INCIDENCE OF NEPHROTOXICITY IN CISPLATIN ADMINISTRATION ASSOCIATED WITH A HYDRATION PROTOCOL

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BACKGROUND AND IMPORTANCE

Cisplatin for solid tumors presents potential nephrotoxicity, necessitating hydration and supplementation protocols.

AIM AND OBJECTIVES

To determine the incidence of nephrotoxicity in patients receiving cisplatin-based regimens under a nephrotoxicity prevention protocol established in 2016 by pharmacists and oncologists, while also analyzing associated risk factors.

MATERIALS AND METHODS

A retrospective observational study of patients with at least two cycles of cisplatin between January-December 2023.

Cisplatin doses ≥60mg/m²

*1L NaCl administered over 2 hour pre-hydration and 1 hour post-cisplatin.

Cisplatin doses <60 mg/m²

*1L NaCl is given over 1 hour for both pre- and post-hydration.

Nephrotoxicity :

CTCAEv5.0 criteria:

-Increase in creatinine≥0.5mg/dL

-Increased creatinine≥grade 1.

PROTOCOL

Prehydration involves administering 2L of sodium chloride 0.9%(NaCl) containing 20mEq of potassium chloride and 20mg of furosemide followed by NaCl*.

Statistical analysis

Data collected from electronic medical records:

Age, anthropometric data, comorbidities, renal function parameters before and after treatment, cisplatin dose, cumulative dose, and nº of cycles.

Multivariate logistic regression using SPSS®v21.

RESULTS

75 patients were included:

- 53% men.
- 60.1 years (95% CI: 57.4-62.9).
- 52% received cisplatin doses<60 mg/m².
- **Head and neck cancer** → primary diagnosis in 34.7% of patients.
- The cumulative cisplatin dose averaged 223.49mg/ m² (95% CI: 201.71-245.27).
- Median of 4 cycles.

Nephrotoxicity prevalence was 13.3%

Mean **glomerular filtration rate**:

↓ 94.1mL/min → 86.2mL/min post-treatment.

Maximum nephrotoxicity was G1: only 4% requiring dose adjustment.

Variables en la ecuación	Sig.
ECOG(1)	,658
SC	,925
DosisacumuladaporSC	,735
Ciclo	,989
RT	,989
Edad	,809
Hipertensión	,153
DM	,783
Fármacosnefrotóxicos	,667

No correlation was found between nephrotoxicity and age, comorbidities or cisplatin dose.

CONCLUSION AND RELEVANCE

The nephrotoxicity prevention protocol implemented in 2016 demonstrates a low incidence of nephrotoxicity, with a maximum G1. However, the absence of clear predictive factors highlights the need for further studies to enhance and optimize future preventive measures.

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