Listeriosis at a Tertiary Care Hospital in Beijing, China: High Prevalence of Non-Clustered Nosocomial Cases among Adult Patients

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Introduction
L. monocytogenes is an emerging infectious disease associated with high mortality.
Consumption of contaminated food is the main route of transmission.
L. monocytogenes has a strong predilection for the elderly and immunocompromised hosts. In the United States, it is the fourth causative microorganism of bacterial meningitis.
Most listeriosis cases have been reported from industrialized western countries. Reports form the Far East and developing countries are scarce.

Purpose
To retrospectively review all culture-proven cases of listeriosis at Peking Union Medical College Hospital (PUMCH) since 1999.
To describe the clinical characteristics and outcomes of the infected patients.

Methods
PUMCH is an 1800-bed tertiary care hospital in Beijing, China. It comprises two campuses.
Retrospective review all the culture-proven listeriosis cases between 1999 and 2011.
Clinical data were abstracted from the medical records.
Cases were categorized as neonatal, maternal, and non-maternal infections.
Nosocomial cases were defined as onset of symptoms >48 hours after admission for other medical conditions.

Results
We identified 38 cases between 1999 and 2011.
Twenty-five cases were non-maternal listeriosis, 92% (95% CI 75.03-97.78%) infections occurred in patients with significant comorbidities.
Eleven of the 25 non-maternal cases were nosocomial infection, which were non-clustered in location, seasonality and timing.

Table 2. Characteristics of 5 neonatal cases of listeriosis

<table>
<thead>
<tr>
<th>No</th>
<th>Sex</th>
<th>Presentation</th>
<th>Maternal illness</th>
<th>Gestation (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M</td>
<td>Septic shock</td>
<td>Sepsis, meningitis</td>
<td>37</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>Sepsis</td>
<td>Sepsis</td>
<td>39</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>Sepsis</td>
<td>Sepsis</td>
<td>37</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>Sepsis</td>
<td>Sepsis</td>
<td>38</td>
</tr>
<tr>
<td>5</td>
<td>M</td>
<td>Sepsis</td>
<td>Sepsis</td>
<td>37</td>
</tr>
</tbody>
</table>

Five of the 38 cases were neonatal listeriosis.
Eight of the 38 cases were maternal listeriosis.

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Conclusions
Non-clustered nosocomial cases of L. monocytogenes were not infrequently detected at a large tertiary care hospital in Beijing, China.
The source of these infections, whether exogenous or invasion from asymptomatic gastrointestinal colonization following immunosuppression, is not clear.
The setting of immunosuppression, listeria should be considered in the differential diagnosis of a febrile illness even in long-term hospitalized patients.

References

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