

ADEQUACY OF AMIKACIN PRESCRIPTION IN OVERWEIGHT AND OBESE CRITICALLY ILL PATIENTS



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BACKGROUND AND IMPORTANCE

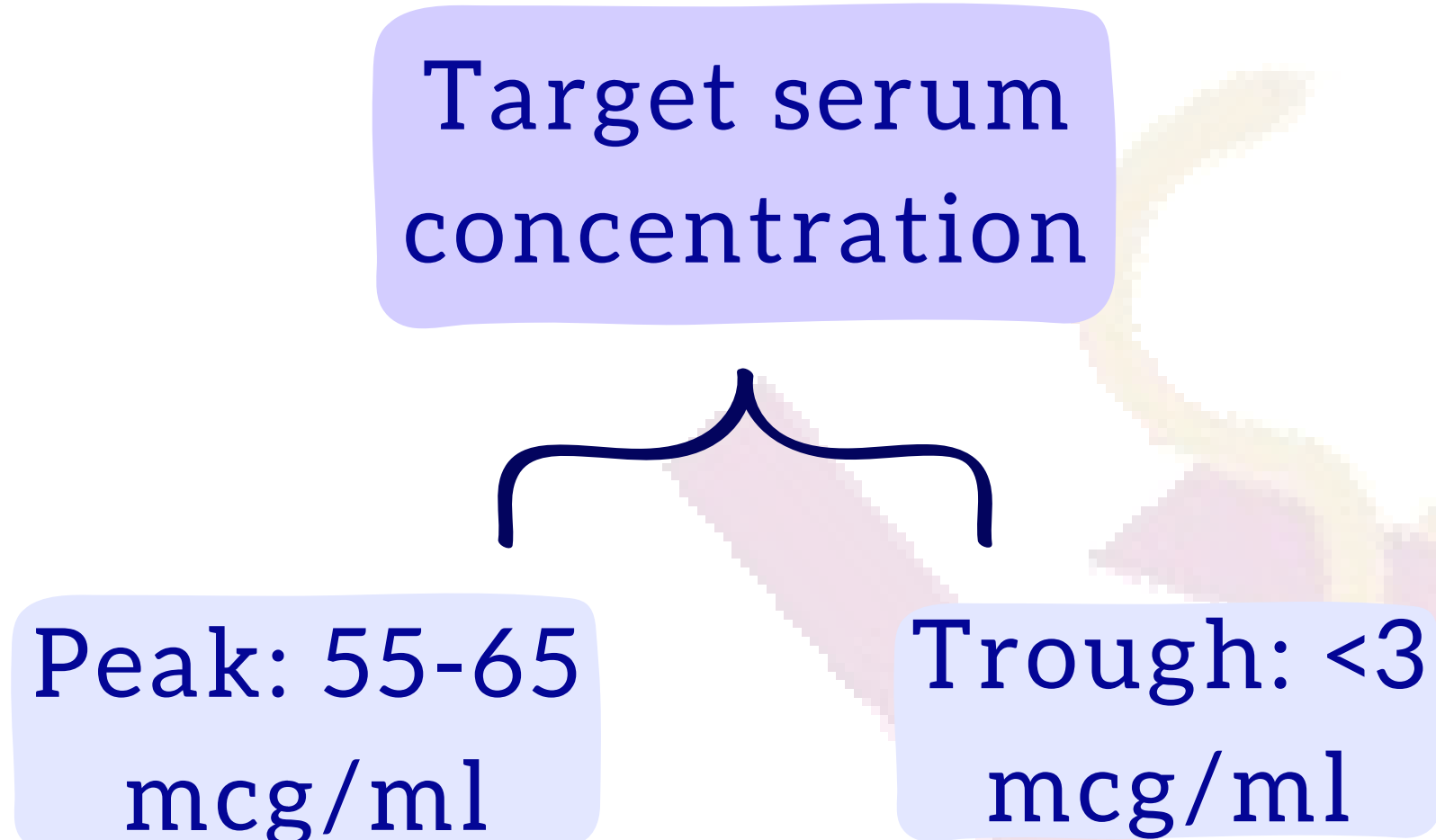
Guidelines recommend an **initial amikacin dose of 15-20 mg/kg/day, adjusted by ideal body weight (AIBW)** for obese patients, based on the idea that adjusting by IBW helps preventing overdose in overweight patients, who often show altered drug distribution in their bodies.

AIM AND OBJECTIVES

Evaluate the accuracy of amikacin first-dose adjustments in overweight and obese patients from Intensive Care Unit (ICU) and determine the pharmacokinetics unit's (PKU) effectiveness in achieving target therapeutic concentrations.

