

# THERAPEUTIC DRUG MONITORING OF LINEZOLID IN SOFT-TISSUE AND OSTEOARTICULAR INFECTIONS: A RETROSPECTIVE ANALYSIS

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## Background and Importance

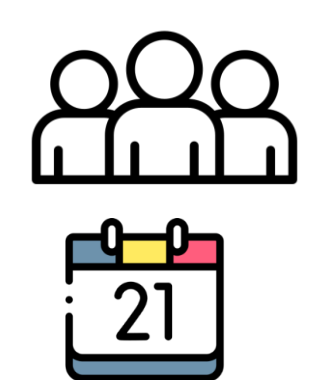
Therapeutic drug monitoring (TDM) of linezolid may be especially useful in situations when there is a potential alteration of its pharmacokinetics or an increased risk of adverse events (AE); obesity, renal failure, drug interactions or prolonged treatments.



## Aim and objectives

- To assess effectiveness and safety of linezolid in soft-tissue and osteoarticular infections (SOI) regarding linezolid serum concentrations (LSC)
- To analyze the influence of glomerular filtration rate (GFR) and body mass index (BMI) in LSC.

## Materials and methods

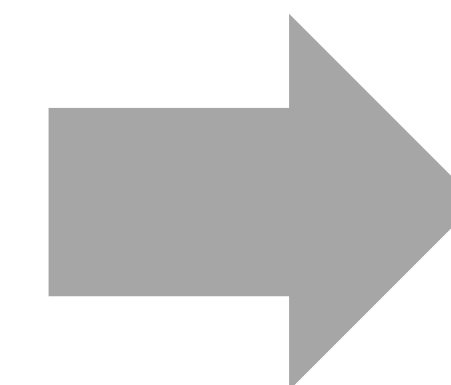


Observational retrospective study, including patients with SOI treated with linezolid between January-2019 → December-2021

- ✓ Therapeutic target trough LSC were settle at 2-8 mg/L.
- ✓ We studied the relationship among GFR and BMI with LSC using a multivariate regression analysis with IBM SPSS® Statistics program.

## Results

Total patients included	42
Mean age	58.7±16.1 years old
Sex	69.1% male
Initial dose of Linezolid	600mg q12
Median duration of treatment	34.2±17.4 days

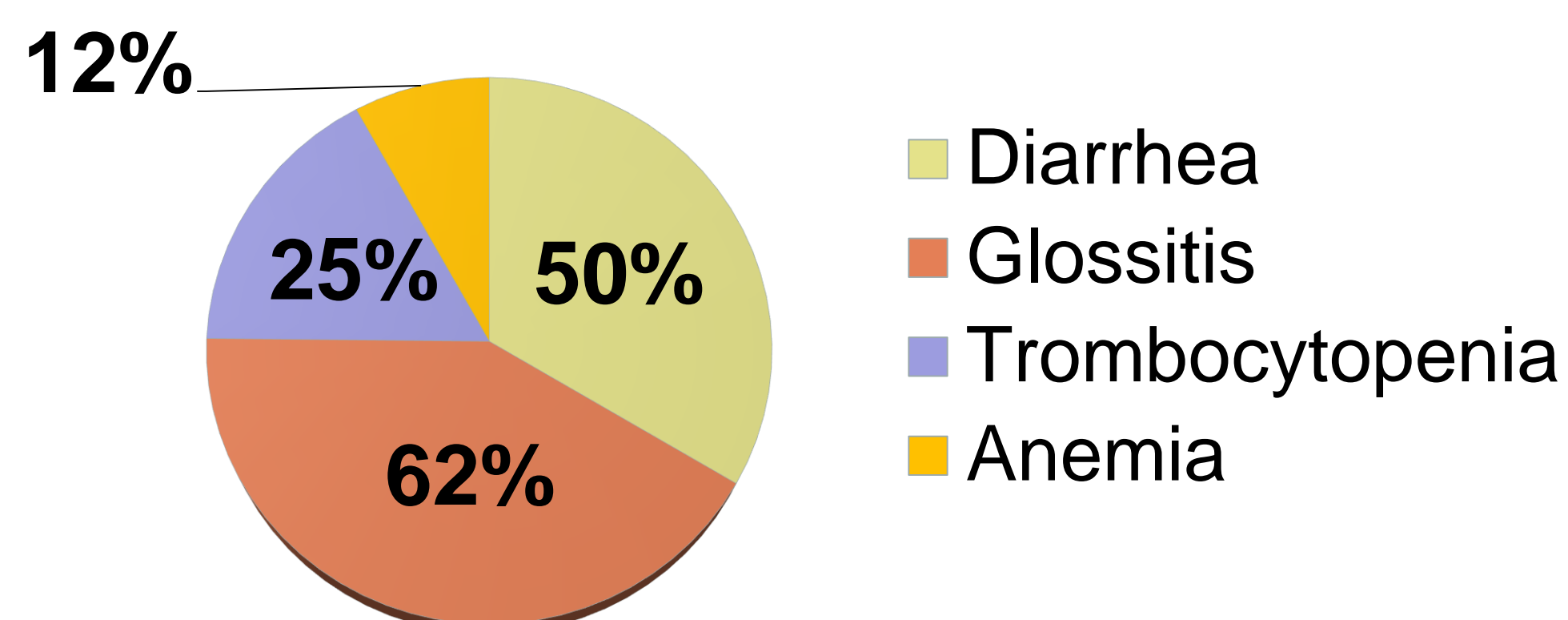


Patients with LSC outside therapeutic range (TR):	22 (52.4%)
Above TR	10 (45.5%)
Below TR	12 (54.5%)



