

EVALUATION OF THE STANDARD DOSAGE REGIMEN OF VORICONAZOLE IN PAEDIATRIC AND ADULT POPULATION THROUGH THERAPEUTIC DRUG MONITORING

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Background

Voriconazole is an antifungal drug used for invasive fungal infection with high pharmacokinetic variability and narrow therapeutic range and therefore, therapeutic drug monitoring (TDM) is recommended.

Objective

The objective was to evaluate the standard dosage regimen of voriconazole in pediatrics and adults population trough TDM.

Methods

- **Design:** Retrospective observational study
- **Inclusion criteria:**
 - Adult and pediatrics patients treated with voriconazole (oral/intravenous).
 - Standard dosage and without concomitant use of potent inducers or inhibitors
 - At least one trough plasma concentrations (C_{trough}) of voriconazole at steady state (>5 days)
- Standard dose was:
 - pediatrics: 8 mg/kg IV BID or 9 mg/kg PO BID
 - adults: 4 mg/kg IV BID or 200 mg PO BID.
- Data was stratified by pediatrics and adults patients
- Primary outcome was: percentage of patients with C_{trough} at steady state of voriconazol within the therapeutic range at the standard dose. Therapeutic window by indication:

Treatment	1-5 mg/L
Prophylaxis	0.5-5 mg

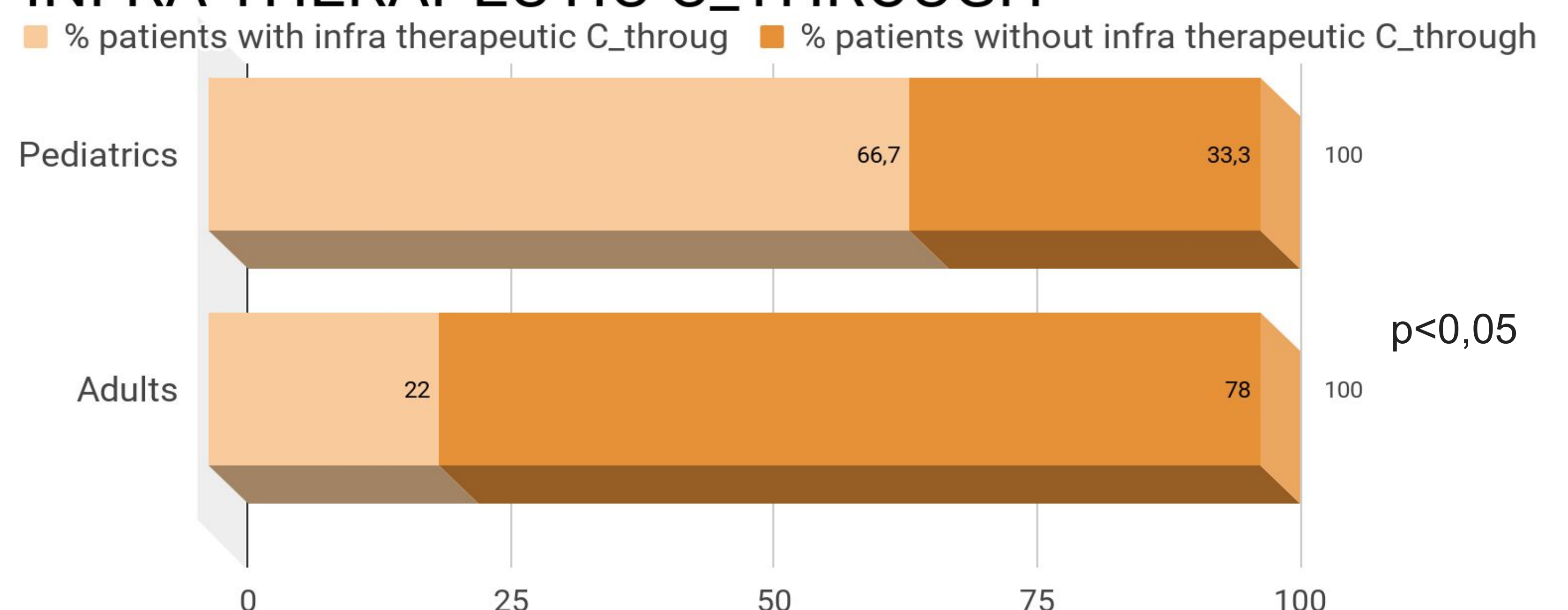
Results

- 56 patients were included (n)

