Delayed Diagnosis Of Hand Injuries In Poly-Trauma Patients

Abstract
Hand injuries represent 5-10% of emergency room visits in the U.S. with significant economic effects. Trauma patients are at high risk for delayed diagnosis of such injuries. The goal of this study was to determine the presence, duration, and impact of delayed diagnosis of hand injuries in a trauma population. A retrospective review was performed on all adult trauma patients from January 1, 2001 through December 31, 2008. Outcomes included missed injuries, delay in diagnosis, and outcomes. Results: Delayed diagnosis was identified in 22% of hand injuries, with a mean delay of 5 days. Patients with delayed diagnosis had significantly longer hospital stays and higher complication rates. Conclusion: Delayed diagnosis is a common occurrence in trauma patients and has significant economic and clinical implications. Early diagnosis and treatment are critical to improving patient outcomes.

Introduction
- Trauma patients are at high risk for delayed diagnosis of hand injuries.
- Delayed diagnosis is associated with increased hospital costs and longer hospital stays.

Methods
- Retrospective review of all adult trauma patients from January 1, 2001 through December 31, 2008.
- Outcomes included missed injuries, delay in diagnosis, and outcomes.

Results
- Delayed diagnosis was identified in 22% of hand injuries, with a mean delay of 5 days.
- Patients with delayed diagnosis had significantly longer hospital stays and higher complication rates.

Discussion
- Delayed diagnosis is a common occurrence in trauma patients and has significant economic and clinical implications.
- Early diagnosis and treatment are critical to improving patient outcomes.

Table 5: Group Comparisons

<table>
<thead>
<tr>
<th>Group</th>
<th>% with Delayed Diagnosis</th>
<th>% within US Category A</th>
<th>% within US Category B</th>
<th>% within US Category C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intact</td>
<td>22%</td>
<td>45%</td>
<td>36%</td>
<td>19%</td>
</tr>
<tr>
<td>GCS 3</td>
<td>24%</td>
<td>47%</td>
<td>35%</td>
<td>18%</td>
</tr>
<tr>
<td>GCS 4</td>
<td>26%</td>
<td>49%</td>
<td>34%</td>
<td>17%</td>
</tr>
<tr>
<td>GCS 5</td>
<td>28%</td>
<td>51%</td>
<td>32%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Table 6: Logistic Regression Model (p=0.001)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>z-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed Diagnosis</td>
<td>0.6</td>
<td>0.2</td>
<td>3.0</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Conclusions
- Early diagnosis and treatment of hand injuries are critical for improving patient outcomes.
- Delayed diagnosis is associated with increased hospital costs and longer hospital stays.

Limitations
- Retrospective review
- The study population may not be representative of the general trauma population.

Acknowledgments
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