

THERAPEUTIC DRUG MONITORING OF AZOLE ANTIFUNGALS IN THE PEDIATRIC POPULATION IN TERTIARY CARE HOSPITALS

L. AMARO¹, C. MOYA-MANGAS¹, J. CORDERO-RAMOS¹, V. MERINO-BOHORQUEZ¹

¹HOSPITAL UNIVERSITARIO VIRGEN MACARENA, HOSPITAL PHARMACY, SEVILLA, SPAIN

4CPS-012

laura.amaro.sspa@juntadeandalucia.es

Background and importance

Triazole antifungals are broad-spectrum agents used in children for severe fungal infections and prophylaxis in high-risk transplant recipients. Due to significant pharmacokinetic variability in pediatric patients, individualized dosing is essential.

Aim and objectives

To describe the pharmacokinetic variability of azole antifungals in pediatric patients analyzing the impact of therapeutic drug monitoring.

Material and methods



Observational, retrospective, multicenter study
February 2020 - August 2025



Serum levels → HPLC

Therapeutic ranges

Voriconazole = 1.5-5.5 µg/mL
Isavuconazole = 2-5 µg/mL

Collected variables

- Demographics** Gender, age
- Biomarkers** Plasma levels, liver function
- Treatment** Treatment type (empirical / targeted / prophylaxis), Treatment toxicity, Pharmacist recommendation, Physician acceptance
- Clinical** Underlying disease, Infection type, Microbiological isolates (MIC)

Results

- 31 patients
- 65.38% girls – 11(6–12) years
- 94 samples
- 80,8% hematological conditions