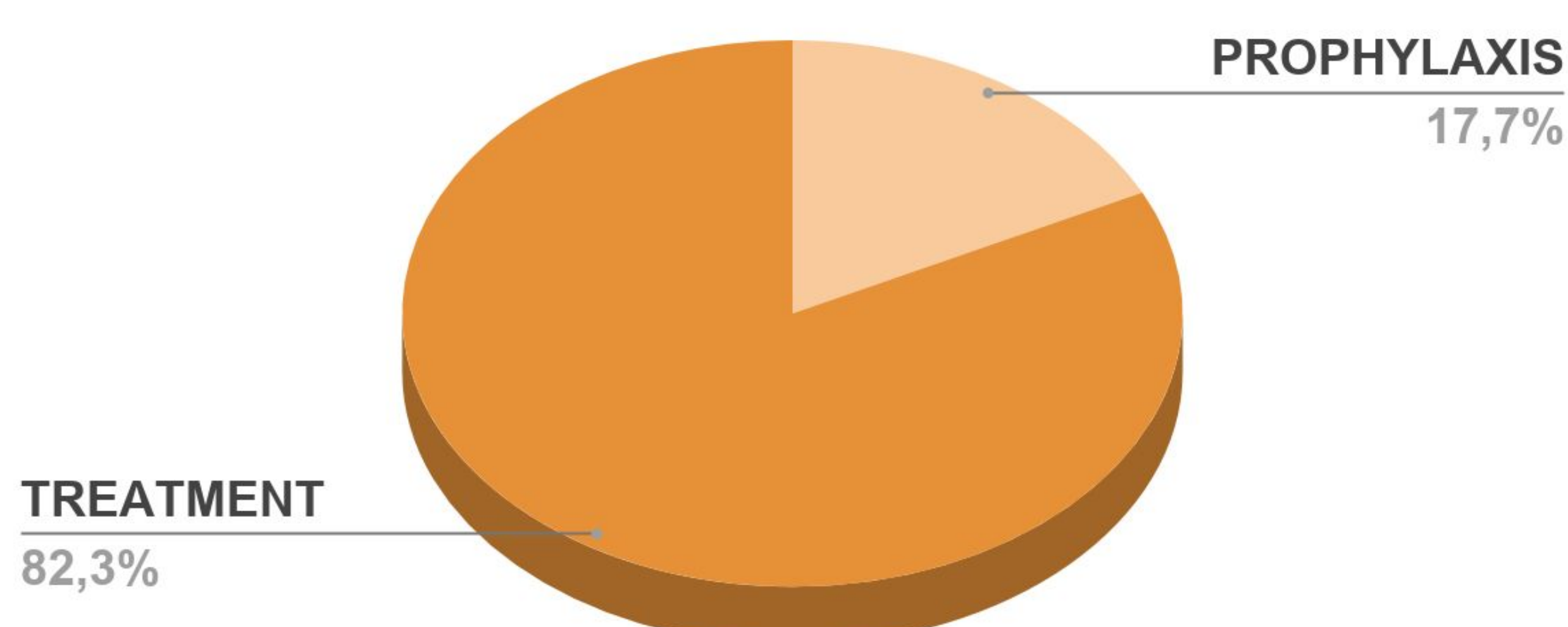
Demographics	Pediatric Group (CI 95%)	Adults Group (CI 95%)
Patients (%)	26,7	73,2
Age (years)	6.4 (3.9-9.0)	61.0 (56.4-65.6)
Weight (Kg)	25.5 (16.4-34.5)	69.9 (65.3-74.5)

Demographics	Pediatric Group (p25-75)	Adults Group (p25-75)
Median C _{trough} (mg/L) (p<0,05)	0,7 (0-5.5)	2,5 (0.1-8.0)

