

MEETING ABSTRACTS

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Mortality after cancer diagnosis among HIV-infected individuals in the CFAR Network of Integrated Clinical Systems (CNICS)

Chad Achenbach^{1*}, Stephen Cole², Corey Casper³, Mari Kitahata³, James Willig⁴, Michael Mugavero⁴, Michael Saag⁴

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Background

Increased cancer risk has been well established in several HIV-infected populations. However, studies investigating mortality after a diagnosis of cancer have been limited in size, scope, and HIV-specific risk factors.

Materials and methods

CNICS is a cohort of over 20,000 HIV-infected adults in clinical care at eight U.S. sites. We included patients with chart review verified incident cancer diagnoses between 1996 and 2009. Non-AIDS defining cancers (NADC) were categorized as infection (HPV, EBV, or HBV/HCV)-related [1]: squamous cell anal, squamous cell oral cavity/pharynx, penis, vagina/vulva, Hodgkins, and liver; or non-infection-related: all other NADCs. Death was confirmed by the National Death Index and/or state death certificate data. We examined independent predictors of mortality by employing Cox proportional hazards regression models.

Results

918 adults with HIV and cancer were included in this analysis. 55% had AIDS-defining cancer (ADC), 15% had infection-related NADC, and 30% had non-infection related NADC. At cancer diagnosis, median age was 43 years, 50% were white, 86% male, 19% IDU, 21% HBV/HCV, 46% current smokers, and 56% current alcohol drinkers. Median CD4⁺ cell count was 192 cells/mm³ and HIV RNA was 3.6 log₁₀ copies/ml. There were 395

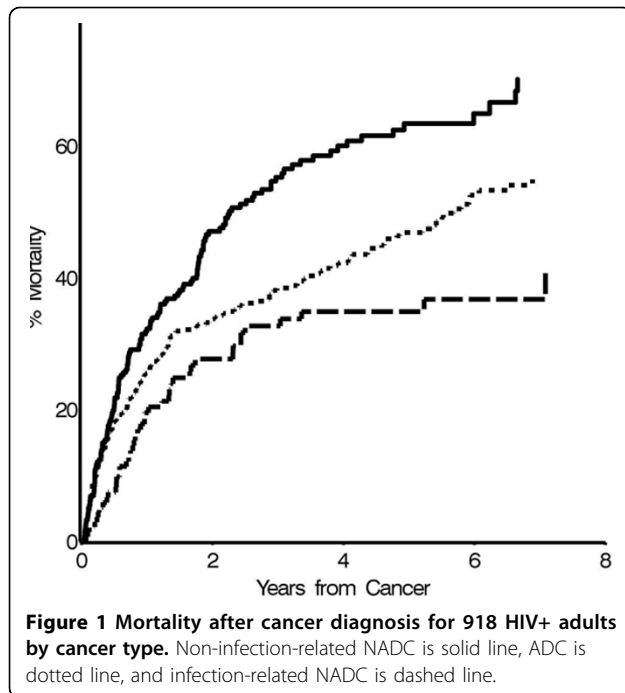
Table 1

	Mortality Hazard Ratio*	95% Confidence Limits	
Age, per 10 years	1.23	1.09, 1.40	
White	0.77	0.62, 0.95	
Male	1.06	0.78, 1.44	
HBV/HCV	1.11	0.86, 1.43	
IDU	1.31	1.00, 1.70	
Smoking:			
Never	1	-	
Former	1.51	1.08, 2.12	
Current	1.45	1.04, 2.02	
Alcohol intake:			
Never	1	-	
Former	0.99	0.72, 1.36	
Current	0.78	0.58, 1.04	
HIV RNA, per log ₁₀ copies/ml	1.09	1.01, 1.17	
CD4 count:			
> 500 cells/mm ³	1	-	
200–500 cells/mm ³	1.11	0.77, 1.59	
< 200 cells/mm ³	1.57	1.10, 2.26	
Summary cancer type:			
ADC	1	-	
Infection-related NADC	0.78	0.55, 1.11	
Non-infection-related NADC	1.38	1.05, 1.82	

*Adjusted for all variables in the table.

* Correspondence: c-achenbach@northwestern.edu

¹Division of Infectious Diseases, Northwestern University, Chicago, IL, USA
Full list of author information is available at the end of the article



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deaths in 2,393 person-years of follow-up for a crude mortality rate of 16.5 per 100 person-years (95% CL: 15.0, 18.2). Adjusted hazard of mortality was significantly increased among individuals who were older, non-white, IDU, current or former smokers, had lower CD4+ cell count, higher HIV RNA, and non-infection related NADC (see Table 1). Figure 1 shows cumulative mortality after cancer diagnosis stratified by type of cancer.

Conclusions

In the era of ART, unique independent predictors of mortality among individuals with HIV and cancer were level of immune suppression, degree of HIV RNA replication, and non-infection-related type of cancer. These data highlight the need to improve prevention and management of NADC in this population.

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Author details

¹Division of Infectious Diseases, Northwestern University, Chicago, IL, USA.

²Department of Epidemiology, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA. ³Division of Allergy and Infectious Diseases, University of Washington, Seattle, WA, USA. ⁴Division of Infectious Diseases, University of Alabama at Birmingham, Birmingham, AL, USA.

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