

RETROSPECTIVE ANALYSIS OF CARBOPLATIN DOSING PRESCRIBED IN A CHEMOTHERAPY REGIMEN AND ITS RELATIONSHIP WITH TOXICITY

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Background

Carboplatin is one of the antineoplastic in which the dose must be adjusted according to the glomerular filtration rate (GFR) and the area under the curve (AUC). Cockroft-Gault equation is the most widely used for the calculation of GFR and Calvert-formula the most commonly used for carboplatin dosing.

Objective

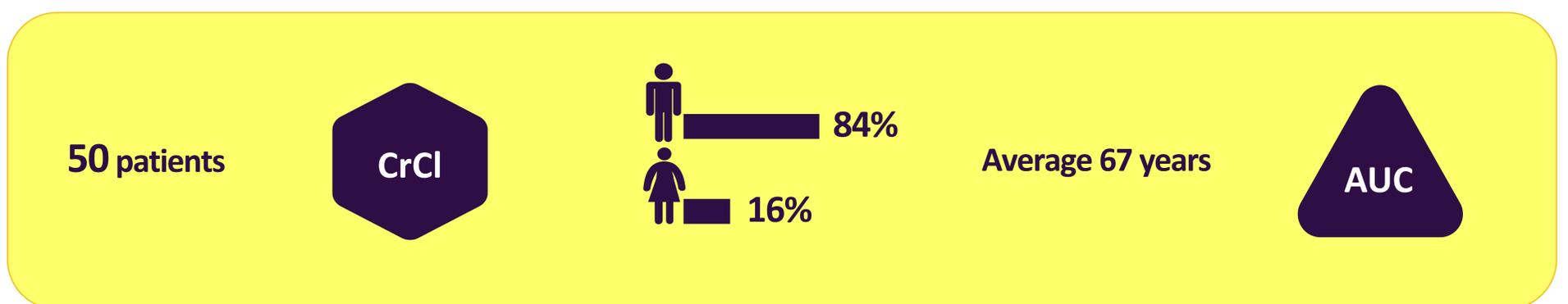
To analyze carboplatin dosage in cancer patients in order to determine whether they are over or underdosed in comparison to the theoretical dose during the first cycle and find out a relationship between the dosage received in this cycle and dose reduction in subsequent cycles, as a result of side effects.

Material and Methods

Retrospective analysis of prescriptions of chemotherapy with carboplatin conducted in 2019.

- **Demographic data:** age and sex.
- **Clinical data:** number of cycles, chemotherapy scheme, diagnosis, analytical data, and dose of carboplatin (AUC).
- **Pharmaceutical validation:** based on creatinine clearance (CrCl) and Cockroft-Gault equation and Calvert-formula.
- **Mean percent error:** was used to determine the relationship the dose received and theoretical dose calculation during the first cycle.
- **Statistical analyses:**
 - Shapiro-Wilks test: to know if our cohort was parametric.
 - Mann-Whitney-test-U: analyze relationship first-cycle patients' dosage and dose reduction in subsequent cycles.

Results



- 25 patients (50%) received higher doses than theoretical dose calculation.
- The mean MPE value with the standard error for this group was $15.88 \pm 2.7\%$.
- Six patients of this group underwent dose reduction due to toxicity related to overdose.
- No link were found with the dose reduction in subsequent cycles.

Conclusion

Not using adjusted body weight in obese patient or capping the level of serum creatinine in cachectic patients (0.7-0.8 mg/dl) may lead to incorrect doses of carboplatin and subsequent toxicity (neutropenia and thrombocytopenia).