



THE EFFECTS OF HIV INFECTION ON PERITONEAL DIALYSIS ASSOCIATED PERITONITIS



KCZ Ndllovu^{1,2}, A Assounga^{1,2}

1. Inkosi Albert Luthuli Central Hospital
2. University of KwaZulu-Natal, Department of Nephrology

INTRODUCTION

The management of Renal failure in the setting of HIV infection is not well studied particularly in sub-Sahara Africa where both access to renal replacement therapy is limited and also carry a relatively large HIV burden. This study aims to evaluate infective complications of continuous ambulatory peritoneal dialysis (CAPD) in the management of renal failure associated with HIV infection.

METHODS

This is an ongoing prospective study carried out on dialysis requiring renal failure patients newly inserted a tenckhoff catheter in our unit started on 1 September 2012. Fifty-two HIV positive patients and 69 HIV negative controls were enrolled into groups 1 and 2, respectively, by 30 June 2014. Monthly follow up data over 6 months was used to assess outcomes of catheter associated infective complications.

RESULTS

Table 1: Baseline characteristics

	HIV Negative (n=69)		HIV Positive (n=52)		p-value
Age	39.8 ± 11.6		37.8 ± 10.1		0.330#
Gender	female	30 43.5%	27 51.9%	0.357*	
	male	39 56.5%	25 48.1%		
Race	African	58 84.1%	52 100.0%	0.004**	
	Indian	9 13.0%	0 0.0%		
	Coloured	2 2.9%	0 0.0%		
Hypertension	61 89.7%		37 75.5%		0.040*
Diabetes	4 5.8%		5 9.8%		0.493**
SLE	4 5.8%		1 1.9%		0.390**
Hepatitis B	7 10.45%		5 10.2%		1.000**

