Evolution of comorbidities in HIV patients in Italian ICONA cohort: cross sectional analysis in 2004 and 2014

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Introduction and Objective

Significant advances in antiretroviral therapy (ART) have increased the life expectancy of people living with HIV (PLWHV). However, for people infected with PLWHV, the presence of non-HIV related comorbidities is increased in PWHIV compared to the general population.1 The objective of this study is to describe the impact of ageing on demographics, HIV markers and comorbidities in the same PWHIV followed in ICONA cohort, 10 years apart.

Methods

• ICONA is an open cohort of PWHIV in Italy. All ICONA participants seen at least once in both 2004 and 2014 were included in the analysis.
• A cross-sectional analysis was performed comparing demographics, HIV markers and comorbidities in the same set of PWHIV ten years apart. This analysis is a descriptive analysis.
• A sub analysis was performed based on previous treatment history. Two mutually exclusive groups were defined: naïve to ART vs on ART through end of 2004 or initiated ART during 2004 and experienced (on ART prior to January 1st 2004).
• The following definitions were used:
  • ART naïve based observed event, calculated using CD4-IGI formula.
  • Cardiovascular event: myocardial infarction, stroke and coronary revascularization.
  • Hypertension: systolic blood pressure ≥135 mmHg and/or diastolic blood pressure ≥85 mmHg or taking antihypertensive drugs at least once a year.
  • Diabetes: diagnosis of diabetes in the last year or treatment with insulin or oral antidiabetic drugs. Patients with obesity and two consecutive determinations, random glucose ≥ 440 mg/dL, were considered diabetic.
  • Dyslipidemia: total cholesterol ≥220 mg/dL and/or decreased HDL cholesterol <40 mg/dL and/or elevated triglycerides ≥150 mg/dL at least once over the year.

Results

• 2,151 met the inclusion criteria. Demographics, and social characteristics of this population are depicted in Table 1. (Legend: Figure 1)

Table 1: Patients Characteristics

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>92%</td>
<td>92%</td>
</tr>
<tr>
<td>Dual therapy</td>
<td>32%</td>
<td>32%</td>
</tr>
<tr>
<td>NRTI+PI/r</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>NRTI+NNRTI</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>7%</td>
<td>7%</td>
</tr>
</tbody>
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• As shown in Figure 1, the proportion of patients older than 50 years increased from 15.3% in 2004 to 51.3% in 2014, as expected.

Figure 1: Distribution of patients by age group, 2004 and 2014

• There was a 57% increase in the proportion of patients with CD4 count < 500 cells/mm3; the proportion of patients who were suppressed (viral load <200 Copies/mL) increased from 4.5% in 2004 to 83.8% in 2014.

• The mean (±SD) eGFR decreased significantly over time, from 82 (±19) in 2004 to 75 (±16) in 2014 (p<0.001). (Figure 2)

Figure 2: Distribution of patients by eGFR in 2004 and 2014, overall, ART naïve and ART-experienced

• The mean (SD) D:A:D-CXO score significantly increased over time, from 2.1 (±4.7) in 2004 to 27.9 (±15.1) in 2014 (p<0.001). (Figure 3)

Figure 3: Distribution of patients by D:A:D cardiovascular risk score, in 2004 and 2014

• There was a significant increase in the mean (±SD) Framingham score over time, from 31.2 (±20.3) in 2004 to 55.2 (±13.3) in 2014 (p<0.001). (Figure 4)

Figure 4: Distribution of patients by Framingham risk score, in 2004 and 2014

• Between 2004 and 2014, a significant improvement in ART and nutritional monitoring and screening of the major comorbidities, namely renal and cardiovascular along with increased associated risk factors for these.

• Careful HIV management, including adequate selection of ART and regular monitoring and screening of the major comorbidities, may lead to an early management of these comorbidities and to a continuous improvement of quality of life in PLWHV.

• These data will be further used to inform a stochastic model to predict Italian patients comorbidity status in 2030 and beyond.

CONCLUSIONS

ACKNOWLEDGMENTS

Bibliography