

Recent infection and late diagnosis of HIV: a descriptive analysis of opposite ends of the spectrum

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INTRODUCTION

Describing patients recently infected by HIV helps to better understand the characteristics and dynamics of the HIV epidemic. A high proportion of HIV infected people is still diagnosed late, being between 24% and 64% in the European Union^(a). Late presentation is both a problem for individuals who are more likely to experience a less favorable clinical course^(b) as well as for the general population because undiagnosed HIV-infected individuals contribute significantly to the spread of HIV disease.

OBJECTIVES

This study aims to describe the characteristics of two groups of patients within a cohort of HIV infected people in Catalonia and the Balearic Islands: those with recent infection (RI) and those presenting late for care.

METHODS

The PISCIS Cohort is a prospective, open, multicenter cohort study of HIV infected patients aged over 16 and enrolled from January 1998 in 10 hospitals in Catalonia and 2 hospitals in the Balearic Islands. In order to identify RI, a Serological Testing Algorithm for Recent HIV Seroconversion (STARHS) was performed in adult patients newly diagnosed with HIV (HIV diagnosis <6 months before inclusion) between 2006 and 2009. Patients with a cd4 count < 200 or presenting with an AIDS-defining disease on enrolment were excluded. Late presentation (LP) was defined as a cd4 count < 350 or an AIDS event on enrolment^(c) among patients newly diagnosed during the same period. Qualitative variables were compared using chi squared test and quantitative variables were compared using Mann-Whitney test. Clinical progression (AIDS event or death during follow-up) was described using a Kaplan Meier plot and compared between the 2 groups by the log-rank test.

RESULTS

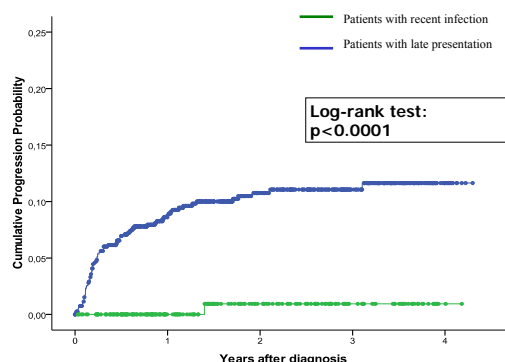
Between January 2006 and December 2009, 1944 newly diagnosed patients entered into the PISCIS cohort, with a total 2820 person-years of follow-up. Among those, 215 patients with RI and 801 with LP were identified. Females comprised 10.3 and 19.3%, respectively (p=0.002) and the median age was 32.9 years (IQR = 27.8-39.00) for RI and 38.2 years (IQR=31.8-45.6) for LP (p<0.0001). The transmission route was significantly different between the 2 groups: sexual transmission was reported in 93.0% of the patients with RI and in 83.7% of LP, with a higher proportion of heterosexual transmission in the latter group (p<0.0001) (Table 1). Intravenous drug use (IDU) was reported by 1.9% of RI and 7.3% in LP (p=0.003). Immigrants represented 34.8% of RI and 39.0% of LP (p=0.391). Viral load at inclusion was significantly lower in RI than in LP (respectively log4.5 and log4.9, p=0.003). HCV and HBV co-infections were 10.6 and 9.5% in RI and 14.5 and 6.2% in LP, respectively (p>0.05). Progression to AIDS-defining event or death was significantly higher in LP than in RI (p<0.0001) (Figure 1).

Table 1. Characteristics of patients with recent infection and late diagnosis at inclusion in the PISCIS Cohort, January 2006 – October 2009

| | Recent Infections (n=215) n (%) | Late Presenters (n=826) n (%) | P-values |
|--|---------------------------------------|-------------------------------------|-------------------|
| Gender (females) | 22 (10.3) | 155 (19.3) | 0.002 |
| Age at inclusion | | | <0.0001 |
| <35 | 125 (58.7) | 298 (37.5) | |
| 35-49 | 80 (37.6) | 362 (45.5) | |
| ≥ 50 | 8 (3.8) | 135 (17.0) | |
| Place of birth | (n=115) | (n=544) | 0.391 |
| Immigrants | 40 (34.8) | 209 (39.0) | |
| Transmission route | | | <0.0001 |
| MSM/bisexual | 161 (75.6) | 348 (43.5) | |
| Heterosexual | 37 (17.4) | 322 (40.2) | |
| IDU | 4 (1.9) | 58 (7.3) | |
| Others | 11 (5.2) | 72 (9.0) | |
| CD4+ at inclusion (median) (1) | 540 [389- 675] | 161 [62- 258] | - |
| HIV1-RNA at inclusion (log10) (1) | 4.5 [3.9- 5.2] | 4.9 [4.2- 5.4] | 0.003 |
| HCV Co-infection (2) | (n=151) | (n=587) | 0.213 |
| | 16 (10.6) | 82 (14.5) | |
| HBV Co-infection * (2) | (n=137) | (n=480) | 0.182 |
| | 13 (9.5) | 29 (6.2) | |
| AIDS diagnosis at inclusion | - | 258 (32.2) | - |
| AIDS diagnosis on follow-up | 1 (0.5) | 47 (5.9) | 0.0009 |
| Death on follow-up | 0 (0.0) | 39 (4.9) | 0.001 |
| Median of follow-up (years) (1) | 0.92 [0.28- 2.10] | 1.29 [0.49- 2.45] | 0.001 |
| On follow-up | 196 (91.2) | 701 (87.5) | 0.140 |

MSM: Men who have sex with men; IDU: Intravenous drug user
 * Data from one hospital were excluded
 (1) Median [Interquartile range IQR]
 (2) In patients with known serological status for HBV/HCV at inclusion

Figure 1. Kaplan-Meier plot of the cumulative proportion of patients experiencing clinical progression or death. PISCIS Cohort, January 1998 – October 2009



CONCLUSIONS

In the PISCIS cohort, those with RI were more likely to be MSM whereas LP were more likely to be older, heterosexual, female and IDU. Efforts to promote early diagnosis should take into account the characteristics of the target population here described. This is crucial to control HIV morbidity, mortality, and transmission.

One limitation of this work is missing data on country of origin, which may obscure underlying differences in the proportion of migration status in both groups.

Increasing the PISCIS cohort coverage would allow a more representative picture of the characteristics and dynamic of the epidemic in Catalonia and the Balearic Islands to emerge.

REFERENCES

- (a) Diagnóstico tardío de la infección por VIH: Situación en España [Internet]. Madrid: Secretaría del Plan Nacional sobre el Sida/Centro Nacional de Epidemiología; 2011 [cited 2012 Mar 9]. Available from: http://www.icdies.es/ICDIES/contenidos/fr_servicios_cientifico_tecnicos/rd_vigilancia_abtes/rd_enfermedades/informeVIHNoDiagnostificado.pdf
- (b) D'Arminio Monforte A, Antinori A, Girardi E, Ceccherini-Silberstein F, Marchetti G, Sabin CA, Montaner JS. HIV-infected late presenter patients [Editorial]. AIDS Res Treat. 2012;2012:902679. Available from: <http://dx.doi.org/10.1186/1745-7580-2012-902679>
- (c) Antinori A, Coenen T, Costagliola D, Dedes N, Ellefsen M, Gatell J, Girardi E, Johnson M, Kirk O, Lundgren J, Mocroft A, D'Arminio Monforte A, Phillips A, Raben D, Rockstroh JK, Sabin C, Sannerborg A, De Wolf F. European Late Presenter Consensus Working Group. Late presentation of HIV infection: a consensus definition. HIV Med. 2011; Jan;12(1):61-4.

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