**Adverse events:** in 16 (38.1%) patients → 7 (43.8%) above TR

Eight (50%) of them discontinued treatment due to AE:



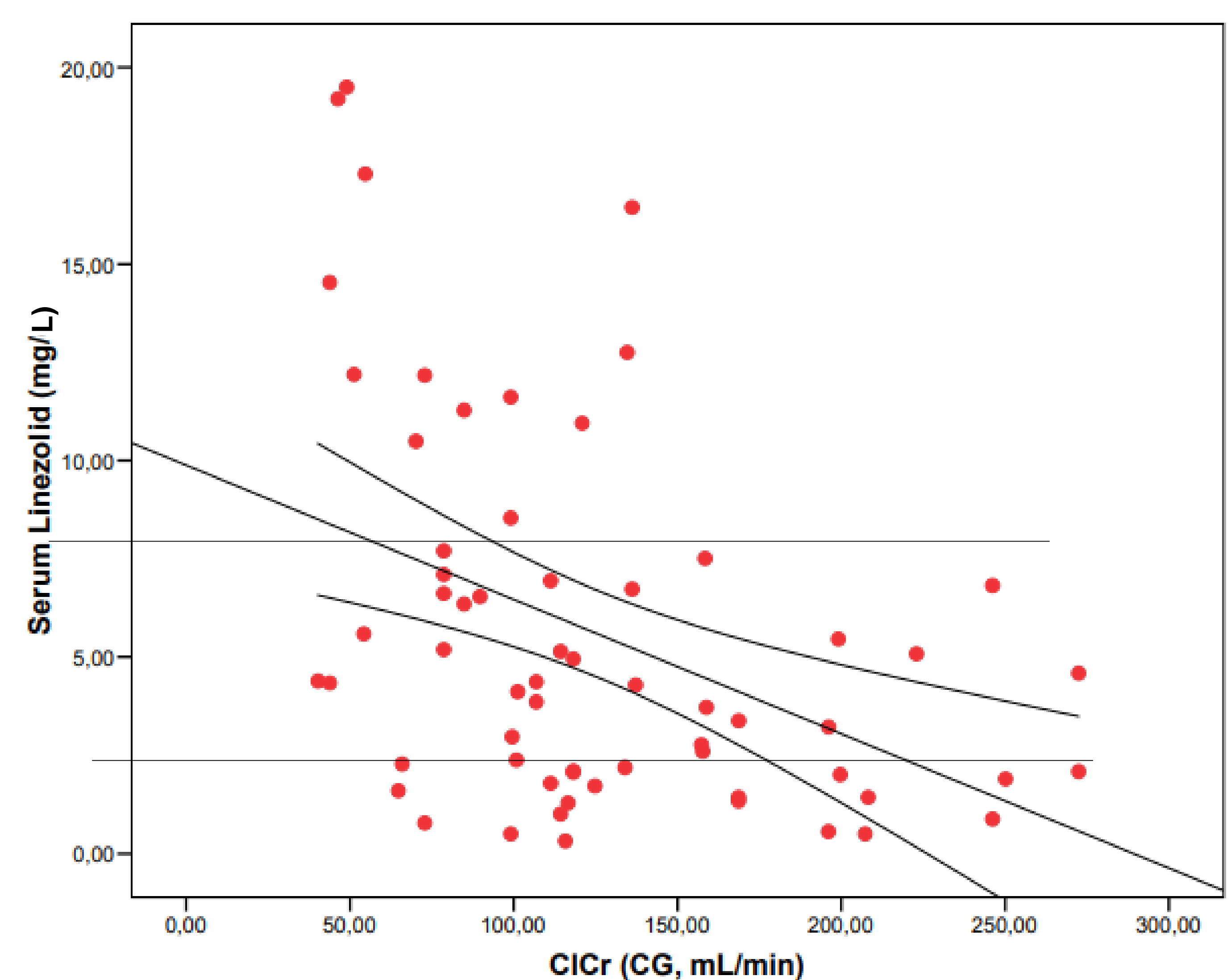
### Relationship between LSC, GFR and BMI:

- 7 (16.6%) patients had GFR<60 ml/min, of which 4 (57.1%) were over TR.
- 17 (40.5%) patients had a BMI>30, of which 5 (29.4%) had linezolid determinations outside the TR: 3(60.0%) of them below TR.



It was not found a significant correlation between BMI and LSC ( $p=0.34$ ), whereas a **significant inverse correlation was found between GFR and LSC ( $p=0.01$ )**.

- ✓ No relevant drug interactions were found.
- ✓ In only 3 (18.7%) patients with supratherapeutical LSC posology was modified.
- ✓ All infections (including ones in patients with LSC below TR) were resolved.



## Conclusion and relevance

In a great proportion of patients LSC were outside the TR, and the variable that seems to affect the most is GFR ( $p=0.01$ ), so TDM would be specially recommended in patients with a lower GFR to decrease AE, which occur frequently with high LSC. Effectiveness was demonstrated in all patients including the ones with LSC below TR.

