

Oral Communications

Challenges in HCV elimination

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Title: Road to HCV elimination in HIV/HCV coinfecting patients by screening and universal access to DAA: baseline data from the first screening of NoCo (No Coinfection) study

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Abstract body

Background: The main objective of NoCo study is to evaluate the possibility of eliminating HCV in the HIV/HCV coinfecting population in Italy over a 3-year period as result of increased HCV testing and extensive DAA treatment. The aim of this first analysis is to estimate the overall prevalence of active HCV infection in HIV pos patients in care in 2018.

Methods: This is a cross-sectional analysis using data from the first NoCo screening. Subjects included are those screened for HCV, independent of their previous HCV status, belonging to centers of the Icona network. The prevalence of HCV infection has been calculated as number of people with a positive HCV Ab divided by the number of people tested; the prevalence of active HCV as the fraction of participants with a positive HCV RNA among those who were antibody-positive. Prevalence of new HCV infections in those with negative HCV Ab before NoCo screening has also been calculated. Differences between HCV positive and negative were assessed using chi-square and non-parametric Kruskal-Wallis test. Predictors of new HCV infection were assessed using unadjusted and adjusted (for age, gender and mode of transmission) logistic regression.

Results: 5400 patients have been included so far [Figure1]. They represent approximately 10% of those estimated to be enrolled, so we cannot exclude a selection bias. Prior to study entry 1750 (32.4%) had known HCV infection, 3050 (56.5%) were HCV Ab negative and 600 (11.1%) had unknown HCV serology. At the first NoCo screening 1824 (33.8%) were HCV Ab positive and 3576 (66.2%) HCV Ab negative. Demographic characteristics at first NoCo screening are shown in Table1. Compared to HCV Ab negative HCV Ab positive subjects were older, more frequently female, Italian, IVDU and with a longer history of HIV infection.

53 (8.8%) out of 600 participants with unknown HCV Ab status were found to be HCV Ab positive. 22 (0.7%) out of 3049 previously HCV Ab negative had an HCV seroconversion. The only independent predictor of HCV seroconversion was injection drug use (IDU) (AOR vs heterosexual=6.55, p=0.005) [Table2].

Only 469 subjects (25.7%) out of 1824 HCV Ab positive were HCV viremic, 55 (3.0%) were not tested for HCV RNA and 1300 (71%) were HCV RNA negative. A total of 1065 (58.4%) patients had already been treated with a DAA or IFN, 390 (21.4%) were never treated and 369 (20.3%) had unknown treatment status. 146/1065 (13.7%) of previously DAA- or IFN-treated patients vs. 323/759 (42.6%) of untreated and unknown treatment status patients were HCV RNA positive (p<0.01).

Conclusions: Surprisingly, 11% (600) of HIV positive individuals in care in 2018 have not been tested for HCV. IDUs are the group at highest risk of new HCV infection in Italy. Circulation of HCV among MSM appears lower than in other European countries. This result, together with the observation that almost

70% of HCV patients have already cleared the virus, the target of HCV coinfection elimination within 3 years, could be achievable.

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Table 1. Demographic Characteristics at first NoCo Screening

| | anti-HCV neg N=3576 (66.2%) | anti-HCV pos N=1824 (33.8%) | p-value | Total N=5400 (100.0%) |
|---------------------------------------|--------------------------------|--------------------------------|---------|--------------------------|
| Age, years, Median (IQR) | 45 (37-53) | 54 (49-57) | <.001 | 49 (40-55) |
| Age strata, n(%) | | | | |
| <30 | 323 (9.0%) | 29 (1.6%) | <.001 | 352 (6.5%) |
| 30-39 | 834 (23.3%) | 88 (4.8%) | | 922 (17.1%) |
| 40-49 | 1101 (30.8%) | 344 (18.9%) | | 1445 (26.8%) |
| 50-59 | 891 (25.0%) | 1128 (61.8%) | | 2019 (37.4%) |
| >=60 | 427 (11.9%) | 235 (12.9%) | | 662 (12.3%) |
| Gender, n(%) | | | 0.005 | |
| M | 2839 (79.4%) | 1387 (76.0%) | | 4226 (78.3%) |
| Nationality, n(%) | | | <.001 | |
| Italian | 2773 (79.0%) | 1730 (95.0%) | | 4503 (84.5%) |
| Mode of HIV Transmission, n(%) | | | <.001 | |
| Heterosexual | 1341 (37.5%) | 224 (12.3%) | | 1565 (29.0%) |
| IVDU | 110 (3.1%) | 1238 (67.9%) | | 1348 (25.0%) |
| MSM | 1706 (47.7%) | 267 (14.6%) | | 1973 (36.5%) |
| Other/Unknown | 419 (11.7%) | 95 (5.2%) | | 514 (9.5%) |
| On ART, n(%) | 2966 (82.9%) | 1758 (96.4%) | <.001 | 4724 (87.5%) |
| Years from HIV diagnosis | 6.6 (2.3-12.1) | 22.4 (13.3-30.6) | <.001 | 9.9 (3.7-20.8) |

Table 2. Predictors of new HCV infection (seroconversions) using a logistic regression model

| | OR | (95%CI) | p | AOR | (95%CI) | p |
|---------------------------------|------|------------|--------------|------|------------|--------------|
| Gender M (vs.F) | 2.58 | 0.60 11.07 | 0.202 | 2.72 | 0.56 13.20 | 0.214 |
| Mode of HIV Transmission | | | | | | |
| Heterosexually | 1.00 | | | 1.00 | | |
| IVDU | 8.11 | 2.25 29.25 | 0.001 | 6.55 | 1.75 24.49 | 0.005 |
| MSM | 1.42 | 0.52 3.86 | 0.489 | 0.84 | 0.28 2.54 | 0.762 |
| Other/Unknown | 0.50 | 0.06 4.17 | 0.522 | 0.39 | 0.05 3.28 | 0.384 |
| Age | | | | | | |
| (per 10 years increase) | 0.75 | 0.51 1.09 | 0.134 | 0.72 | 0.49 1.06 | 0.097 |
| Italian | 1.12 | 0.41 3.06 | 0.821 | | | |
| Years from HIV Diagnosis | | | | | | |
| (per 10 years increase) | 2.58 | 0.60 11.07 | 0.202 | | | |

Figure 1. Diagram of NoCo study first screening

