THE CORRELATION OF ESTIMATED AND ISOTOPE GFR IN PATIENTS WITH BOWEL IN THE URINARY TRACT

Hypothesis / aims of study
Surveillance for patients with urinary tract reconstruction/diversion includes assessment of renal function with chromium EDTA Glomerular Filtration Rate (Cr-EDTA GFR). Estimated GFR (eGFR) is derived from serum creatinine, by formulae validated in normal, renal failure and transplant patients, with correlation coefficients of 70%; but have not been validated in patients with bowel interposition. We compared eGFR (derived from the MDRD) with Cr-EDTA GFR in patients with urinary tract reconstruction/diversion.

Study design, materials and methods
A retrospective review of 50 patients with urinary tract reconstruction/diversion and Cr-EDTA GFR, serum creatinine and eGFR. Patient demographics, type of bowel reconstruction/diversion and time since surgery were noted.

Results
Data was obtained on 28 women and 22 men who had ileal conduit(3), ileal pouch or neobladder(7), ileocystoplasty(30) and colocystoplasty(10) performed a median of 12 years previously (range 1-35). Serum creatinine ranged from 51-154 μmol/l, eGFR from 33-159 μmol/l/1.73m² and Cr-EDTA GFR from 36-125 μmol/l/1.73m². Correlation between Cr-EDTA GFR and eGFR was poor (R² =0.001) and much worse than the correlation between serum creatinine and Cr-EDTA GFR (R²=0.433).

Interpretation of results
There is poor correlation between eGFR and Cr-EDTA GFR in patients with urinary tract reconstruction/diversion.

Concluding message
eGFR should not be used as a surrogate marker for GFR in patients with urinary tract reconstruction/diversion.

Specify source of funding or grant
None

Is this a clinical trial?
No

What were the subjects in the study?
HUMAN

Was this study approved by an ethics committee?
No

This study did not require ethics committee approval because
None needed

Was the Declaration of Helsinki followed?
No

This study did not follow the Declaration of Helsinki in the sense that
None needed

Was informed consent obtained from the patients?
No