An Imported Case of Human Rabies - New Jersey 2011

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BACKGROUND

• Fatal zoonotic disease characterized by acute viral encephalomyelitis; nearly 100% case-fatality rate1
• Transmission usually by bite exposure or can be non-bite exposure (contamination of scratches, open wounds or mucous membranes with infectious materials such as saliva, cerebral spinal fluid, or neural tissue)
• Majority of human rabies deaths globally caused by canine rabies virus variant from dog bite exposure3
• In the United States, last human case due to canine rabies virus variant in 19944

CASE REPORTED

• On July 7, the New Jersey Department of Health and Senior Services (NJDHSS) was notified about suspect rabies in a 73-year-old Haitian woman with meningoencephalitis (Figure 1)
• No animal exposure known at the time of hospitalization

LABORATORY TESTING

• Rabies viral antigen and RNA detected in mucus biopsy via direct fluorescent antibody and RT-PCR
• RNA sequence of virus closest to that found in 2004 Florida human rabies patient associated with a canine rabies virus variant from Haiti

HEALTH-CARE WORKER CONTACTS

• 246 hospital staff members identified as possible contacts of patient during hospital stay
• One high-risk health-care worker declined PEP due to history of negative reactions to vaccines and her own determination that exposure to rabies virus was unlikely
• 10 (4%) received PEP (Tables 2 & 3)

RESULTS

Table 2: Results of health-care workers risk assessment

<table>
<thead>
<tr>
<th>PEP received</th>
<th>Nil</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEP received</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>133</td>
<td>26</td>
<td>8</td>
<td>266</td>
</tr>
</tbody>
</table>

• Prompt and thorough education of hospital employees and social contacts was critical for assessing rabies virus exposure risk and minimizing unnecessary PEP
• Medical and public health evaluation needed for all animal bites from mammalian species, regardless of severity
• Rabies is preventable if PEP is administered soon after exposure
• In countries where the canine rabies virus variant is endemic, all dog bites should be treated

LESSONS LEARNED

• Important of standard infection control procedures with hospital exposure

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REFERENCES


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