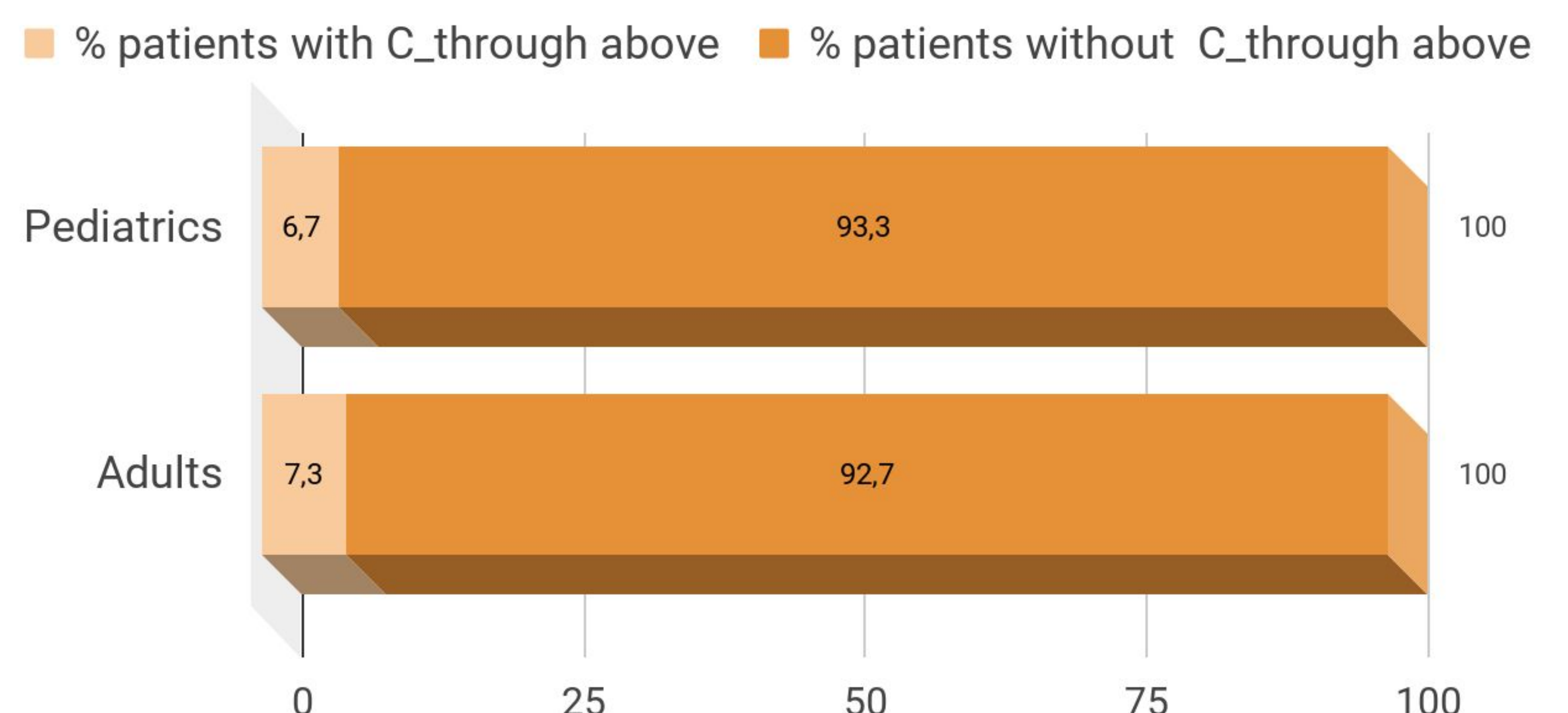
INFRA THERAPEUTIC C_{THROUGH}



INDICATION



C_{THROUGH} ABOVE THERAPEUTIC WINDOW



Conclusions

- The C_{trough} with the standard maintenance dose of voriconazol were within the therapeutic range in only 26.7% in pediatrics while in the adult group was 70.7%.
- Given the high variability observed in the C_{trough}, it is necessary to perform TDM at the beginning of the treatment to make an individualized dosage adjustment in both pediatrics and adults patients.

