

HCV reinfection among HIV/HCV co-infected individuals in Europe

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BACKGROUND

In the absence of a vaccine against HCV, those who have been cured are still at risk of reinfection. The overall risk is generally low, however reinfection is of particular concern among HIV co-infected individuals (injection drug users (IDU), and HIV positive men who have sex with men (MSM)), as well as HIV negative MSM who use PrEP^{1,2}. While Directly Acting Antivirals (DAAs) can clear HCV in nearly all HIV/HCV co-infected individuals, high rates of reinfection may hamper efforts to eliminate HCV in this population³.

AIMS

- To examine the risk of reinfection after achieving sustained virological response (SVR) in HIV/HCV co-infected individuals in Europe
- To assess whether the risk of reinfection varies depending on HIV risk group, treatment regimen (interferon-based regimens vs interferon-free DAAs), regional differences, or sociodemographic variables

METHODS

- Individuals from EuroSIDA that achieved SVR12 or SVR24, with ≥24 months follow-up and ≥1 HCV-RNA test after SVR were included (Figure 1)
- Factors associated with the odds of reinfection were assessed using multivariable logistic regression
- Reinfection was defined as being HCV-RNA positive, HCV genotyped or receiving HCV treatment within 24 months of SVR12/SVR24

RESULTS

- There were 585 individuals included in this analysis
- The median age of the study population was 47 (interquartile range (IQR) 41-52 years), 77.4% were male, 77.8% were white, 48.0% were IDUs, 30.3% were MSM, and the majority received an interferon-based regimen (475, 81.2%) (Table 1)
- 78 (13.3%, 95% confidence interval (CI) 10.6%-16.0%) individuals were re-infected within 24 months
- Central-West Europe had the highest proportion of reinfections (18.0%), while Southern Europe had the lowest (4.9%; p=0.0030) (Figure 2). Reinfections in MSM were 16.4% and 13.5% in IDUs (p=0.1471)
- After adjustment, Central-West and East/Central-East Europe had a higher odds of reinfection (compared to Southern Europe; Figure 1), as did those with CD4 count >500 cells/mm³, or fibrosis ≥F3. Females, and those who achieved SVR ≥2014 had a lower odds of reinfection (Figure 3)
- There was no statistically significant association between age, HIV risk group, or the use of interferon-free DAA regimens, with reinfection, although all had wide confidence intervals

LIMITATIONS

- We cannot rule out that some late relapses could have been misclassified as reinfection, though this is unlikely¹
- Clinics may have targeted HCV-RNA testing to those at highest risk of reinfection or with signs of reinfection

CONCLUSIONS

- The proportion of reinfections among HIV/HCV co-infected individuals within 24 months of achieving SVR was 13%, with evidence suggesting this is decreasing over time
- Active surveillance to detect early HCV reinfection with an offer of early treatment is essential as is harm reduction in those treated to reduce rates of reinfection, and reach the goal of elimination by 2030⁴