Type of infection

- Respiratory → 81.9%
- Systemic → 6.4%
- Neurological → 5.3%



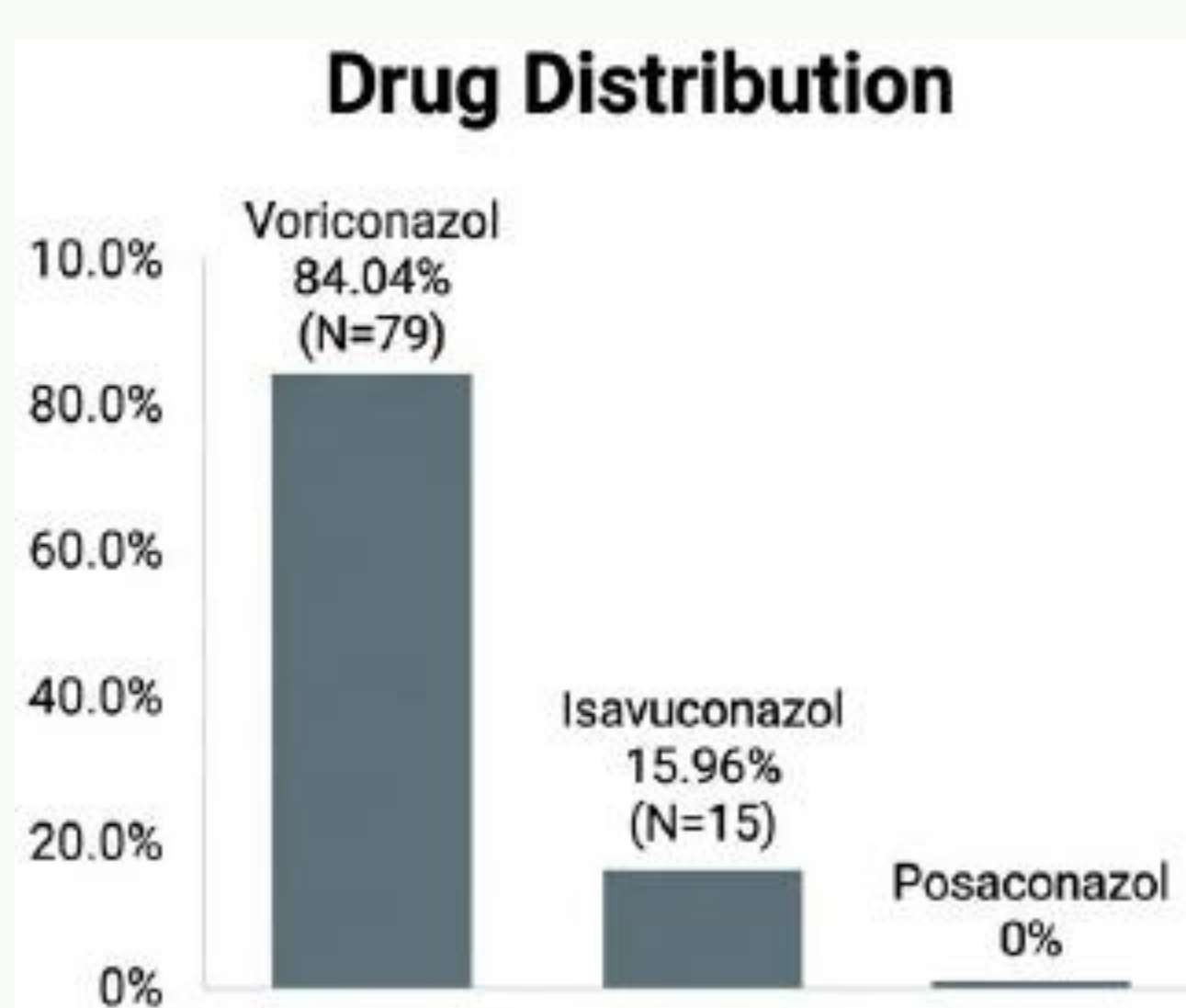
Aspergillus

- A. fumigatus* (N=9)
- A. terreus* (N=5)
- A. flavus* (N=3)



Candida

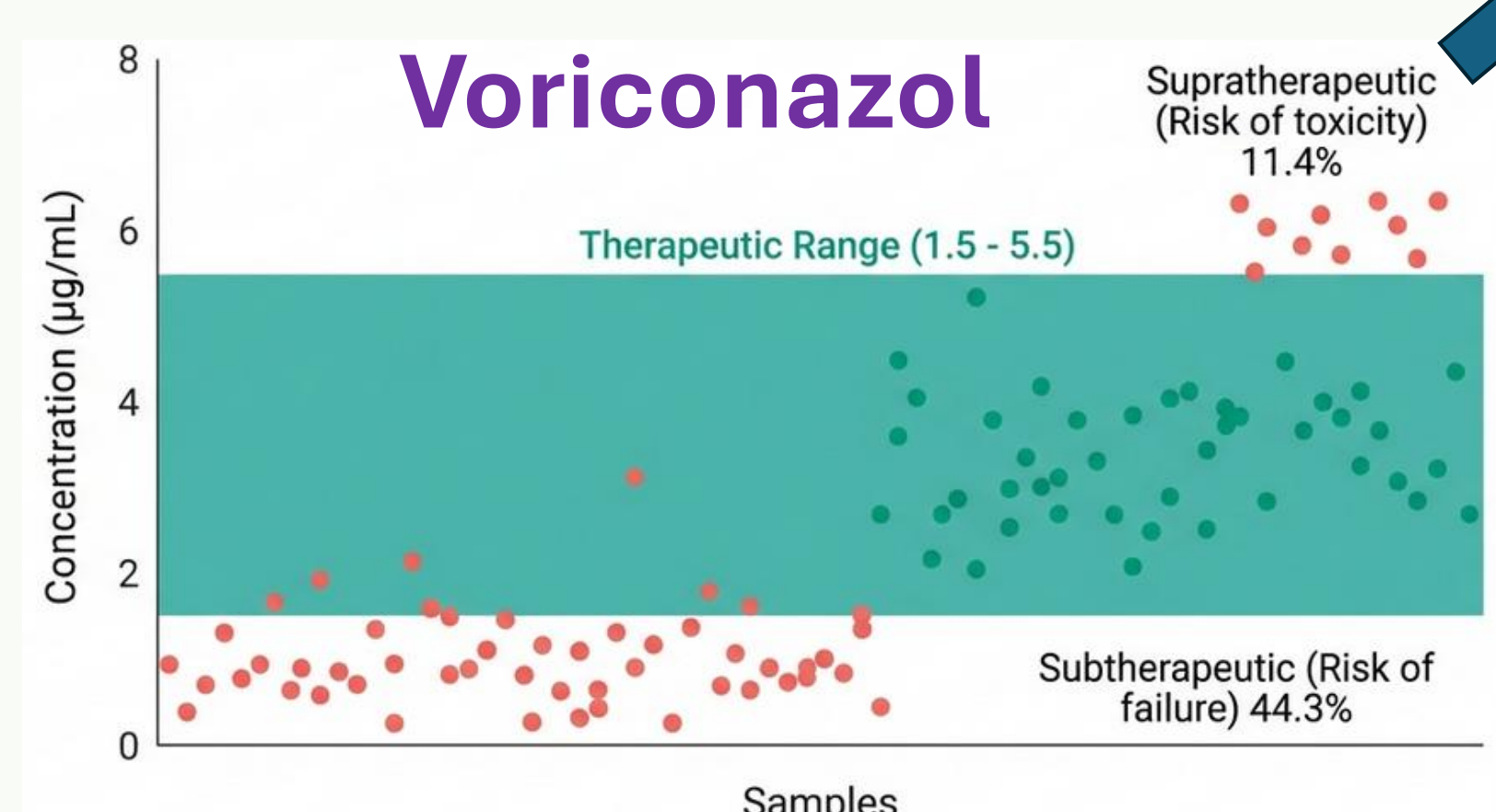
- C. guilliermondii* (N=4)
- C. krusei* (N=2)



