Case Study 1

Dengue Clinical Management

Reference Materials:

- PowerPoint slides
- WHO guidelines (http://apps.who.int/iris/bitstream/10665/76887/1/9789241504713_eng.pdf)

Time: 15 minutes, class based

Method: Case study: Individual work

Scenario: Male neonate born to an 18-year-old mother

18-year-old first-time mother, unsure of dates, ultrasound scan at 38 weeks.

History of:

- Fever for 5 days
- Hess test negative
- Platelet count: 98 000
- Dengue IgM positive
- Lower segment caesarian section (LSCS) for prolonged labour
- Normal placenta

Baby boy born via LSCS:

- Birth weight: 2800 grams
- Apgar score: 7/9
- Temperature: 36°C
- No rash
- Nasal flaring
- RR: 64/min, SaO2: 98% on air
- Lungs AE equal, clear
- Liver 2 cm
- Other systems normal
- Glucometer 2.1 mmol/L

Diagnosis: Congenital pneumonia, treated with IV C penicillin, gentamicin and hypoglycemia corrected

Laboratory results

<table>
<thead>
<tr>
<th>Age (days)</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 5</th>
<th>Day 7</th>
<th>Day 8</th>
<th>Day 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hb</td>
<td>14.9</td>
<td>14.6</td>
<td>13.9</td>
<td>14.6</td>
<td>13.3</td>
<td>12.7</td>
<td>13.1</td>
</tr>
<tr>
<td>HCT</td>
<td>42.9</td>
<td>40.6</td>
<td>38.5</td>
<td>39.6</td>
<td>36.1</td>
<td>34.9</td>
<td>35.8</td>
</tr>
<tr>
<td>WBC</td>
<td>15 750</td>
<td>17 920</td>
<td>12 180</td>
<td>10 610</td>
<td>13 140</td>
<td>14 800</td>
<td>32 200</td>
</tr>
<tr>
<td>Platelets</td>
<td>282 000</td>
<td>213 000</td>
<td>257 000</td>
<td>85 000</td>
<td>14 000</td>
<td>19 000</td>
<td>78 000</td>
</tr>
<tr>
<td>PT</td>
<td>17.1</td>
<td>14.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTT</td>
<td>53.1</td>
<td>44.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fibrin</td>
<td>208</td>
<td>225</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-dimer</td>
<td>1.0</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rx</td>
<td>Penicillin, Gent</td>
<td>Platelet transfusion</td>
<td>Meropenem, Amikacin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional results: Day 4: IgM-negative; Day 10 IgM-positive. Patient remained afebrile throughout illness.
Comment on results: 

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Notes:
- Dengue IgM will only become positive at the later stage of acute infection, usually after 5 days of illness.
- Clinical assessment and laboratory monitoring are important.
- A decision on management should not be based solely on dengue serology.

Comment on the platelet transfusion (no evidence-based guidelines available; transfuse in the presence of active bleeding):

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Drugs administered: IM vitamin K 1mg daily x 3 days

Comment on the administration of vitamin K:

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Notes:
- If mother is known to have dengue during peri-partum period,
- IM vitamin K should be avoided at birth
- IM vitamin K can be deferred i.e. administered upon discharge when the baby is well.

Should all newborn infants of mothers with acute dengue infection at delivery be admitted for observation?

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When and how often should a full blood count be done?

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What investigations should be performed to confirm congenital dengue?

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For how long should such babies be observed?

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