- t-test comparison of means * - Pearson chi2 test ** - Fisher's exact test

Figure 1: Peritonitis free days – Kaplan-Meier survival curves

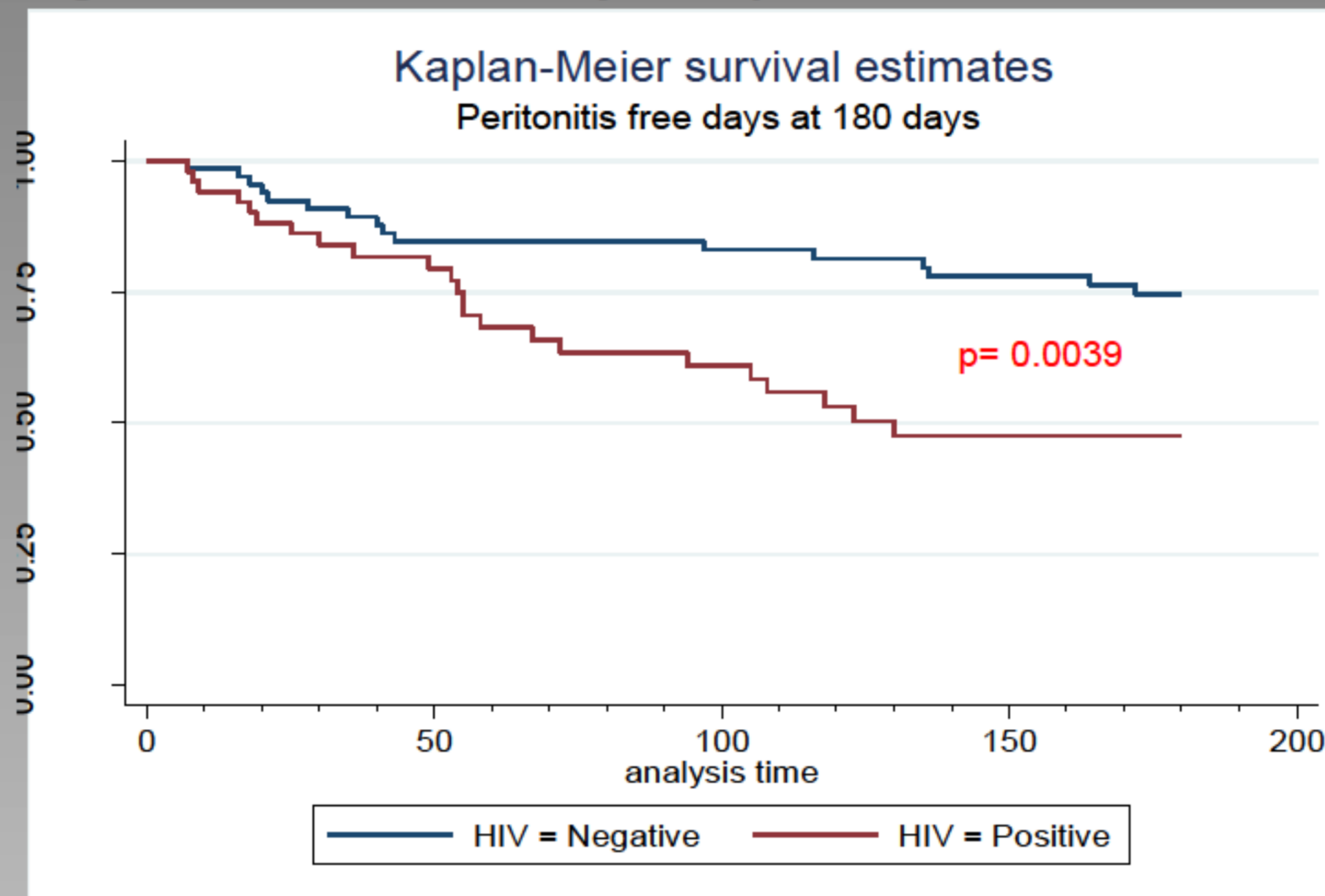


Table 2: Cox regression analysis – Peritonitis free days

HIV Positive groups	Hazard Ratio	P-value	95% Conf. Interval
ALL	2.50	0.005	1.31 4.75
CD4 < 200	5.49	< 0.001	2.39 12.61
CD4 ≥ 200	1.78	0.123	0.86 3.72
ARV Duration < 6 months	3.37	0.001	1.63 6.97
ARV Duration > 6 months	1.79	0.166	0.79 4.06
Viral Load unsuppressed*	4.58	< 0.001	2.13 9.87
Viral Load suppressed*	1.60	0.247	0.72 3.52

* Suppressed mean lower than local laboratory Roche PCR assay limit of 150 copies/μl