Treatment

Empirical	74.5%
Targeted	24.5%
Prophylaxis	1.1%

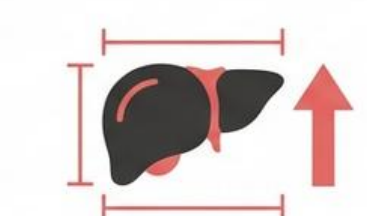
S to treatment



44% presented adverse effects

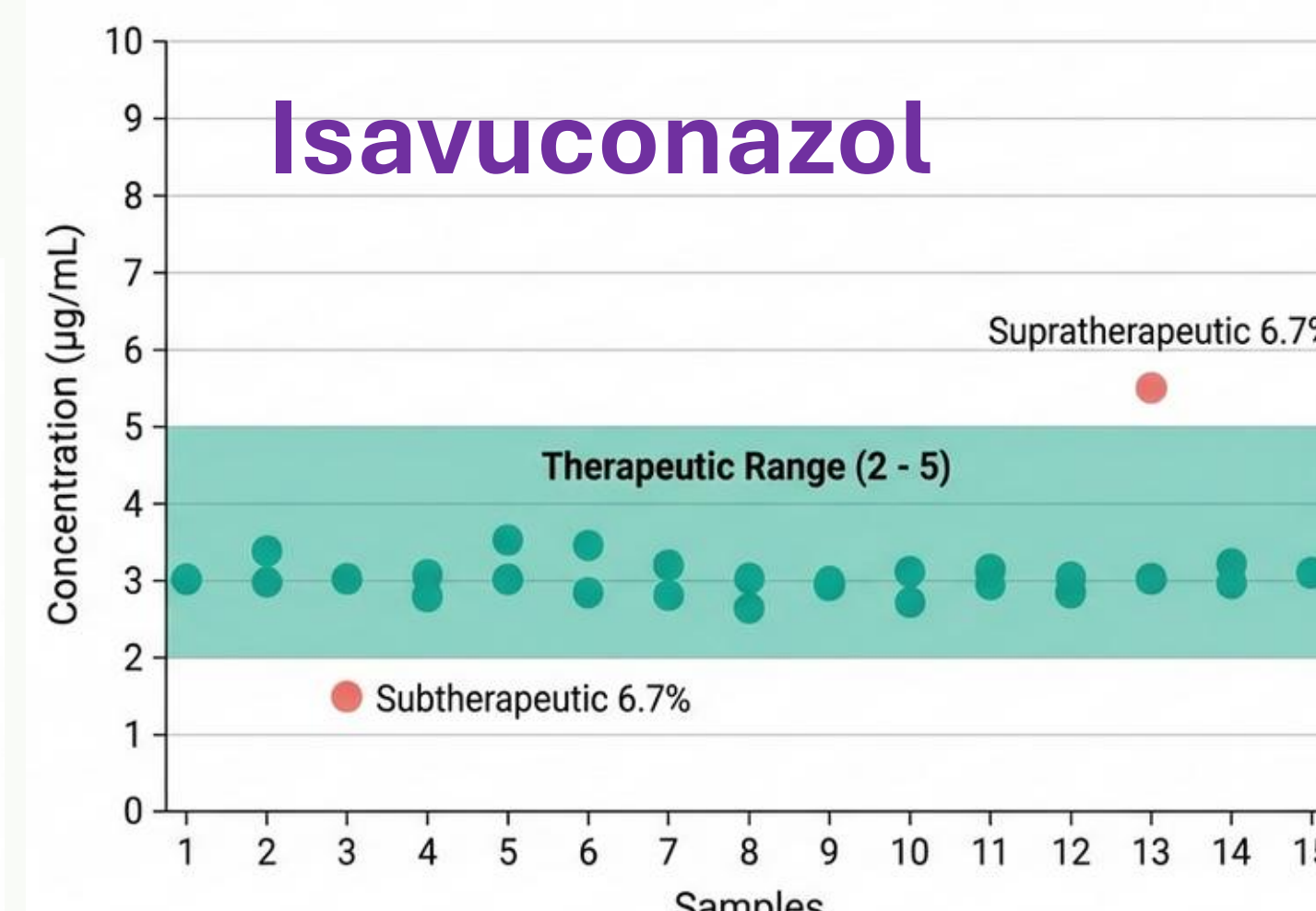
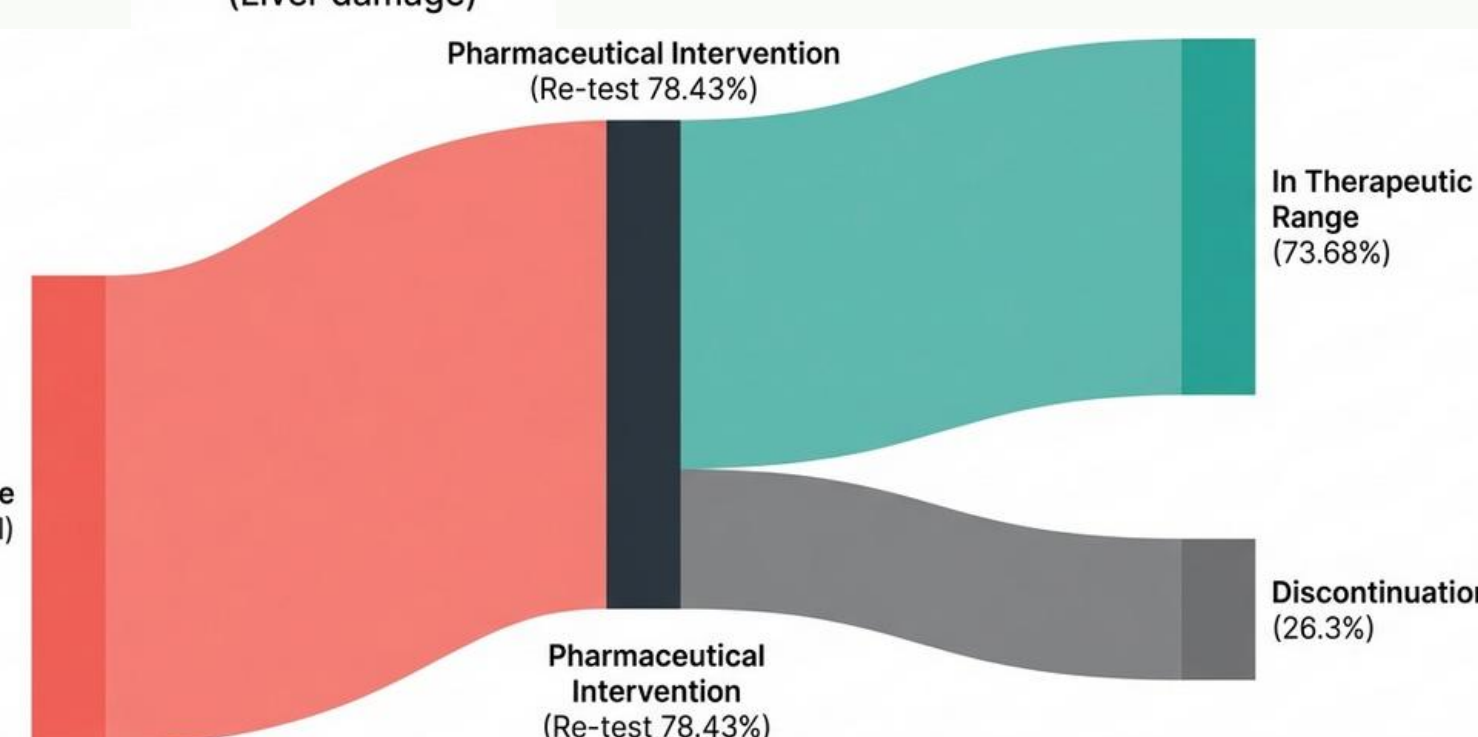


Visual disturbances



Hyperttransaminasemia (Liver damage)

Resolution with dose adjustment



Conclusion and relevance

Voriconazole shows high pharmacokinetic variability, with over 50% of levels outside the therapeutic range, emphasizing the need for therapeutic drug monitoring to ensure efficacy and safety in severe pediatric conditions.

