2014 PAS/ASPR Joint Meeting

Subspecialty: Emergency Medicine
Theme: Hospitalist Medicine

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Study Group associated with your submission (if applicable):
Group for the Study of the Young Febrile Infant of RISEuP-SPERG Network

QUESTIONNAIRE INFORMATION

Eastern Society for Pediatric Research: No, Do not consider this abstract for the Eastern SPR
Pediatric Hospital Medicine: No, Do not consider this abstract for presentation at the Pediatric Hospital Medicine, July 24-27, 2014
Research Type: Clinical
Presentation Sabbath Conflict on: N/A
APA Special Interest Groups, Committees or Regions: None

AWARDS APPLIED FOR:
APA Michael Shannon Research Award, ASPN Fellow Research Presentation Award

Title: Importance of Urine Dipstick in Evaluation of Febrile Infants with Positive Urine Culture. An Spanish Pediatric Emergency Research Network’s (RISeuP-SPERG Study)

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Background: Guidelines from the American Academy of Pediatrics (AAP) define a urinary tract infection (UTI) as the growth of >50000 ufc/ml in a urine culture (UC) of a single bacterium with an altered urine dipstick (UD) or urinalysis associated
**Objective:** To compare analytical and microbiological characteristics of febrile infants depending on the result of the UD and the UC

**Design/Methods:** Subanalysis of a prospective multicenter study developed in 19 Spanish Pediatric Emergency Departments members of the RISEUP-SPERG Network, including infants less than 90 days old with fever without source attended between Oct’11 and Jun’13.

UD was considered positive if there was a positive leucoesterase or nitrite test. Patients with an invasive bacterial infection (IBI -positive blood or cerebrospinal fluid culture-) not secondary to UTI were excluded.

**Results:** 3,235 infants were included. Table 1 shows characteristics of patients. Only patients in group 6 would be classified as UTI according to AAP guidelines. Among patients with an altered UD, infants with a UC>50,000 ufc/mL were similar to those with a UC 10,000-50,000 ufc/mL in relation to the isolated bacteria and the blood biomarkers. Patients with a normal UD and a positive UC show an inflammatory response similar to those with a negative UC.

<table>
<thead>
<tr>
<th>Mean (CI95%)</th>
<th>1 Negative UD and negative UC</th>
<th>2 Negative UD and UC 10000-50000 ufc/ml</th>
<th>3 Negative UD and UC &gt;50000 ufc/ml</th>
<th>4 Positive UD and UC 10000-50000 ufc/ml</th>
<th>5 Positive UD and UC &gt;50000 ufc/ml</th>
<th>6 Positive UD and UC &gt;50000 ufc/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>2230</td>
<td>135</td>
<td>51</td>
<td>92</td>
<td>53</td>
<td>474</td>
</tr>
<tr>
<td><strong>E. coli (%)</strong></td>
<td>-</td>
<td>-</td>
<td>23 (47.9)</td>
<td>50 (55)</td>
<td>43 (81.1)</td>
<td>430 (91.1)</td>
</tr>
<tr>
<td><strong>Associated IBI (%)</strong></td>
<td>-</td>
<td>-</td>
<td>2 (3.92)</td>
<td>2 (2.17)</td>
<td>1 (1.89)</td>
<td>35 (7.38)</td>
</tr>
<tr>
<td><strong>PCT (ng/ml)</strong></td>
<td>0.45 (0.22-0.69)</td>
<td>1.08 (0.14-2.03)</td>
<td>0.52 (0-1.96)</td>
<td>0.35 (0-1.49)</td>
<td>3 (1.51-4.49)</td>
<td>3.56 (3-03-4.09)</td>
</tr>
<tr>
<td><strong>CRP (mg/L)</strong></td>
<td>10.96 (9.75-12.18)</td>
<td>24.56 (19.62-29.51)</td>
<td>15.32 (7.27-23.37)</td>
<td>19.42 (13.43-25.41)</td>
<td>41.08 (33.16-49.01)</td>
<td>56.23 (53.58-58.89)</td>
</tr>
</tbody>
</table>

In patients in groups 3, 4 and 5 with bacteremia, the same bacterium was isolated in blood and urine cultures. Four of them were <15 days old.
**Conclusions:** The cut-off of 50,000 ufc/mL to diagnose a UTI should be reevaluated. Patients older than 15 days old with a negative UD and a positive UC should be managed individually as many of them could be asymptomatic bacteriurias.

**Other Previews:**

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