HOSPITALIZATIONS IN PATIENTS WITH HIV AND END-STAGE RENAL FAILURE: A PROSPECTIVE COHORT STUDY IN TWO SOUTH AFRICAN HOSPITALS

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INTRODUCTION

Unexpected hospitalisations of HIV-positive dialysis patients after initiating continuous ambulatory peritoneal dialysis (CAPD) can add significant pressures to health budgets. In poorly resourced countries, including those in sub-Saharan Africa, where the HIV is prevalent, but access to renal replacement therapy is limited, CAPD is considered a cost-effective option. This study evaluated the effects of HIV infection on the hospital admissions and catheter-associated outcomes in patients with end-stage renal failure who were managed using CAPD.

METHODS

This prospective cohort study included 70 HIV-negative and 70 HIV-positive consecutive patients with renal failure who underwent dialysis with newly inserted Tenckhoff catheters between September 2012 and February 2015 in King Edward VIII and Inkosi Albert Luthuli Central Hospitals, in Durban, South Africa. Monthly surveillance at a central renal clinic for incidences of hospital admissions and associated catheter complications, inclusive of mechanical and infective complications, was carried out for 18 months or until endpoints of catheter failure or death.

RESULTS

Table 1: Baseline characteristics

		HIV Negative (n = 70)	HIV Positive (n = 70)	P value
Age (mean ± SD)		39.1 ± 11.7	37.0 ± 9.4	0.247[a]
Gender	Female (%)	42.9	52.9	0.236[b]
Race	African (%)	84.3	100	0.001[c]
	Indian (%)	12.9	0	
	Mixed race (%)	2.9	0	
Hypertension (%)		90	74.3	0.015[b]
Diabetes (%)		5.7	10.0	0.532[c]
SLE (%)		5.7	1.4	0.366 [c]
Hepatitis B (%)		10.3	12.1	0.737[b]
Primary residence	Rural (%)	32.9	34.3	0.956[b]
	Urban (%)	62.9	64.3	
Highest education	Primary school (%)	21.4	18.6	0.710[b]
	High school (%)	45.7	44.3	
	Post-grade 12 (%)	28.6	35.7	
Employment history	Unemployed (%)	71.4	75.7	0.766[b]
	Employed (%)	24.3	22.9	
Tenckhoff catheter insertion type	Laparoscopic (%)	94.3	50	< 0.001[c]
	Percutaneous (%)	5.7	50	

