Prevalence of chronic and acute HIV infection among febrile adults attending emergency departments in urban Tanzania

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BACKGROUND

• WHO recommends systematic HIV screening among patients seen in health facilities in countries with generalized HIV epidemics.
• WHO recommends to repeat testing 4 weeks later in the presence of a clinical indication of HIV infection.
• In resource limited-settings, HIV screening is done by rapid diagnostic tests based on the detection of antibodies which will not allow to diagnose primary HIV infections that could be the reason of fever.

➢ We aimed to investigate the prevalence of chronic and acute HIV infections among patients with fever attending outpatient clinics in Dar es Salaam, Tanzania.

MATERIALS AND METHODS

• Consecutive adults with acute fever ( tympanic temperature ≥38°C for 5 days) were recruited in outpatient clinics in Dar es Salaam between July 2013 and May 2014.
• Detailed medical history and clinical examination were done. Rapid diagnostic test for HIV was systematically performed and confirmed in case positivity following national recommendations (chronic HIV infection). All patients with a negative HIV rapid test had an antigen p24 screening (acute HIV infection).
• Additional rapid, culture- and molecular-based microbiological tests were performed according to pre-defined algorithms to investigate the causes of fever.
• During the study period, the prevalence of HIV infection among Tanzanians aged 15 to 49 years in Dar es Salaam was 6.9%.

RESULTS

Study population

<table>
<thead>
<tr>
<th></th>
<th>All N=519</th>
<th>HIV- infected N=128</th>
<th>HIV-negative N=391</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (sd)</td>
<td>30 (23-40)</td>
<td>35 (29-41)</td>
<td>27 (22-37)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Female sex</td>
<td>273 (53%)</td>
<td>81 (63%)</td>
<td>192 (49%)</td>
<td>0.005</td>
</tr>
<tr>
<td>HIV infection</td>
<td>128 (25%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>58 (11%)</td>
<td>22 (18%)</td>
<td>36 (9.4%)</td>
<td>0.01</td>
</tr>
<tr>
<td>Low</td>
<td>271 (54%)</td>
<td>67 (55%)</td>
<td>204 (53%)</td>
<td>-</td>
</tr>
<tr>
<td>Medium</td>
<td>177 (35%)</td>
<td>33 (27%)</td>
<td>144 (38%)</td>
<td>-</td>
</tr>
<tr>
<td>Low body mass index</td>
<td>110 (23%)</td>
<td>36 (30%)</td>
<td>74 (20%)</td>
<td>0.02</td>
</tr>
<tr>
<td>Admission</td>
<td>81 (16%)</td>
<td>34 (27%)</td>
<td>47 (12%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>28-day mortality</td>
<td>32 (6.2%)</td>
<td>18 (14%)</td>
<td>14 (3.6%)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

HIV status

- 24% (122/519) HIV-negative
- 1.2% (6/519) Chronic HIV infection
- 74% (391/519) Acute infections

122 patients with chronic HIV infection

- 43% (52/122) Known HIV diagnosis
- 57% (70/122) New HIV diagnosis

- 48% (62/122) CD4; median (IQR) 240 (195-318) cells/mm³
- 21% (25/122) CD4 >200 cells/mm³
- 21% (25/122) CD4 <200 cells/mm³

Known HIV-infected patients and cART

- 42% (22/52) No cART
- 58% (30/52) cART

6 patients with acute HIV infection

- Four patients presented with fever without focus
  - one having a rash
  - two having concomitant dengue
- one patients presented with a pharyngitis
- one patients presented with a bronchitis

Among 30 HIV-infected patients not receiving cART, 13 (43%) had a CD4 T cell count <350 cells/mm³.

DISCUSSION

➢ The high prevalence of HIV infection in this population emphasize the need for systematic HIV screening among febrile adults attending outpatient clinics.
➢ Every opportunity of HIV screening should be taken as the majority of patients were newly diagnosed for HIV with an advanced disease.
➢ Linkage to care should improve as more than half of the patients previously known for HIV were not receiving cART despite local guidelines recommending cART for patients with CD4<350 cells/mm³.
➢ It is challenging to identify patients with primary HIV infection as the clinical picture is non-specific and they can present with co-infections.