REFERENCES

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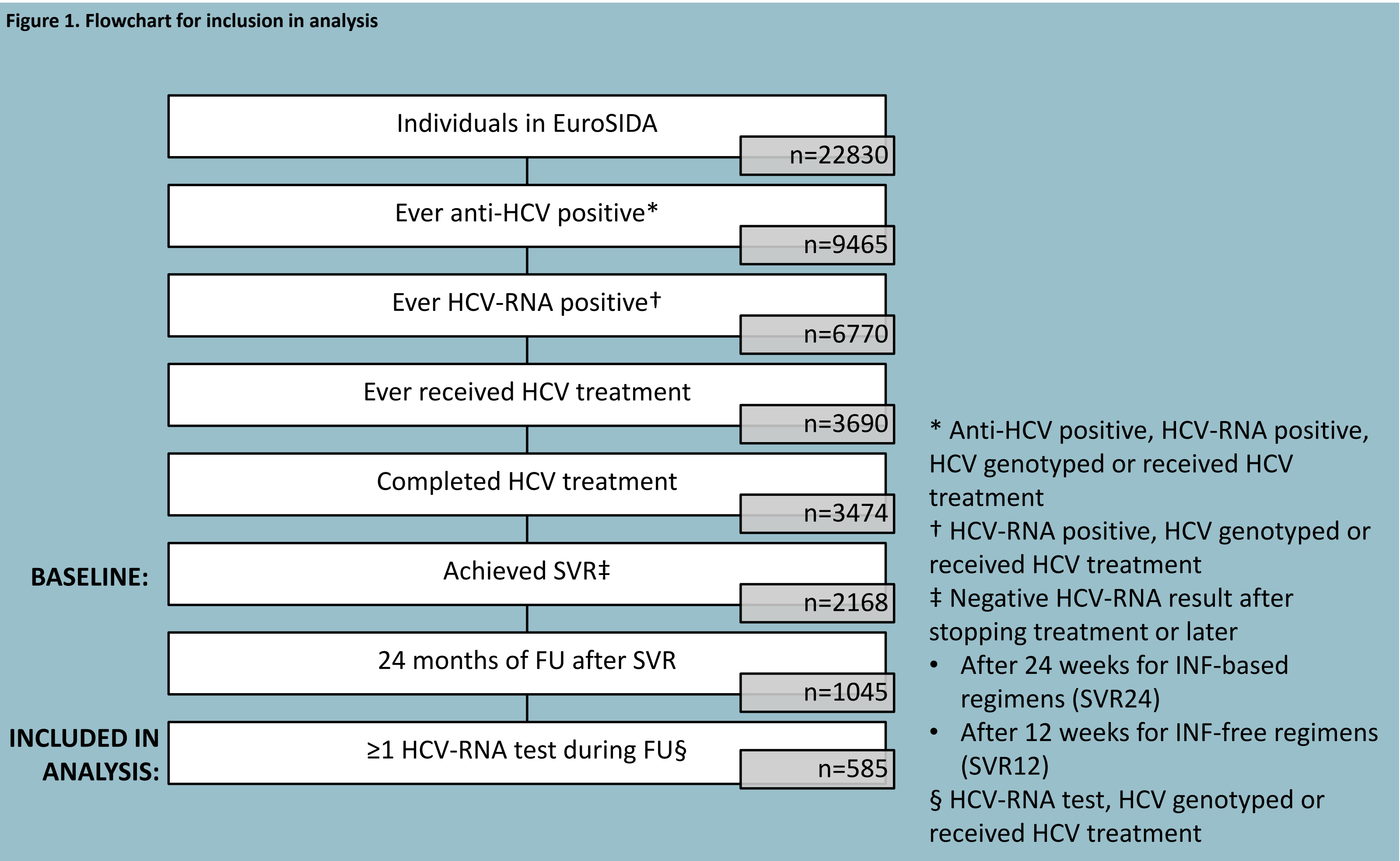


Table 1. Baseline characteristics		Overall n (%)	Not reinfected n (%)	Reinfected n (%)	P-value
Overall		585 (100.0)	507 (86.7)	78 (13.3)	
Age (years)	Median (IQR)	47 (41-52)	47 (41-52)	47 (42-51)	0.9358
Gender	Male	453 (77.4)	385 (85.0)	68 (15.0)	0.0270
	Female	132 (22.6)	122 (92.4)	10 (7.6)	
Ethnicity	White	455 (77.8)	408 (89.7)	47 (10.3)	0.0002
	Global Majority	7 (1.2)	7 (100.0)	(0.0)	
	Unknown	123 (21.0)	92 (74.8)	31 (25.2)	
HIV risk group	MSM	177 (30.3)	148 (83.6)	29 (16.4)	0.1471
	IDU	281 (48.0)	243 (86.5)	38 (13.5)	
	Other	127 (21.7)	116 (91.3)	11 (8.7)	
CD4 count (cells/mm ³)	Median (IQR)	514 (346-695)	503 (344-695)	546 (384-704)	0.5787
HCV treatment	Interferon	475 (81.2)	412 (86.7)	63 (13.3)	0.9174
	DAA	110 (18.8)	95 (86.4)	15 (13.6)	
Year SVR	<2014	312 (53.3)	261 (83.7)	51 (16.3)	0.0219
	≥2014	273 (46.7)	246 (90.1)	27 (9.9)	
Fibrosis	<F3	415 (70.9)	363 (87.5)	52 (12.5)	0.4080
	≥F3*	46 (7.9)	37 (80.4)	9 (19.6)	
HCV genotype	G1	236 (40.3)	204 (86.4)	32 (13.6)	0.9906
	G2 - G4	183 (31.3)	159 (86.9)	24 (13.1)	
cART	No	46 (7.9)	42 (91.3)	4 (8.7)	0.4963
	Yes	539 (92.1)	465 (86.3)	74 (13.7)	
Prior HCV treatment	No	427 (73.0)	374 (87.6)	53 (12.4)	0.2813
	Yes	158 (27.0)	133 (84.2)	25 (15.8)	

*Either a biopsy (≥METAVIR stage F3), APRI (score >1.5), hyaluronic acid (>160ng/mL) or FibroScan (>9.5kPa) test

