Trends and outcome of HIV-positive patients with late presentation for combination antiretroviral therapy in Taiwan: a cohort study

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Objectives

We aimed to assess the trends of late presentation for combination antiretroviral therapy (cART) and evaluate its impact on treatment response to cART in Taiwan, where nationwide access to free-of-charge cART and CD4 and plasma HIV RNA load (PVL) monitoring is provided.

Study aims

1. To assess the trends of patients who started cART with CD4<200 cells/mm³ (late presenters) in Taiwan.
2. To describe the pre-treatment drug resistance of HIV-1 isolates from late- vs non-late-presenters.
3. To investigate the outcome of patients who presented late for Cart.

Methods

1. Study duration: 2012/6/1-2015/3/31
2. Subjects: HIV-infected patients, aged 18 years or older, who initiated cART
3. Study site: National Taiwan University Hospital (NTUH)
4. Data collected using excel
   1) Demographics
   2) Clinical data: WBC, hemoglobin, RPR, HBsAg, anti-HCV, CD4 count and PVL at baseline and during follow-up
   3) Types of cART initiated
   4) Pre-treatment drug resistance

Results

1. The baseline characteristics of 754 HIV-positive patients are shown in Table 1.
2. Trends of PVL and CD4 for late presenters and non-late presenters are shown in Figure 1.
3. The data of genotypic resistance of HIV-1 to four classes of antiretroviral agents shown in Figure 2.
4. The data of virological and immunological responses in Figure 3.
5. The data of Clinical outcome of patients on cART in Figure 4.

Conclusions

In Taiwan, the proportion of HIV-positive patients who presented late for cART remains at about 30% at this university hospital. Late presenters have more unfavorable clinical and virological characteristics that might contribute to the increased probability of switching cART and mortality once cART was begun.

Table 1. Characteristics of HIV-positive patients initiating cART

<table>
<thead>
<tr>
<th>Variable</th>
<th>Late presenters (CD4&lt;200)</th>
<th>Non-late presenters (CD4&gt;200)</th>
<th>All</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient number, n (%)</td>
<td>247</td>
<td>507</td>
<td>754</td>
<td>-</td>
</tr>
<tr>
<td>Age, mean (SD), years</td>
<td>36.8 (10.4)</td>
<td>30.87 (8.0)</td>
<td>32.8 (9.3)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>MSM, n (%)</td>
<td>221 (89.5)</td>
<td>484 (95.5)</td>
<td>705 (93.5)</td>
<td>0.009</td>
</tr>
<tr>
<td>HBsAg-positive n=726</td>
<td>34 (14.2)</td>
<td>38 (7.8)</td>
<td>72 (9.9)</td>
<td>0.007</td>
</tr>
<tr>
<td>Anti-HCV-positive</td>
<td>11 (4.5)</td>
<td>20 (4.1)</td>
<td>31 (4.3)</td>
<td>0.78</td>
</tr>
<tr>
<td>CD4 at initiation of cART, mean (SD), cells/mm³</td>
<td>83.8 (61.7)</td>
<td>379.2 (140.9)</td>
<td>282.4 (183.9)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>PVL at initiation of cART, mean (SD), log₁₀ copies/ml</td>
<td>5.3 (0.7)</td>
<td>4.7 (0.7)</td>
<td>4.9 (0.8)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Opportunistic illness, n (%)</td>
<td>111 (44.9)</td>
<td>8 (1.6)</td>
<td>119 (15.8)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Number of patients completing 24 weeks of follow-up, n (%)</td>
<td>172 (69.6)</td>
<td>342 (67.4)</td>
<td>514 (68.1)</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Figure 2. Pre-treatment drug resistance of HIV-1 among late vs non-late presenters

Figure 3. Virological and immunological responses

Figure 4. Clinical outcome of patients on cART