

# AVOID SIMULTANEOUS PRESCRIPTION BETWEEN LINEZOLID AND VORICONAZOL: PHARMACOKINETIC STUDY



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## Introduction

Take linezolid (LIN) and voriconazole (VCZ) at same time is common in routine clinical practice.

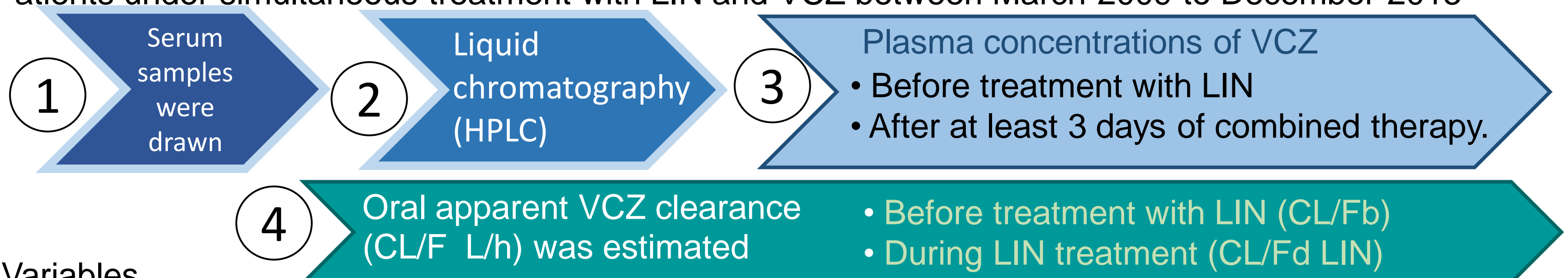
**Voriconazole (VCZ)** : Hepatic metabolism. Isoforms CYP2C19, CYP3A4 and CYP2C9.

**Linezolid (LIN)** : Metabolized in two metabolites (65%). Main metabolite independent of cytochrome P-450-isoenzymes

**Objective:** Analyze the potential of interaction between LIN and VCZ by pharmacokinetic monitoring.

## Material y Methods

- Single-centre, retrospective and observational study.
- Patients under simultaneous treatment with LIN and VCZ between March-2009 to December-2015



### Variables

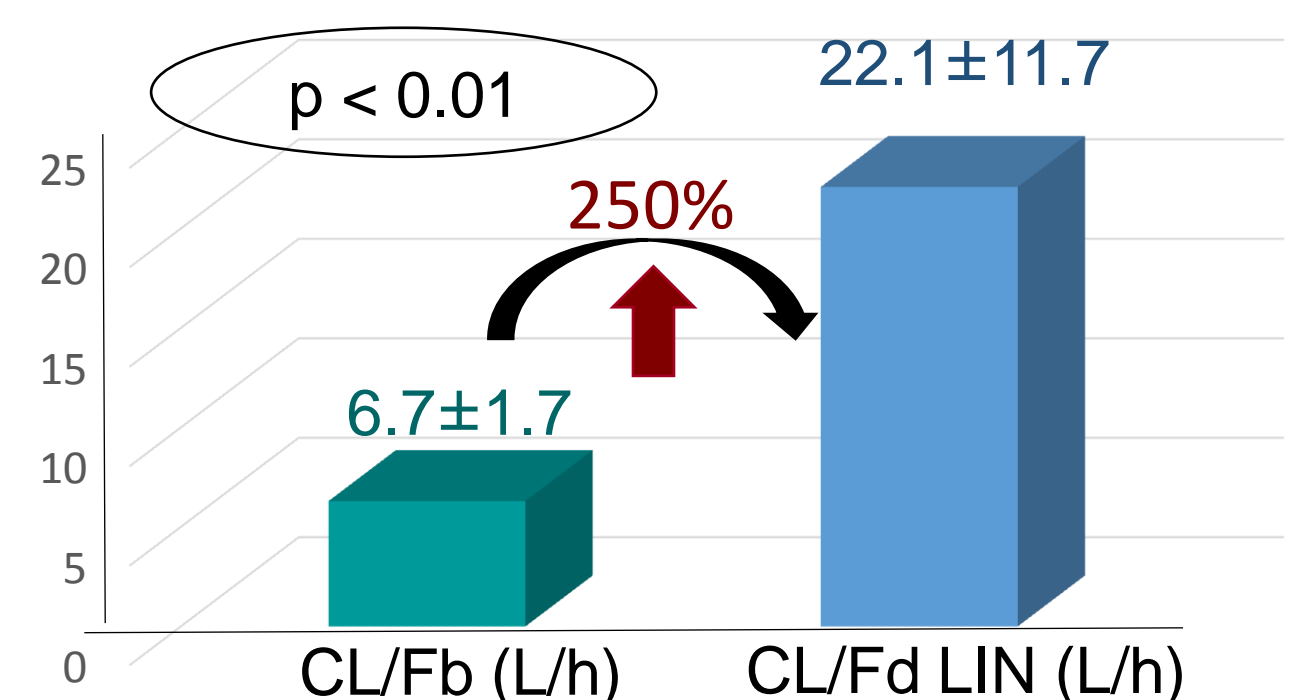
- ✓ Demographic: age, sex
- ✓ Treatment: dosing schedule, date and time of each dose.
- ✓ Clinic: diagnosis, microbiological information, etc.
- ✓ Kinetics: date and time of each sample

### Therapeutic range of VCZ

*Candida spp.* : 1.5 – 4.5 mcg/mL  
*Aspergillus spp.*: 2 – 4.5 mcg/mL

## Results

Variable	Result (n=5)
Sex ( men %)	100%
Age (years), median (range)	67(57-73)
Dose/day LIN (mg)	1.200
Dose/day VCZ (mg), mean ± SD	454.5±157.2
CL/Fb (L/h)	2.7±0.8
CL/Fd LIN (L/h)	22.1±11.7



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change anti-infective treatment to vancomycin or daptomycin.



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Maintained linezolid and **increase VCZ dose up to 75%** to reach at least the lower limit of therapeutic range.

VCZ concentrations observed (mcg/ mL): 0.9, 0.93, 0.42, 1.13, 1.21  
VCZ concentrations target (mcg/mL): 2-5

## Conclusion

- ✓ Add LIN to VCZ treatment **increases VCZ clearance** between 250-700% and as a result, plasma antifungal concentrations decrease with a significant clinical effect. This translates into a loss of effectiveness in antifungal treatment in 80% of cases.
- ✓ The use of this combination is contraindicated and if clinically there is no other alternative, **VCZ pharmacokinetic monitoring** is recommended to ensure effectiveness of antifungal treatment.