A REAL-LIFE STUDY OF PHARMACOKINETIC MONITORING: NEPHROTOXIC IMPACT OF AMINOGLYCOSIDES AND VANCOMYCIN

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BACKGROUND AND IMPORTANCE

❑ Therapeutic drug monitoring (**TDM**) to achieve the PK/PD target avoiding toxicities.

AIM AND OBJETIVES

To evaluate the impact of renal damage → **VANCOMICIN** / **AMINOGLYCOSIDES**

Making a proactive TDM

Tertiary-hospital

MATERIAL AND METHODS

-Retrospective observational analysis.

-January -December 2022.

-Variables:
- ✓ Demographic
- ✓ Clinical
- ✓ Hospitalization unit

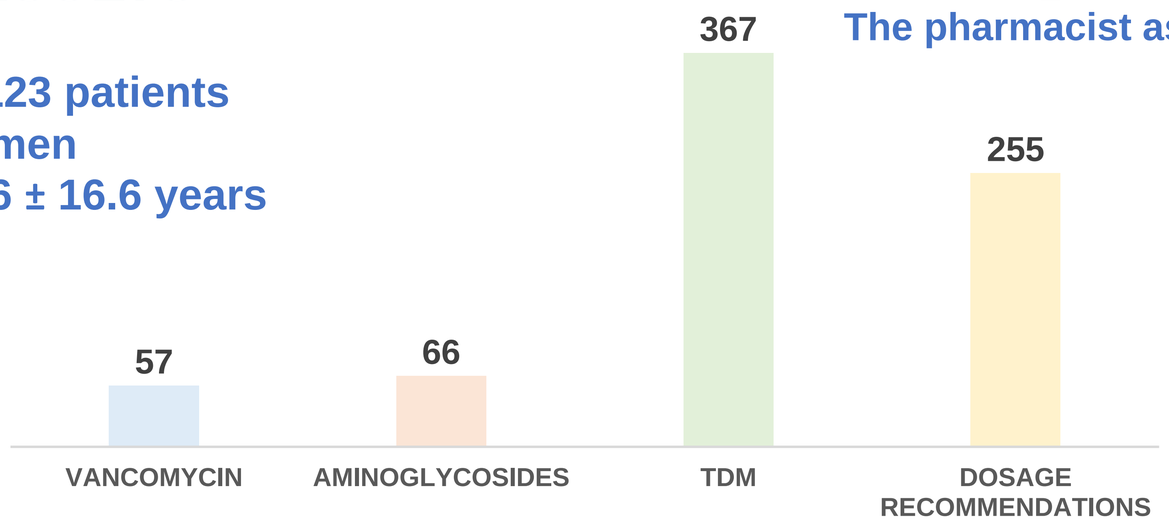
NEPHROTOXICITY VARIABLES:
- ✓ Shift of (fCr-iCr).
- ✓ Variation of GFR (CKD-EPI 2009).

IMPACT KIDNEY DAMAGE:
- ✓ Increase of serum creatinine above 0.5 mg/dl.
- ✓ ≥50% the initial value.

PHARMACOKINETIC BAYESIAN ESTIMATION
- ✓ PKS-Abbott®.

RESULTS

n=123 patients
81 men
66,6 ± 16.6 years



Nº PATIENTS	BEGINNING OF TREATMENT	END OF TREATMENT
53 ***(43,1%)***	**GFR > 90 ml/min**	**-48 manteined same GFR. -5 patients with nephrotoxicity (9,4%).**
34 ***(27,6%)***	**GFR 60-89 ml/min**	**-4 patients with nephrotoxicity (11,8%).**
36 ***(29,3%)***	**GFR 29-45 ml/min**	**-7 patients with nephrotoxicity (19,4%).**

✓ **All patients with TDM:**
mean iCr of 1,02 g/dl (±0,69).
mean fCr of 1,02 g/dl (±0,72).

✓ **Patients who aggravated their GRF:**
12,3% with VANCOMICIN
15,2% with AMINOGLYCOSIDES

✓ **CRITICAL-CARE UNITS**
iCr of 0.93 g/dl (±0.67).
fCr of 0.98g/dl (±0.81).
64 patients
➔9 (14.1%) patients with renal deterioring despite TDM.

CONCLUSION AND RELEVANCE

- ❑ **Patients with a decreased GFR at the baseline showed a higher risk of nephrotoxicity associated to these drugs.**
- ❑ **Kidney damage is more evident in critically-care patients.**
- ❑ **Our sample registered a nephrotoxicity results lower than the ones published** ***(Mañez Sevilla M et al.(2015),by S J van Hal et al.(2013).***
- ❑ **13 % out of the total worsened their kidney function after vancomycin and aminoglycosides.**
- ❑ **Strategies such as TDM are necessary to optimize doses and avoid harm.**
- ❑ **Necessary to continue collecting data.**

No conflict of interest