA renal scan and creatinine clearance derived from 24 hour urine collection. GFR measured from the renal DTPA scan was used as reference for comparison of other calculated GFR.

RESULTS

MEAN AGE
43.9±12.2 YEARS



MEAN MEASURED GFR:

- RENAL DTPA: 106.6±16.3 ml/min/1.73m²
- 24 Hour CrCl :108.6±20.7 ml/min/1.73m²
- CKD EPI Eq : 104.9±13.5 ml/min/1.73m²

65.3% FEMALES

CKD-EPI eGFR : r=0.325, p=0.023
24 Hour CrCl : r=0.327, p=0.022

CONCLUSION

Our study demonstrated significant correlation between estimated, measured GFR and 24 hour urine creatinine clearance, albeit moderate in association

DISCUSSION

This finding could be utilised to then possibly rely on estimated GFR and renal DTPA measured GFR and obliviate the need for 24 hour urine creatinine clearance in all potential donors as it is rather cumbersome with a wide room for error. However, 24 hour urine creatinine clearance could be used as an adjunct in situations with discordance between estimated and renal DTPA measured GFR.