USE OF VANCOMYCIN: CURRENT PRACTICES IN A PAEDIATRIC HOSPITAL

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BACKGROUND

Vancomycin is a time-dependant antibiotic usually active on Gram-positive bacteria. An early identification and a monitoring of vancomycin blood-concentrations must be made. Actually, there is no specific guidelines for pediatric population.

OBJECTIVE

Assessment of vancomycin prescriptions and blood-concentration monitoring in a pediatric hospital to propose local recommendations of good practices.

METHODS

Retrospective analysis of computerized vancomycin prescriptions (> 2 days), from January to December 2016.

Demographic data

Additional medical data:
- renal function
- bacteria identification

Prescriptions-related parameters:
- therapeutic indications
- dosage
- administration mode

RESULTS

121 prescriptions - 87 patients

Average age: 8.9 (0,1-18,8) - 51,7% boys vs 48,3% girls

Number of prescriptions by department

<table>
<thead>
<tr>
<th>Department</th>
<th>Number of Prescriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematology</td>
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<tr>
<td>Neurology</td>
<td>10</td>
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<tr>
<td>Gastroenterology</td>
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<td>Nephrology</td>
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<tr>
<td>Orthopedics</td>
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<tr>
<td>General pediatrics</td>
<td>1</td>
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<tr>
<td>Pneumology</td>
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</tbody>
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Administration mode

- Continuous: 75
- Discontinuous: 46

Mean dose: 43mg/kg/day

Therapeutic indications

- aplasia or chemotherapy with febrile illness: 11
- sepsis: 10
- catheter or surgical device related infections: 16
- other indications: 0

VANCOMYCIN BLOOD-CONCENTRATIONS MONITORING

- 77 monitoring requested
- 66/77 (85,7%) out of target values
- 38/66 (57,6%) reassessed (dose adjustment or prescriptions stopped)

ADDITIONAL MEDICAL DATAS

- Bacteria identification
  - Negative culture results for 52.1% prescriptions
  - No identification requested for 5% of the prescriptions
- Renal function
  - No Glomerular Filtration Rate (GFR) for 5.8% of prescriptions
  - GFR > normal values for 6.6% → all prescriptions were stopped

CONCLUSION

The lack of vancomycin blood-concentrations follow-up, dose adjustments and the prescription heterogeneity justify the establishment of local recommendations of good practices.

This work will lead to discuss new recommendations for vancomycin use with the infectious diseases team.

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