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## Poster O-179: Outcome and Prognostic Factors in HIV-1-Infected Patients on Dialysis in Spain in the HAART Era: a GESIDA/SEN Cohort Study

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## BACKGROUND

The prognosis of HIV-infected patients on dialysis has improved with HAART, but few studies have compared survival between HIV-positive and HIV-negative patients on dialysis in the HAART era

## OBJECTIVES

- 1) To know the outcome of HIV-infected patients on dialysis and to compare it with a matched cohort of HIV-negative patients on dialysis
- 2) To determine prognostic factors of mortality in HIV-infected patients undergoing dialysis

## PATIENTS & METHODS

- A national, multicentre retrospective cohort study
- Study group: all HIV-infected patients with end-stage renal disease who started dialysis between 1999 and 2006 were included
- Control group: all HIV-infected patients were matched with HIV-negative patients (1:1 ratio) using the following criteria:
  - \* Same dialysis centre
  - \* Year of starting dialysis ( $\pm 3$  years)
  - \* Age ( $\pm 5$  years)
  - \* Gender
  - \* Race

## STATISTICAL ANALYSIS

- The chi-square test or Fisher's exact test was used to compare qualitative variables. The *t* test was used to compare quantitative variables.
- Patient survival was analysed using the Kaplan-Meier method and groups were compared using the log-rank test and Cox regression analysis.
- The Cox model was used to analyze the time to death, and all covariates with a *P* value  $< 0.10$  in the univariate analysis were used to identify independent predictors of mortality.
- The analysis was performed using SPSS version 15.0 and the level of significance was established at 0.05 (two-tailed).

## Baseline Characteristics

	HIV+ (N=66)	HIV- (N=66)	P value
Male gender	77%	75%	
Age (years)*	41	41	
White race	93%	100%	
HCV coinfection	76%	11%	<0.001
Peritoneal dialysis	32%	42%	
Time on dialysis (years)*	3.1	2.6	
Previous transplant	4.5%	38%	<0.001
Renal transplant list	17%	62.1%	<0.001
Death	32%	1.5%	<0.001
Prior cardiovascular events	64%	88%	0.001

\* Median

## Causes of Death

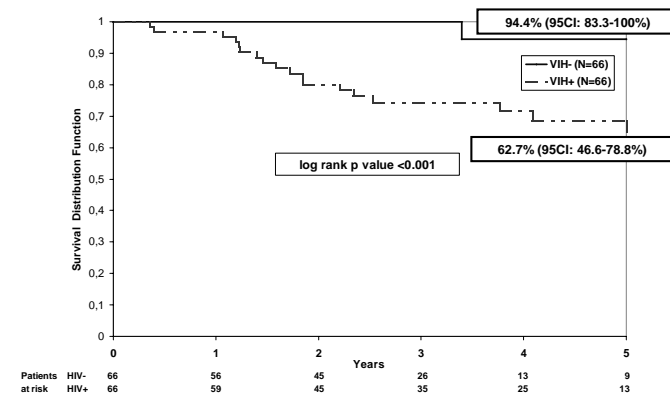
	HIV+ (N=66)	HIV- (N=66)	P value
Death	21 (31.8%)	1 (1.5%)	<0.001
Causes of death			
Infection	7 (33%)	1	
Myocardial infarction	3 (14%)	-	
Sudden death	3 (14%)	-	
Other*	8 (38%)	-	

\*Other: neoplasm (2), cirrhosis (1), peritoneal sclerosis (2), haemoperitoneum (1), cachexia (1), unknown (1)

## Five-Year Patient Survival in HIV-Infected Patients on Dialysis Was Lower Than Matched HIV-negative Patients on Dialysis

Survival at:	HIV + on dialysis N=66	HIV - on dialysis N=66	P value
1 year	95.2%	100%	
3 years	71.7%	100%	
5 years	62.7%	94.4%	<0.001

## Kaplan-Meier Estimates of Survival in Patients on Dialysis According to HIV Status



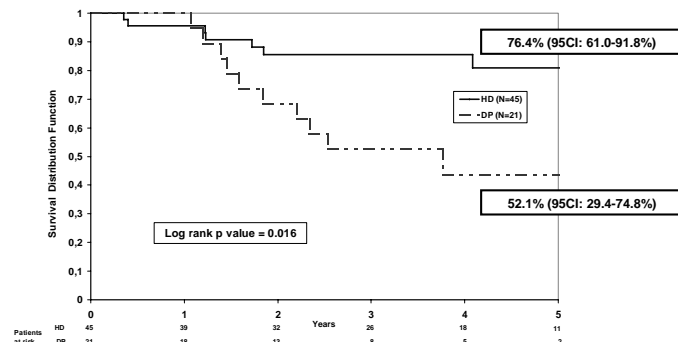
## Univariate Analysis of Mortality

Variable	HR (95% CI)	P value
Male gender	0.70 (0.25-1.92)	
Black race	0.04 (0.00-22.4)	
Age	1.02 (0.97-1.08)	
Injection drug use	0.52 (0.20-1.35)	
AIDS events	1.90 (0.72-4.93)	
Being on effective cART	0.33 (0.13-0.80)	0.014
CD4+ T-cell count	0.48 (0.17-1.32)	
Undetectable viral load	0.33 (0.13-0.80)	0.014
HCV coinfection	0.82 (0.30-2.28)	
Dialysis modality	3.37 (1.39-8.22)	0.007
Prior cardiovascular events	0.66 (0.27-1.61)	
Diabetes mellitus	1.47 (0.48-4.51)	
Prior infectious events	0.71 (0.27-1.83)	

## Multivariate Analysis of Mortality

Variable	HR (95% CI)	P value
Dialysis modality		
Peritoneal vs Haemodialysis	2.88 (1.16-7.17)	0.023
Being on effective HAART (HAART and undetectable viral load)	0.39 (0.16-0.97)	0.043

## Kaplan-Meier Estimates of Survival in HIV-Infected Patients on Dialysis According to Dialysis Modality



## Causes of Death

	HD (N=45)	PD (N=21)	P value
Death	11 (24.4%)	10 (47.6%)	0.06
AIDS-related	0 (0%)	1 (10%)*	
Non-AIDS-related	11 (100%)	9 (90%)	
Bacterial Infection	2 (18.2%)	5 (50%)	
Myocardial infarction	1 (9.1%)	2 (20%)	0.17
Sudden death	3 (27.3%)	-	
Other	5 (45.5%)*	2 (20%)**	

\*Lymphoma. \*Colon Neoplasm (1), cirrhosis (1), peritoneal sclerosis (1), haemoperitoneum (1), unknown (1).

\*\*Peritoneal sclerosis (1), cachexia (1)

## CONCLUSIONS

- Medium-term survival (5 years) of HIV-infected patients on dialysis was lower than that of matched HIV-negative patients
- Access to kidney transplantation was lower in HIV-infected patients
- When a multivariate analysis was performed, the factors associated with mortality risk were being on peritoneal dialysis and not being on effective HAART
- Prognosis improved by taking effective HAART
- Further studies are needed to confirm whether peritoneal dialysis is a risk factor for HIV-infected patients

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