Figure 1: Patient/catheter outcome at 18 months

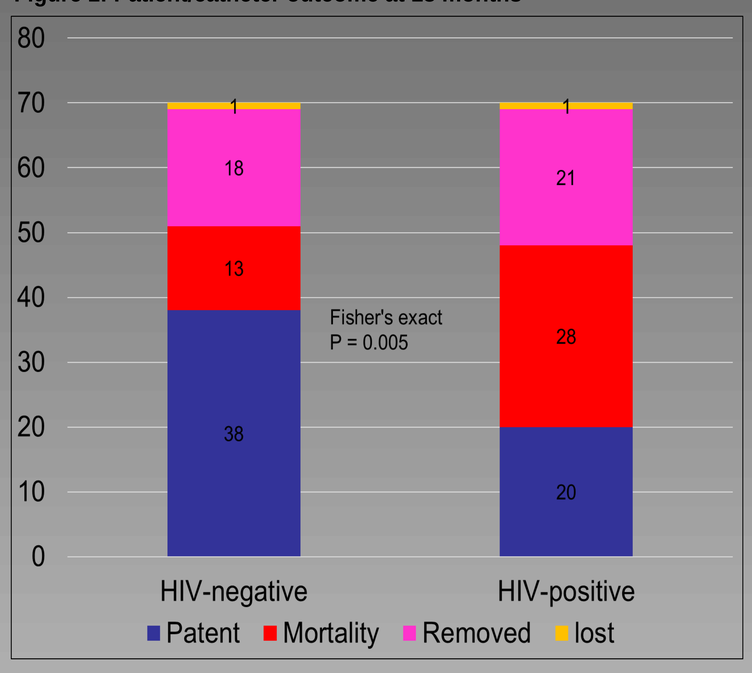


Figure 2: Indication for admission

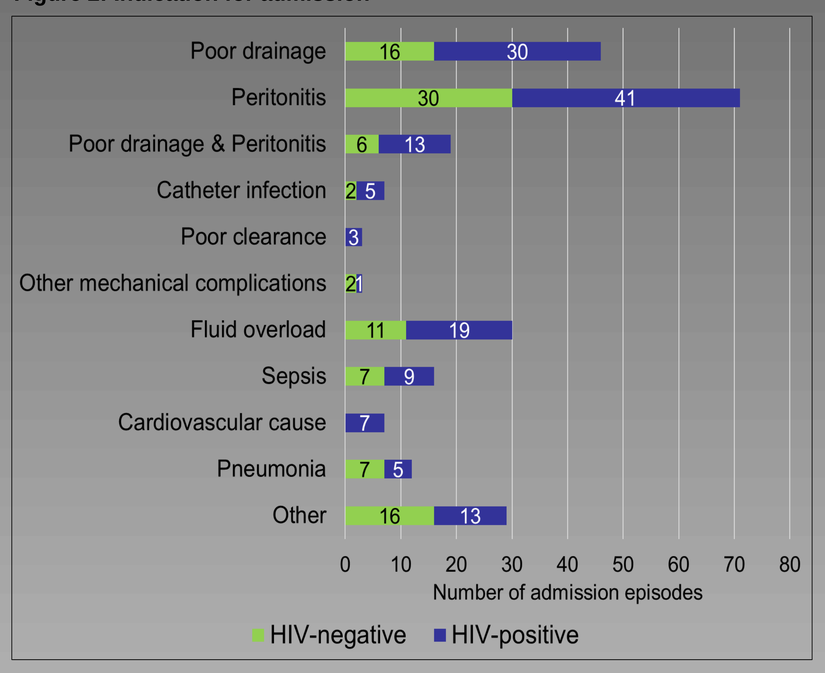


Figure 3: All-cause admissions free days by HIV

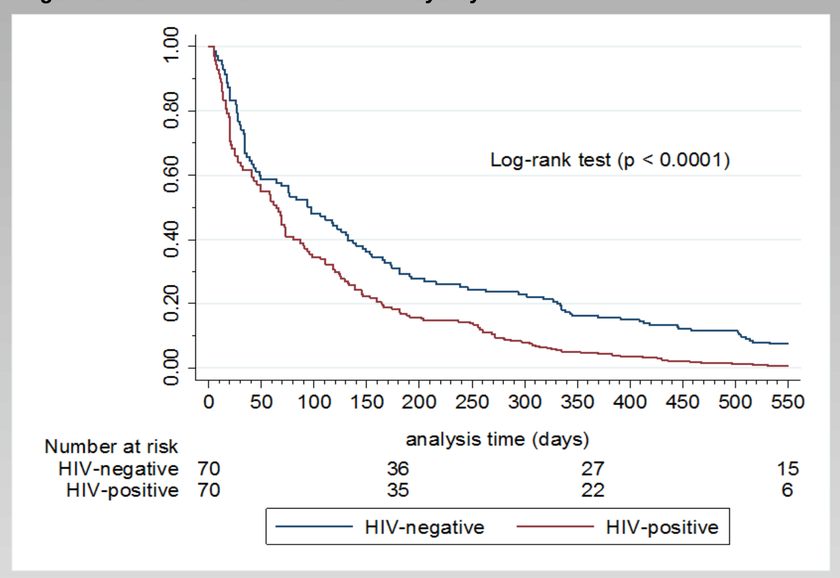


Figure 4: Catheter associated admissions free days

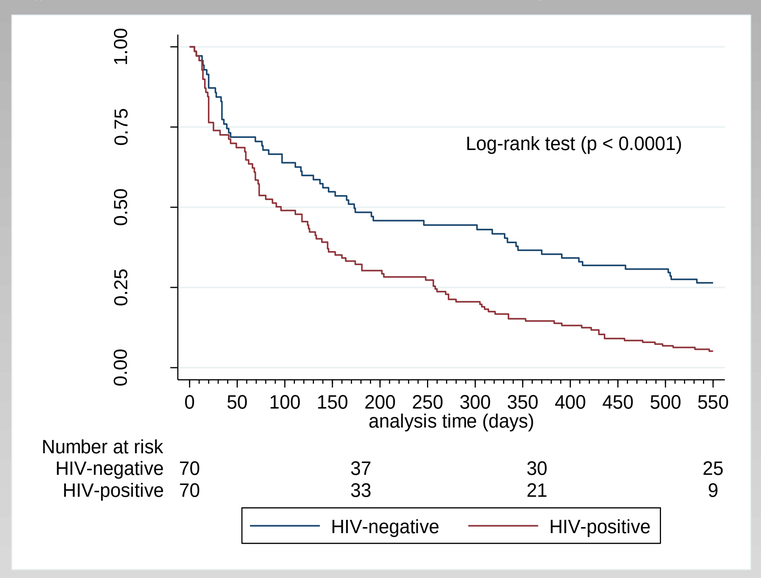


Figure 5: Catheter-blockage associated admissions free days

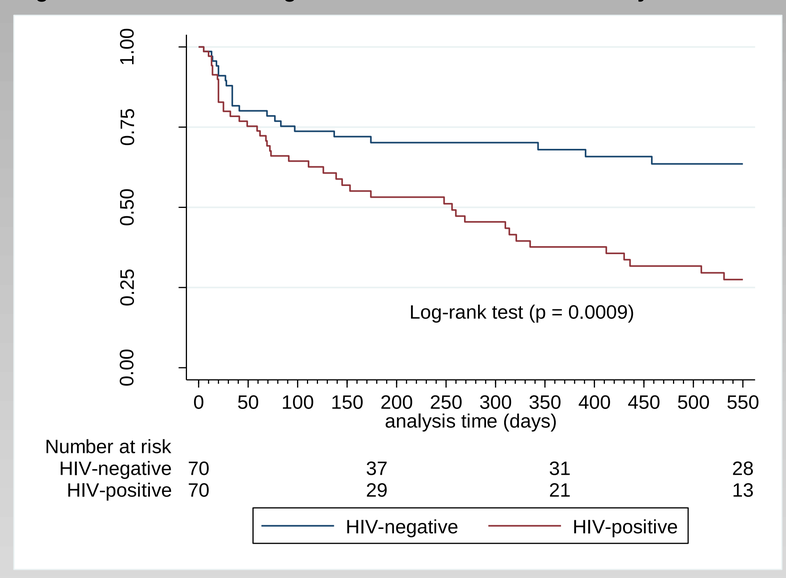


Table 2: : All-cause admissions - Multivariable Cox-proportional hazard

Variable	Hazard Ratio (95% Conf. Interval)	P-value
HIV	HR 1.58 (1.06-2.36)	0.026
Gender	HR 1.50 (1.11-2.02)	0.008
Diabetes	HR 1.82 (1.14-2.9)	0.012
CD4 count		
HIV-negative	reference	
CD4 < 200	HR 2.29 (1.15-4.58)	0.018
CD4 200 - 350	HR 0.95 (0.61-1.46)	0.803
CD4 >= 350	HR 1.00	
Highest education achieved		
Primary school	reference	
High school	HR 0.95 (0.65-1.39)	0.790
Post Matric	HR 0.60 (0.37-0.98)	0.043

*Adjusted for age, race, gender, smoking, diabetes, systemic lupus erythematosus, body mass index, waist circumference, primary residence, highest education level, employment, baseline CD4 count, Tenckhoff catheter insertion site, Tenckhoff catheter insertion method (laparoscopic vs. percutaneous), baseline serum albumin, C-reactive protein, and haemoglobin

