Single-dose antibacterial treatment for asymptomatic bacteriuria in pregnancy

Dr. Constantin DICULESCU

Tutor: Dr. Olivier IRION
Dr. Michel BOULVAIN
Single-dose antibacterial treatment for asymptomatic bacteriuria in pregnancy

- Consequences (importance)
- Appearance (causes)
- Frequency
- Epidemiology of bacteriuria
- The optimal time for screening
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**OBJECTIVES:**

- To establish whether single-dose is efficiently in comparison with short-term (3-10 days), long-term (14-21 days) and continuous treatment (treatment continued until delivery).
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**DATA SOURCES**

- An English-language literature search, employing Medline, The Cochrane Library and bibliographic review of the references obtained, was performed.
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**STUDY SELECTION:**

- There was analyzed only the identified studies dealing with treatment of bacteriuria in pregnancy.
- Comparison of the results of single-dose treatment of urinary tract infections in pregnant women is confused by differences between published series in the duration of follow-up and in the diagnosis of infection.
Figure 1. Management of asymptomatic bacteriuria

All prenatal patients screened for bacteriuria
Dipstick for nitrites or
Semiquantitative culture
Initial prenatal visit

Positive screen
Confirm bacteriuria
Quantitative urine culture with susceptibilities

Negative initial screen
Low risk: no repeat screen needed
High risk of UTI: follow-up screens

Amoxicillin 3 g single dose
(if susceptible or empiric use with predicted susceptibility)
Penicillin allergic: Nitrofurantoin, Bactrim

Repeat dipstick culture:
1 week after therapy

Bacteriuria eliminated:
Rescreen monthly for recurrence

Persistent bacteriuria:
Retreatment necessary X 7 days

Recurrence or persistence:
Suppressive therapy (nitrofurantoin) until delivery
### Effective regimens for asymptomatic bacteriuria in pregnancy

<table>
<thead>
<tr>
<th>Antimicrobial</th>
<th>Dosage Details</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMOXICILLIN</strong></td>
<td>250 mg tid x 7 days</td>
<td>Well tolerated, extensive clinical use in pregnancy. Empirc use with predicted susceptibility; high urinary concentrations.</td>
</tr>
<tr>
<td></td>
<td>250 mg tid x 3 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 g single dose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 g followed by 3 g 12 h later</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 g single dose plus 1 g probenecid</td>
<td></td>
</tr>
<tr>
<td><strong>AMPICILLIN</strong></td>
<td>3.5 g single dose plus 1 g probenecid</td>
<td>Not so effective.</td>
</tr>
<tr>
<td><strong>NITROFURANTOIN</strong></td>
<td>100 mg qid x 7 days</td>
<td>Risk of hemolytic anemia with G6PD deficiency.</td>
</tr>
<tr>
<td></td>
<td>100 mg qid x 3 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 mg single dose</td>
<td></td>
</tr>
<tr>
<td><strong>SULFISOXAZOLE</strong></td>
<td>1 g followed by 0.5 g qid x 7 days</td>
<td>Associated with hyperbilirubinemia near term.</td>
</tr>
<tr>
<td></td>
<td>2 g single dose</td>
<td></td>
</tr>
<tr>
<td><strong>CEPHALEXIN</strong></td>
<td>1 g d x 3 days</td>
<td>Some studies report slightly lower cure rates.</td>
</tr>
<tr>
<td></td>
<td>2 g single dose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 g single dose plus 1 g probenecid</td>
<td></td>
</tr>
<tr>
<td><strong>AMOXICILLIN / CLAVULANIC ACID</strong></td>
<td>250 mg/125 mg tid x 7 days</td>
<td>Little experience in pregnancy, expensive.</td>
</tr>
<tr>
<td><strong>TRIMETHOPRIM (TMP) SULPHAMETHOXAZOLE (SXT)</strong></td>
<td>TMP 320 mg/SXT 1600 mg x 1 dose or 3 days</td>
<td>Use with caution in pregnancy because of question of teratogenicity.</td>
</tr>
<tr>
<td><strong>FOSFOMYCIN TROMETAMOL</strong></td>
<td>3 g single dose</td>
<td>Little experience in pregnancy.</td>
</tr>
<tr>
<td><strong>OFLOXACIN</strong></td>
<td>100 mg tid x 3 days</td>
<td>Well tolerated.</td>
</tr>
</tbody>
</table>
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**Discussion**

- The important issue:
  - the single-dose therapy as effective as short-term treatment
  - the proof of the elimination of bacteriuria
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Discussion

- Advantages of single-dose therapy:
  - Increasing of the patient compliance
  - Reduced cost
  - Reduction in side effects
  - Increased safety
  - Minimal medication
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**Discussion**

- Appropriate antimicrobial drugs:
  - penicillins
  - cephalosporins
  - nitrofurantoin
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Conclusions
- the single dose therapy = good choice
- therapy guided by antimicrobial susceptibility
- the estimated cure or failure by urine culture one week after