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 pediatric and adults population through 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

Results

- 56 patients were included (n)

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Pediatric Group (CI 95%)</th>
<th>Adults Group (CI 95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients (%)</td>
<td>26.7</td>
<td>73.2</td>
</tr>
<tr>
<td>Age (years)</td>
<td>6.4 (3.9-9.0)</td>
<td>61.0 (56.4-65.6)</td>
</tr>
<tr>
<td>Weight (Kg)</td>
<td>25.5 (16.4-34.5)</td>
<td>69.9 (65.3-74.5)</td>
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<table>
<thead>
<tr>
<th>Demographics</th>
<th>Pediatric Group (p25-75)</th>
<th>Adults Group (p25-75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median C_through (mg/L) (p&lt;0,05)</td>
<td>0.7 (0-5.5)</td>
<td>2.5 (0.1-8.0)</td>
</tr>
</tbody>
</table>

Conclusions

- The C_through with the standard maintenance dose of voriconazole 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.