Figure 2: Peritonitis free days by CD4 count

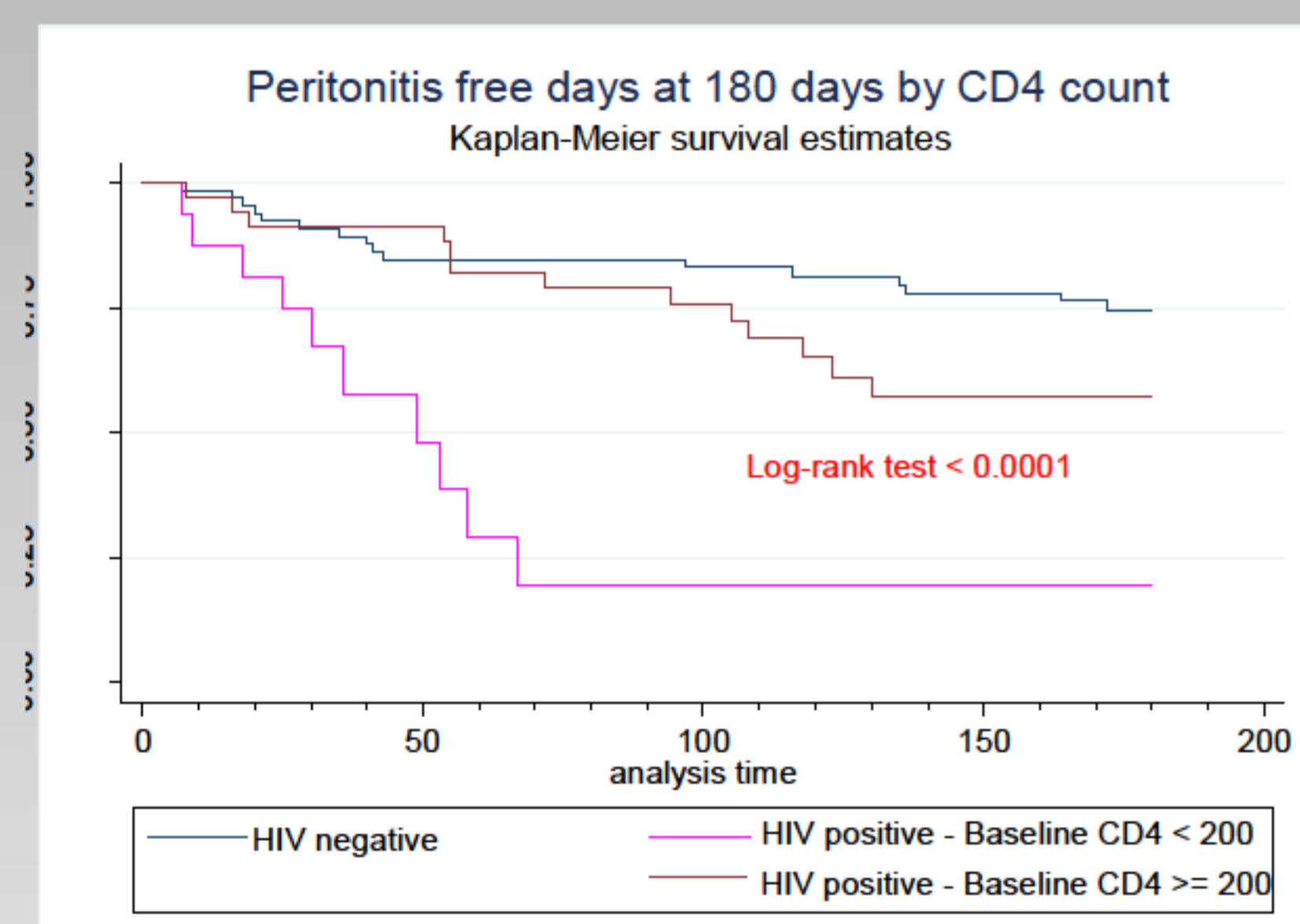


Figure 3: Peritonitis free days by ARV duration

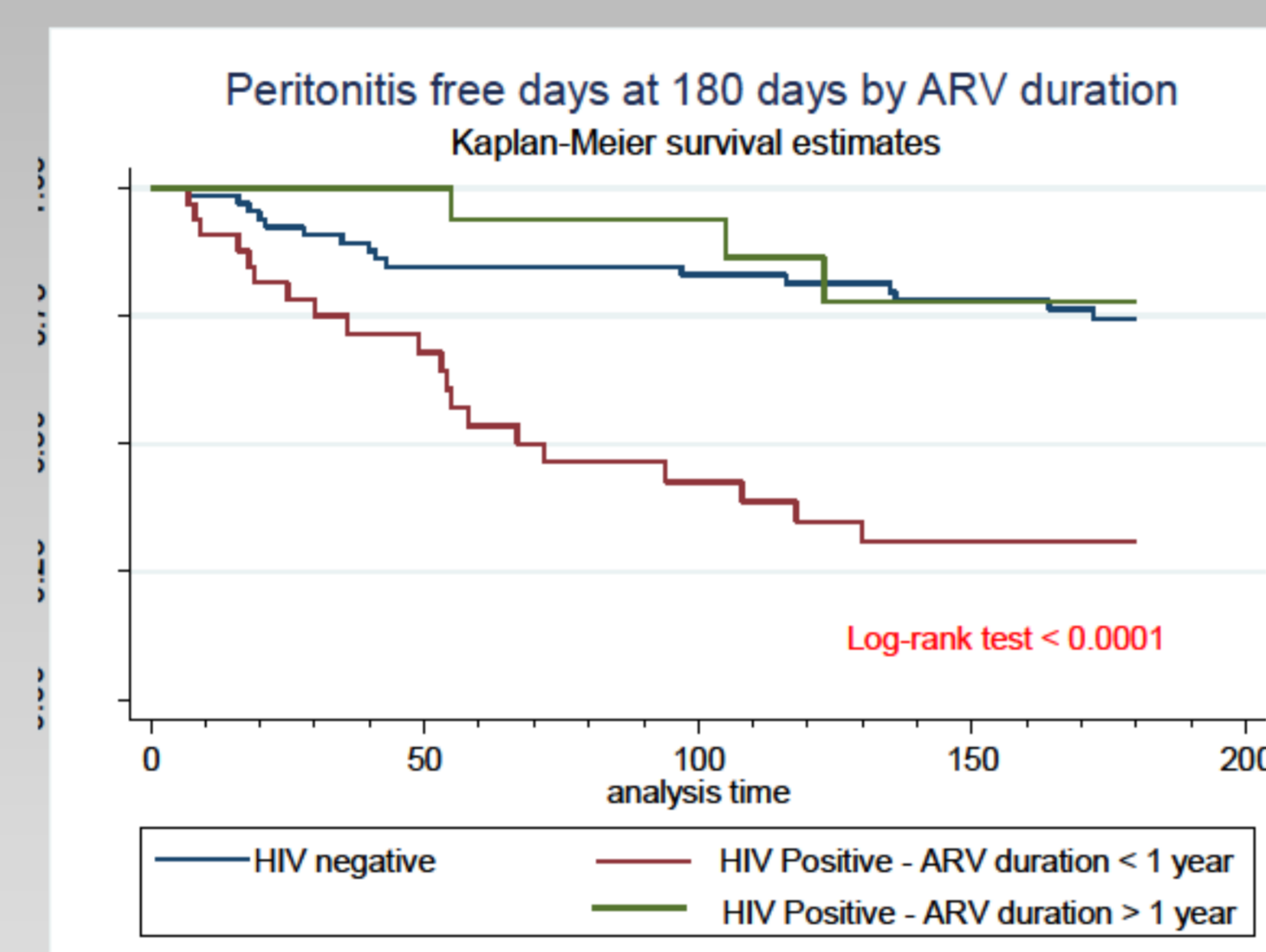


Figure 4: Peritonitis associated admission free days

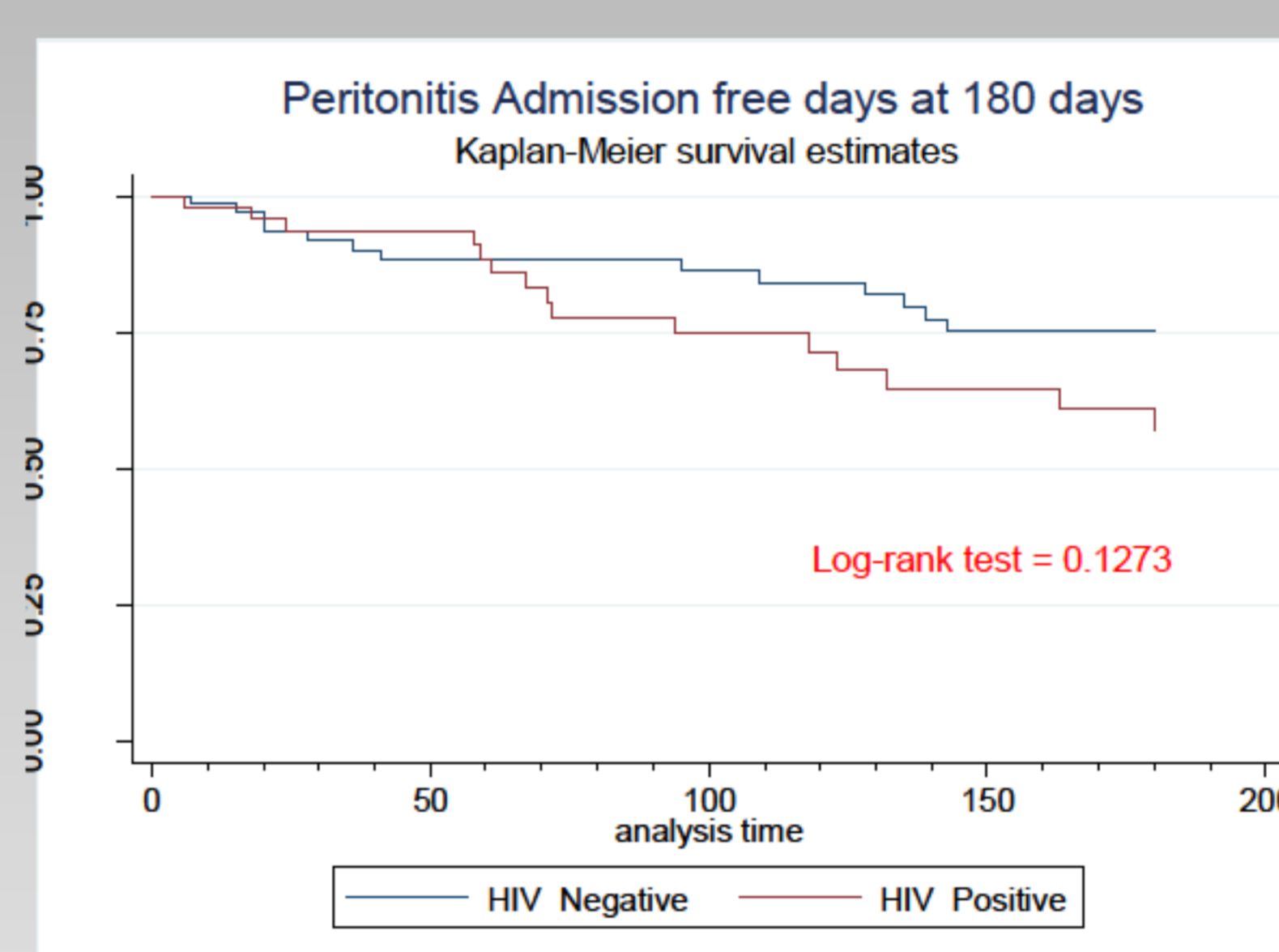