MATERIALS AND METHODS

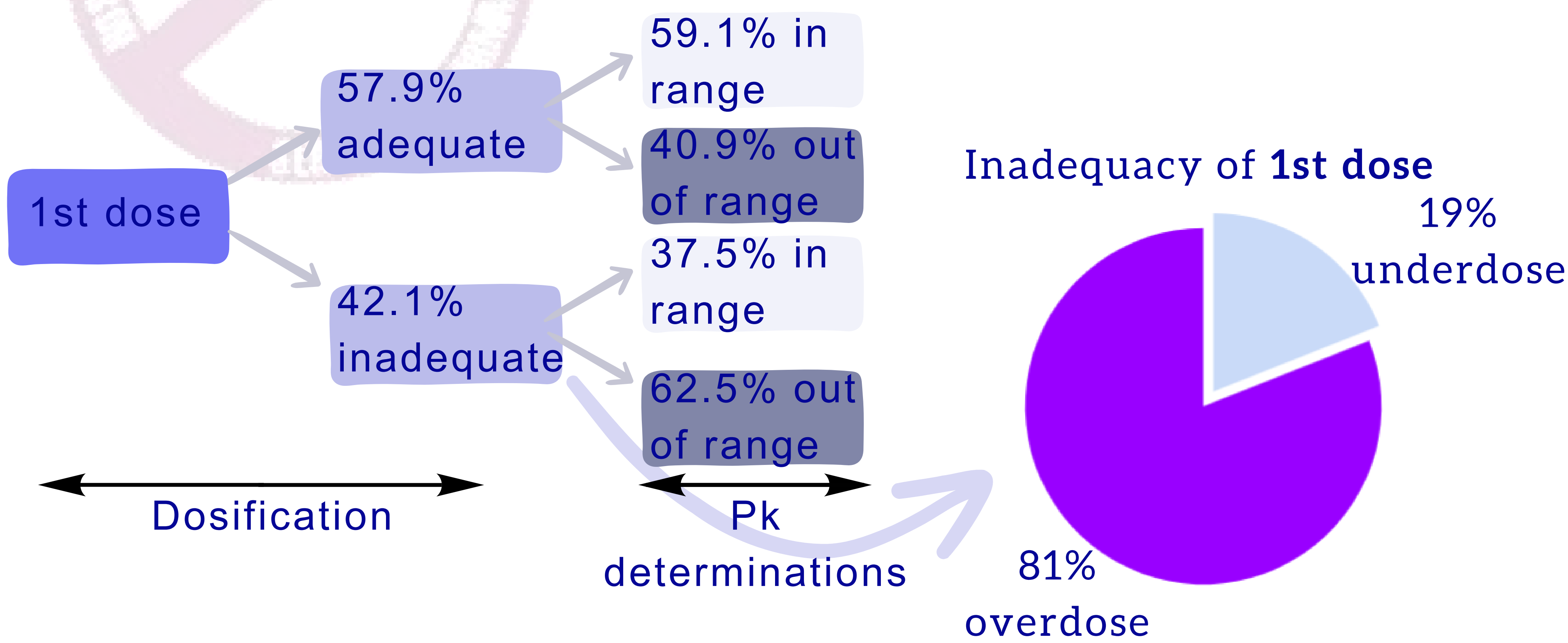
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<input checked="" type="checkbox"/> Sex	
<input checked="" type="checkbox"/> Height	
<input checked="" type="checkbox"/> Dose administered	
<input checked="" type="checkbox"/> Serum concentration	



- Retrospective analysis between January 2022 to August 2024.
- Population: Patients admitted to ICU with a **Body Mass Index (BMI)>25**
- Data obtained from: Orion Clinic® and Gestlab®.
- **Dose discrepancies** measured as the difference between the dose recommended by the **Prioam guidelines** and the one prescribed.
- The dose was adjusted to IBW with the **Devine formula**.

RESULTS

Patients	38 (24 men)
Age (years)	♂ 61.3±12.9
	♀ 74.1±9.9
Average BMI	31.9±8.1 kg/m ²
Number of determinations	102 (27 peak, 75 trough)



- **79.4%** of the pharmacokinetic recommendations were accepted by the physicians.
- A total of **57.9% of patients** (22 patients) **continued amikacin treatment** beyond the 5th dose, with **63.6%** (14 patients) achieving **optimal therapeutic concentrations**.

CONCLUSION AND RELEVANCE

Initial amikacin dose prescribed to overweight patients is often **inadequate**, leading to suboptimal serum concentrations, further exacerbated by the **patients' critical conditions**. This study highlights the **importance of pharmacokinetic units (PKUs)** in making recommendations to achieve therapeutic concentrations.

REFERENCES

1. Alvarez F. et al. Recommendations for antibiotic monitoring in ICU patients. Enfermedades infecciosas y Microbiología clínica, 2008

