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Determinants and Impact of Late HCV Diagnosis among Persons with Newly Diagnosed HIV Infection

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Objectives: To estimate the prevalence and identify the characteristics of persons with a late HCV diagnosis among individuals with newly diagnosed HIV and to analyze the impact of late HCV diagnosis on all-cause mortality risk.

Methods: We included patients from Icona Cohort who were diagnosed with HIV within 6 months before enrolment over 1997-2014. HCV diagnosis was defined as a positive HCVAb and/or HCV-RNA test. Late HCV diagnosis was defined as having a FIB-4 score >3.25 and/or clinical or histological diagnosis of cirrhosis within 6 months of HCV diagnosis. We performed logistic regression analysis to identify determinants of HCV late diagnosis, by examining: sex, age, nationality, mode of HIV transmission, AIDS/ CD4, HIV-RNA, year of enrolment, comorbidities and HCV genotype. A Cox regression model including the same factors was fitted to estimate hazard ratio (HR) of death.

Results: Among 6,531 individuals newly diagnosed with HIV, 636 were diagnosed with HCV of whom 95 (14.9%) had late diagnosis. Prevalence of HCV infection at enrollment decreased over time, although the proportion of HCV diagnoses that were late remained stable. At multivariable logistic regression analysis, patients with late HCV diagnosis were older (OR=1.07; 95% CI:1.03-1.10 per 10 years older) and more likely to have ≤ 200 CD4/mm³ or AIDS (OR = 1.12 ;95% CI: 1.05-1.19) than those with not-late diagnosis. 53/636 (8.3%) patients with HCV died of whom 15/53 (28%) were patients with late HCV diagnosis. At multivariable Cox regression analysis, late HCV diagnosis was associated with an HR of death of 2.51 (95% CI:1.33-4.80).

	N	Deaths	Unadjusted HR[95%CI]	p-value	Adjusted HR[95%CI]	p-value
HCV diagnosis						
Not-late	541	38	1.00		1.00	
Late	95	15	2.36 [1.30-4.29]	0.005	2.51 [1.33-4.80]	0.005

[Hazard ratios (HR) from fitting a Cox regression]

Conclusion: Late HCV diagnosis is associated with late HIV diagnosis and, among HIV-HCV co-infected patients, it is associated with a more than two fold increased risk of death, independently of other known risk factors. Intervention aimed at promoting timely HIV diagnosis should routinely incorporate the offer of HCV testing.