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**Background** • Several formulae have been developed with various populations and accuracy levels to estimate the renal function. To date, the most commonly used formulas include the Cockcroft-Gault, Modification of Diet in Renal Disease (MDRD), and Chronic Kidney Disease Epidemiology Collaboration equations (CKD-EPI) [1-3]. However, the MDRD and Cockcroft-Gault formula are the most commonly used tools, despite their limitations, to estimate the renal function in cancer patients [6].

**Purpose** • We aim in this paper to evaluate the role of CKD-EPI in comparison to the formulas most commonly used by oncologists for estimation of kidney function including the MDRD and Cockcroft-Gault formulas.

**Methods** • Our study included all cancer patients who presented at our oncology department during July 2016. We excluded patients younger than 18 years of age, patients with end-stage renal disease that required renal replacement therapy (either hemodialysis or peritoneal dialysis), and patients with acute kidney injury. We collected the following data for each patient from the hospital medical record: sex, age, weight, serum creatinine, blood urea nitrogen, hemoglobinemia, type of tumor, metastasis, staging, anticancer drugs prescribed, and chronic home medication. The creatinine upper limit of normal at Hotel-Dieu de France University Hospital – Biochemical Laboratory was 110  $\mu\text{mol/l}$  during the time of the study.

**Results** • The renal function was calculated using Cockcroft-Gault, aMDRD, CKD-EPI before the administration of chemotherapy. We estimated the prevalence of renal insufficiency and potential risk factors for acute kidney injury (anemia, NSAIDs, ACE-inhibitors, ARB, diabetes, hypertension, vomiting and diarrhea). Anticancer drugs were also studied with regard to their potential renal toxicity and dosage adjustment according to the label of each drug. The risk factors for anticancer drug-induced renal toxicity included pre-existing renal disease, dehydration, heart failure, edema, ascite, anemia, coadministration of other nephrotoxic agents, and dosage not adjusted to the level of renal function.

**Conclusion** • Several formulas have been developed to estimate renal function. It is essential for the oncologist to use the most valid tool in order to provide the optimal treatment dosage safely.

**Keywords:** onconeurology; kidney function, CKD-EPI, MDRD, Cockcroft-Gault

### References

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