INTERINDIVIDUAL VARIABILITY OF LINEZOLID IN CRITICALLY ILL PATIENTS

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BACKGROUND AND IMPORTANCE:
A high variability in Linezolid plasma concentrations (Cp) has been observed when administered at the standard dosage recommended in the technical data sheet (600mg/12h), directly related to the effectiveness of the treatment and the appearance of hematological toxicity.

AIM AND OBJECTIVES:
To describe the Cp values of linezolid obtained in critically ill patients, as well as the recommendations made during pharmacokinetic monitoring.

MATERIAL AND METHODS:
Retrospective observational study carried out in a Hospital with patients>18 years old admitted to the critical care units between September 2019-May 2021, in which at least one Cp determination of linezolid was performed.

Demographic, clinical, therapeutic and pharmacokinetic monitoring-related variables were collected. Cp determination of linezolid was analyzed by homogeneous enzyme immunoassay (IndikoTM Plus kit).

RESULTS:

92 patients
2.4 determinations per patient

Initial dosage of Linezolid:
- 600mg/8h
- 600mg/24h
- 600mg/12h

1st determination:
- >8 µg/mL
- 2-8 µg/mL
- <2 µg/mL

Modification of the dosage was recommended in 70%

Intermittent infusion:
400-2400mg/day (6,8,12,24h)

Continuous infusion:
1200-1800mg/day

2nd determination:
47% → 2-8 µg/mL

AFTER treatment with Linezolid:
Reduction in platelet:
>25%: 46 patients (42%)
Thrombocytopenia (below 100x10³/µL): 20 patients (22%)

CONCLUSION:
There is high variability in the Cp of linezolid obtained in the critically ill patients analyzed in our study, with a low percentage of patients being within the established optimal therapeutic interval. In 60% of the pharmacokinetic reports, a modification of linezolid dosage was recommended.

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