Immunological and virological responses to combined antiretroviral treatment in male and female migrants in Europe: is benefit equal for all?

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Background

- Migrants account for a large proportion (~38%) of the people living with HIV and AIDS in European Union/European Economic Area
- The Collaboration of Observational HIV Epidemiological Research Europe (COHERE) has described significant differences in mortality according to geographical origin (GO)
- Heterosexual women from the Caribbean and heterosexual men from Latin-America experience higher all-cause mortality than native HIV-positive populations

Objective

To evaluate differences in immunological and virological responses to combined antiretroviral treatment (cART) in male and female HIV-positive persons according to their GO within COHERE from 2004 to 2013

Methods

Study population

Data from COHERE (www.cohere.org), updated in 2013 within EuroCoord (www.EuroCoord.net), which consists of 279,659 HIV-positive individuals of 40 observational cohorts from 32 European countries

Results

32,817 patients 25,799 (78.6%) MEN
7,018 (21.4%) WOMEN

<table>
<thead>
<tr>
<th>Geographical Origin</th>
<th>Men</th>
<th>Women</th>
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<tbody>
<tr>
<td>NAT</td>
<td>20,340 (78.8%)</td>
<td>582 (2.9%)</td>
</tr>
<tr>
<td>WEWC</td>
<td>342 (1.3%)</td>
<td>149 (2.1%)</td>
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<tr>
<td>EE</td>
<td>1,632 (6.3%)</td>
<td>272 (30.9%)</td>
</tr>
<tr>
<td>NAME</td>
<td>1,586 (6.1%)</td>
<td>370 (5.3%)</td>
</tr>
<tr>
<td>SSA</td>
<td>290 (1.1%)</td>
<td>226 (3.2%)</td>
</tr>
<tr>
<td>LA</td>
<td>376 (1.5%)</td>
<td>181 (2.6%)</td>
</tr>
<tr>
<td>CRB</td>
<td>77.7%</td>
<td>92.3%</td>
</tr>
<tr>
<td>ASIA/OCEANIA</td>
<td>95.7%</td>
<td>95%</td>
</tr>
</tbody>
</table>

Figure 1. Observed CD4+ T-cell counts by geographical origin

Figure 2. Predicted CD4+ T-cell counts by geographical origin

Figure 3. Cumulative incidence of virological response by geographical origin

Conclusions

- Migrants from SSA started cART at lower CD4+ T-cell counts, which remained lower over time for both men and women. SSA men had poorer short- (p=0.001) and long-term (p = 0.01) immunological recovery and virological responses to cART compared to native men (adjusted SHR: 0.88; 95% CI: 0.82 – 0.95; p = 0.001), but no differences were observed between SSA and native women
- Migrants from LA showed similar immunological and virological responses than natives, yet short-term CD4-cell count recovery was better in men compared to natives (p < 0.002) and worse in women from LA compared to those from Europe (p = 0.056)
- Compared to NAT men and women, lower VR was observed in NAME (adjusted SHR: 0.91; 95% CI: 0.86 – 0.97) and SSA (0.88; 0.82 – 0.95) men and CRB women (0.77; 0.67 – 0.89), respectively
- Among HIV-positive patients in care and started on cART in Western Europe from 2004 to 2013, immunological and virological responses varied by geographical origin and sex
- Most migrant groups exhibited good CD4-cell count recovery
- Virological responses at 12 months were below 90% in migrant men from SSA and the Caribbean. Virological responses were poorer in women, particularly in those from the Caribbean, requiring targeted interventions supporting adherence to cART