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Poster **Session/Topic:** **DAAs therapy in HCV**

N. **Title:**

P 70 **Response to DAA among HIV-HCV co-infected people who inject drugs (PWID) in clinical practice**

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Abstract:

Background: In Italy, the majority the HCV co-infections in HIV subjects occurred among PWID in the past years. PWID were often excluded from Interferon-based (IFN) regimens due to low adherence concerns, psychological and social fragility, high risk of adverse events and re-infection. Direct Acting Antivirals (DAA) have setted a new era in the HCV treatment, with the opportunity of a wide access and cure among high-risk populations including HIV/HCV co-infected PWID. Evaluation of safety and efficacy of DAA regimens in PWIDs is needed. We studied the response to DAA in a cohort of HIV/HCV seen for care in Italy, according to their current report of injecting drug use.

Methods: HIV/HCV co-infected patients from Icona and HepaIcona cohorts who started their first DAA regimen from January 2013 were included in this analysis. Based on the mode of HIV transmission and their reported current intravenous drug usage (after January 2013), 3 groups were defined for this analysis: 1) active-PWID 2) former-PWID 3) never-PWID. Sofosbuvir(SOF)+ribavirin(RBV) and Peg-IFN/RBV+DAA regimen were considered as suboptimal DAA therapy (sDAA) in this analysis. Sustained virological response (SVR12), defined as HCV-RNA below the limit of detection ≥12 weeks after end of DAA was assessed, regardless of reaching defined end-of-treatment (EOT) or having an early DAA discontinuation (DAA-D). Lack of SVR12 (nonSVR12), rate of DAA-D and causes of DAA-D where evaluated. The association between current reported injecting drug use and the nonSVR12 and DAA-D outcomes was evaluated by univariable logistic regression and after controlling for potential confounding factors (shown in Table1 and Table2).

Results: 954 patients with virological data available at week12 after EOT were included: 20 (2%) active-PWID, 880 (74%) former-PWID and 287 (24%) never-PWID. Median age 53 (IQR:50-55), 77% male, 58% with HCV genotype 1, 23% genotype 3, 16% genotype 4. Median transient elastography stiffness 13.0 kPa (IQR:10-21.5), 12% started a sDAA.

882/954 reached SVR12 (92%) [16/20 (80%) active-PWID, 658/714 (92%) former-PWID and 208/22 (95%) never-PWID; p=0.052]. After controlling for potential confounders, active-PWID status was independently associated with higher risk nonSVR12 (AOR=3.28, 95%CI=1.03-10.40, p=0.044) [Table1]. 29/954 patients had a DAA-D (3%), 3/20 active-PWID (15%) 21/714 former-PWID (3%) 5/220 never-PWID (2%), p=0.006. Causes of early DAA-D were: 43% toxicity/intolerance, 38% patient's decision, 17% null responder/relapser and 3% unknown. At the adjusted logistic regression model, active-PWID status was independently associated with higher risk of DAA-D (AOR=6.12, 95%CI=1.50-24.80, p=0.011) [Table2].

Conclusions: Active-PWID showed a lower risk of response to DAA, due to a higher proportion of DAA-D. Access to DAA must be guaranteed also in high-risk groups, and appropriate patient monitoring, before and during DAA, is needed to try to improve treatment outcomes in active-PWID.

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Table 1. Odds ratios (OR) and adjusted odds ratios (AOR) of non-SVR12 from fitting a logistic regression model (adjusted for all the factors examined in table)

	OR	95%CI	p	AOR	95%CI	p
Gender						
F	1.00			1.00		
M	2.1	1.05-4.39	**0.036**	2.07	1.00-4.30	**0.050**
Mode						
former-PWID	1.00			1.00		
active-PWID	2.94	0.95-9.09	0.061	3.28	1.03-10.40	**0.044**
never-PWID	0.68	0.36-1.29	0.236	0.76	0.39-1.46	0.416
HCV genotype						
1,2,4,Other	1.00			1.0		
3	1.40	0.82-2.39	0.211	1.22	0.69-2.15	0.497
Stiffness						
<13kPa	1.00					
≥13kPa	1.06	0.62-1.79	0.826	0.96	0.56-1.65	0.898
DAA Type						
suboptimal	2.97	1.69-5.23	**0.000**	2.55	1.25-5.16	**0.014**
Calendar year						
per 1yr more recent	0.71	0.50-0.99	**0.048**	0.90	0.61-1.34	0.623

Table 2. Odds ratios (OR) and adjusted odds ratios (AOR) of DAA-D from fitting a logistic regression model (adjusted for all the factors examined in table)

	OR	95%CI	p	AOR	95%CI	p
Gender						
F	1.00			1.00		
M	1.85	0.64-5.40	0.255	1.62	0.55-4.91	0.383
Mode						
former-PWID	1.00			1.00		
active-PWID	5.82	1.58-21.40	**0.008**	6.12	1.50-24.80	**0.011**
never-PWID	0.77	0.28-2.06	0.599	0.80	0.29-2.20	0.672
HIV-RNA						
≥50 copies/mL	1.00			1.00		
<50 copies/mL	0.38	0.12-1.13	0.082	0.44	0.14-1.45	0.182
HCV genotype						
1,2,4,Other	1.00			1.00		
3	0.54	0.19-1.59	0.265	0.42	0.14-1.30	0.133
DAA Type						
suboptimal	3.51	1.56-7.92	**0.002**	3.27	1.13-9.41	**0.028**
Calendar year						
per 1yr more recent	0.55	0.33- .90	**0.018**	0.87	0.49-1.54	0.634
decompensated cirrhosis						
no	1.00			1.00		
yes	1.63	0.37-7.13	0.510	1.82	0.40-8.20	0.433