Associations of Alcohol Consumption With Long-Term Mortality of ART-Naive Persons Seeking HIV Care

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Daniel Fuster[1], Paola Zuluaga[1], Enric Abellí-Deulofeu[1], Laura Bermejo[2], Santiago Moreno[3] Lucio Jesús García Fraile Fraile[4], Dr. Jose Antonio Iribarren[5], Cristina Moreno[6], Inés Suarez-García[7], David Vinuesa García[8], Vicente Estrada[9], Julián Olalla Sierra[10], Juan Macias Sanchez[11], Inma Jarrin[6], Robert Muga[1].

1.- Department of Internal Medicine/Addiction Unit. Hospital Universitari Germans Trias i Pujol. Badalona, Spain. 2.- Instituto de Investigación Hospital 12 de Octubre. Madrid, Spain 3.- Servicio de Enfermedades Infecciosas, Hospital Universitario Ramón y Cajal. Madrid, Spain. 4.- Hospital Universitario de La Princesa. Madrid. 5.- Servicio de Enfermedades Infecciosas. Hospital Universitario Donostia. Donostia. 6.- National Center for Epidemiology, Instituto de Salud Carlos III, Madrid, Spain. 7.- Grupo de Enfermedades Infecciosas. Servicio de Medicina Interna. Hospital Universitario Infanta Sofía. Madrid, Spain. 8.- Servicio de Enfermedades Infecciosas, Hospital Clínico San Cecilio. Granada, Spain 9.- Medicina Interna/Enfermedades infecciosas. Hospital Clínico San Carlos. Madrid, Spain. 10.- Medicina Interna. Hospital Costa del Sol. Marbella, Spain. 11.- Unidad de Enfermedades Infecciosas y Microbiología Clínica, Hospital Universitario Virgen de Valme. Sevilla, Spain.

BACKGROUND

- HIV infection is associated with several chronic diseases.
- Antiretroviral therapy (ART) has increased survival of people living with HIV/AIDS (PLWHA). However, the survival benefit is heterogeneous and the role of unhealthy alcohol use on clinical outcomes and mortality is a matter of debate.
- We aimed to examine the associations and prognosis of excessive alcohol consumption in HIV+, ART-naïve individuals admitted to HIV care.

METHODS

- Longitudinal study in the Spanish network on HIV/AIDS (CoRIS Cohort Study)
- Individuals enrolled between 2004 and 2021 in 47 HIV/AIDS units.
- Crude and adjusted mortality rates by alcohol consumption at first visit.
- Survival analysis (Kaplan-Meier) and Cox regression models to assess associations of excessive alcohol consumption (≥40 grs/day).

RESULTS

8,378 participants (15% women) were included.

Table 1. Baseline population characteristics

	Study population N= 8,378
Women [n (%)]	1257 (15)
Age (years) Median [Interquartile range (IQR)]	36.1 (29.2-44.2)
CD4 count (cell/mm3) Median (IQR) (n=8,301)	398 (219-596)
HIV viral load (logUI/mL) Median (IQR) (n= 8,238)	4.54 (3.67-5.13)
HCV infection (EIA +) [n (%)]	740 (8.8)
Mode of HIV acquisition [n (%)]: • Men who have sex with men (MSM) • Heterosexual transmission • Injection drug use (IDU) • Other/unknown	 5,122 (61) 2,379 (28) 524 (6.3) 353 (4.2)
No alcohol consumption [n (%)] Alcohol consumption <40 grams/ day [n (%)] Alcohol consumption ≥40 grams/ day [n (%)]	5,194 (62.0) 2,823 (33.7) 361 (4.3)

In this cohort of ART-naïve individuals entering HIV care, unhealthy alcohol use (≥40 grams/day) was associated with reduced survival.

Table 2. Baseline characteristics stratified by excessive alcohol consumption (≥40 grs/day).

	<40 grs/day N= 8,017	≥40 grs/day N= 361	p-value
Women [n (%)]	1,214 (15.2)	43 (11.9)	0.93
Age (years) (IQR)	42.7 (34.8-51.4)	48.7 (41.5-55.9)	**<0.01**
CD4 count (cell/mm3) (IQR)	400 (418-617)	360 (198-588)	0.05
HIV viral load (logUI/mL) (IQR)	4.58 (3.68-5.13)	4.53 (3.38-5.14)	0.67
HCV infection (EIA +) [n (%)]	617 (7.7)	123 (34)	**<0.01**
Mode of HIV acquisition [n (%)]: • MSM • Heterosexual • IDU • Other/ unknown	 5,002 (62.4) 2,258 (28.2) 416 (5.2) 341 (4.3)	 120 (33.2) 121 (33.5) 108 (29.9) 12 (3.3)	**<0.01**

Table 3. Mortality rates and mortality rate ratio

	Study population	Alcohol <40 grs/ day	Alcohol ≥40 grs/ day
Follow-up (p-y)	52,799	50,463.4	2,636
Median Follow-up (years)	5.6 (2.5-9.8)	5.6 (2.5-9.78)	6.5 (3.3-11.5)
Deaths [n (%)]	267 (3.1)	218 (2.8)	49 (13.6)
Mortality rate	0.51 x 100 p-y	0.43 x 100 p-y	1.86 x 100 p-y
Mortality rate ratio		1	**4.30 (95% CI: 3.15-5.87), p <0.01**

Figure 1. Kaplan-Meier survival analysis

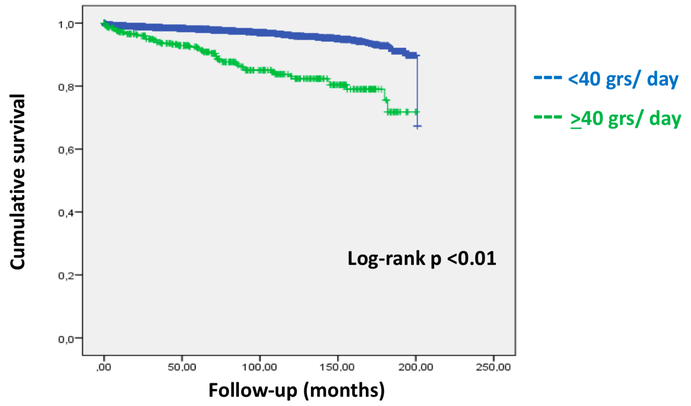

Table 4. Univariate and multivariable Cox regression models.

	Univariate HR (95% CI)	Multivariable HR (95% CI)
Alcohol ≥40 grs/ day	**4.28 (3.13-5.83)**	**2.39 (1.68-3.42)**
Sex	1.06 (0.47-1.06)	1.07 (0.75-1.51)
Age	1.00 (0.99-1.01)	1.21 (0.88-1.67)
HIV RNA (log)	1.04 (0.81-1.33)	1.01 (0.90-1.67)
CD4 cell count	**2.58 (1.96-3.40)**	**2.19 (1.65-2.93)**
HCV infection (EIA+)	**5.05 (3.94-6.48)**	**3.06 (2.02-4.63)**
IDU vs. other	**4.72 (3.64-6.17)**	**1.53 (1.0-2.41)**

CONCLUSIONS

- In this cohort of ART-naïve individuals entering HIV care, unhealthy alcohol use (≥ 40 grams/day) was associated with reduced survival.
- HCV infection, CD4 below the median and IDU are also independently associated with poorer survival
- These results underscore the importance of addressing alcohol use in PLWHA.

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Contact: dfuster.germanstrias@gencat.cat