

# Evaluation of chronic kidney disease in cancer patients: Is there still a role for Cockcroft-Gault estimation?

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**Background:** Several formulas are used in clinical practice in nephrology to estimate GFR, the most accurate being CKD Epi formula. None of these have been validated in cancer patients. Nevertheless, the Cockcroft Gault (GC) formula is widely used in oncology clinical trials. The aim of this study is to measure the agreement of MDRD and CKD Epi with CG formula, as well as the bias and accuracy in a cohort of cancer patients presenting to our centre for chemotherapy.

**Methods:** All adult cancer patients presenting to our same day unit during July 2016 were included. Patients with ESRD requiring renal replacement therapy and patients with acute kidney injury were excluded. Charts were reviewed for personal and medical data.

**Results:** We included 230 patients with a mean age of 59 years, 29% were males. 36% of the patients had breast cancer, 18.9% gastrointestinal and 16.5% hematologic malignancies. We found a good agreement between CKD Epi and MDRD with CG formulas as assessed by Cohen's K coefficient (0.669 and 0.645 respectively  $p < 0.001$ )

Patients characteristics	Mean +/- SD or %
Age (years)	59 +/- 14.5
Gender (M/F)	29/71 %
BMI (Kg/m <sup>2</sup> )	25.4 +/- 4.5
Adjuvant treatment	29.6%
Neoadjuvant treatment	3.5%
Palliative treatment	50.4%
Hematologic malignancy treatment	16.5%
Estimated-GFR: -CG ml/min	100.2 +/- 38.8
-MDRD ml/min/1.73m <sup>2</sup>	100.6 +/- 33.8
-CKD Epi ml/min/1.73m <sup>2</sup>	91.6 +/- 22.6

CG	CKD EPI	MDRD
Bias (ml/min/1.73m <sup>2</sup> )	7.2	0.7
Precision (ml/min/1.73m <sup>2</sup> )	15.9	15.7
Accuracy (%)	97.7	82

**Conclusion:** We found a good agreement between different formulas assessing kidney function in cancer patients. CG can still be valid in this peculiar population who usually suffer from malnutrition and sarcopenia. More studies are needed to determine the most accurate formula estimating GFR in cancer patients.

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