Development and Validation of the San Diego Symptom Score for Acute HIV Infection

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1. Statistical analysis

- To derive and validate a San Diego Symptom Score (SDSS) that is predictive of AHI and inclusive of non-MSM.

Table 1: Baseline Characteristics

<table>
<thead>
<tr>
<th>Symptom</th>
<th>AHI (n=113)</th>
<th>HIV-negative (n=883)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>60%</td>
<td>96%</td>
<td>24.9 (13.7-45.4)</td>
</tr>
<tr>
<td>Myalgia</td>
<td>52%</td>
<td>94%</td>
<td>16.8 (9.4-30.0)</td>
</tr>
<tr>
<td>Weight loss ≥2.5kg</td>
<td>22%</td>
<td>98%</td>
<td>14.6 (3.3-34.9)</td>
</tr>
<tr>
<td>Headache</td>
<td>51%</td>
<td>81%</td>
<td>3.4 (2.0-5.7)</td>
</tr>
<tr>
<td>Pharyngitis</td>
<td>42%</td>
<td>86%</td>
<td>4.8 (2.9-8.2)</td>
</tr>
<tr>
<td>Rash</td>
<td>22%</td>
<td>95%</td>
<td>3.6 (1.9-7.1)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>52%</td>
<td>89%</td>
<td>8.7 (5.1-14.8)</td>
</tr>
<tr>
<td>Night sweats</td>
<td>41%</td>
<td>94%</td>
<td>10.5 (5.9-18.9)</td>
</tr>
<tr>
<td>GI symptoms</td>
<td>37%</td>
<td>89%</td>
<td>4.1 (2.4-7.1)</td>
</tr>
<tr>
<td>Arthralgia</td>
<td>19%</td>
<td>96%</td>
<td>8.5 (4.2-17.0)</td>
</tr>
<tr>
<td>Lymphadenopathy</td>
<td>27%</td>
<td>95%</td>
<td>5.8 (2.9-11.6)</td>
</tr>
</tbody>
</table>

Underlining indicates significance. OR, odds ratio

Table 2: Diagnostic Parameters and Multivariable Model Odds Ratios In the Derivation Set

- The multivariate model is shown in Table 2; Hosmer-Lemeshow statistic was non-significant (P=.308).

- The SDSS consists of:
  1. Fever (11 points)
  2. Myalgia (8 points)
  3. Weight loss ≥2.5kg (4 points)

Table 3: Diagnostic Parameters at Varying Cut Offs

- SDSS Validation
  - ROC curves are shown in Figure 1; in a subanalysis with MSM, the SDSS performed similarly.
  - At an optimal cut off of ≥1, the SDSS was 72% sensitive and 96% specific (Table 3).

- A cut-off of ≥1 would:
  - Miss 32/113 AHI cases
  - Spare 850/885 NATs

- A cut-off of ≥4 would:
  - Miss 29/113 AHI cases
  - Spare 797/885 NATs

Conclusions

- The San Diego Symptom Score:
  1. was predictive of AHI
  2. appears to outperform other existing scores for AHI
  3. must be further validated in other populations, esp. women

- Limitations:
  1. Few women in AHI group, though no difference in # of symptoms reported between men and women in HIV.
  2. No intermediate sensitivities between 74% and 100%

Acknowledgements

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