Figure 6: Catheter associated admissions outcomes

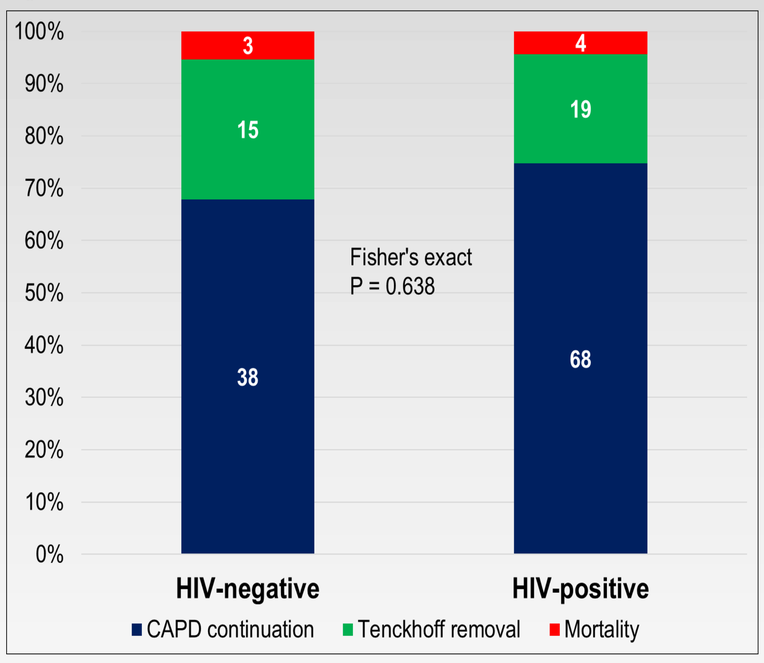
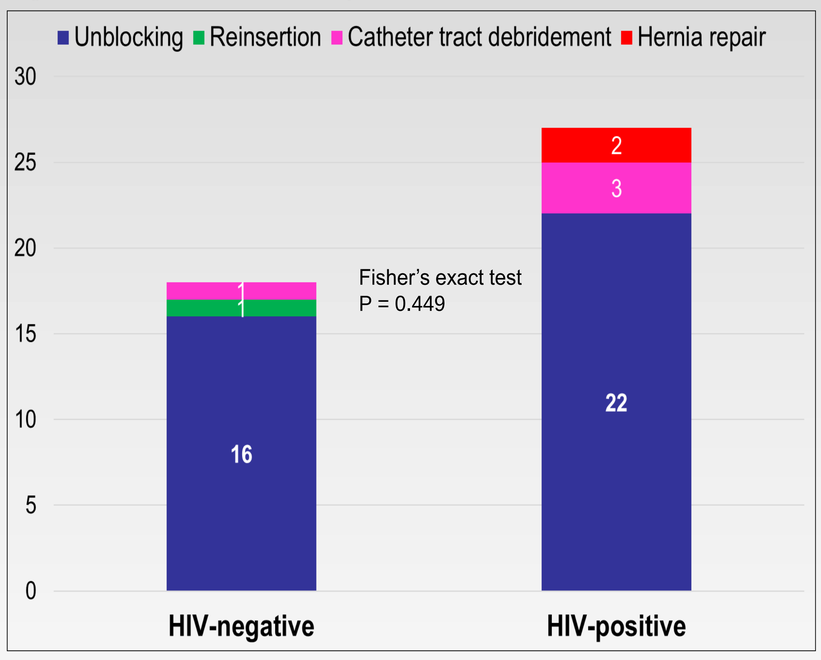


Figure 7: Catheter associated operations



CONCLUSIONS

HIV infection in end-stage renal disease patients managed by CAPD was associated with increased hospital admissions and mechanical complications rates, but with comparable resultant catheter failure rates.

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Peritoneal dialysis II

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DOI: 10.3252/pso.eu.54ERA.2017

ePosters supported by F. Hoffmann- La Roche Ltd.