Figure 5: Peritonitis admission free days by CD4

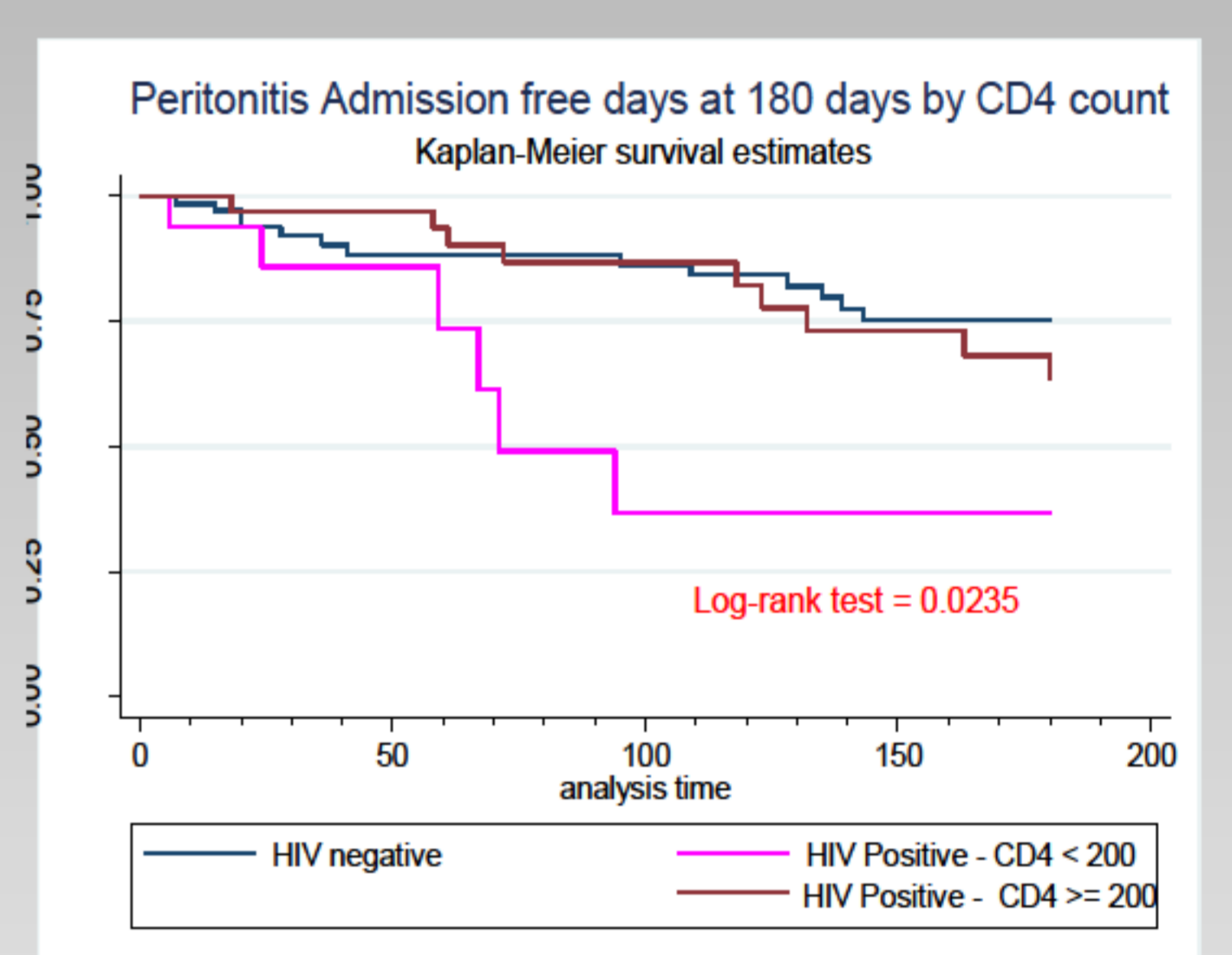


Table 3: Peritonitis episodes presentation

	HIV NEGATIVE		HIV POSITIVE		p-value
	N	Mean / IR	N	Mean / IR	
Peritonitis incidence rate (per-person-years)	69	0.62	52	1.68	0.0021
Days to 1st Peritonitis episode	16	68.1 ± 58.0	23	56.9 ± 39.4	0.479
PD WCC (μl)	15	2654 ± 3267	23	2537 ± 3343	0.916
Peritonitis related admissions IR (per-person-years)	69	0.596	52	1.06	0.1367

Figure 6: Patient peritonitis episode patterns

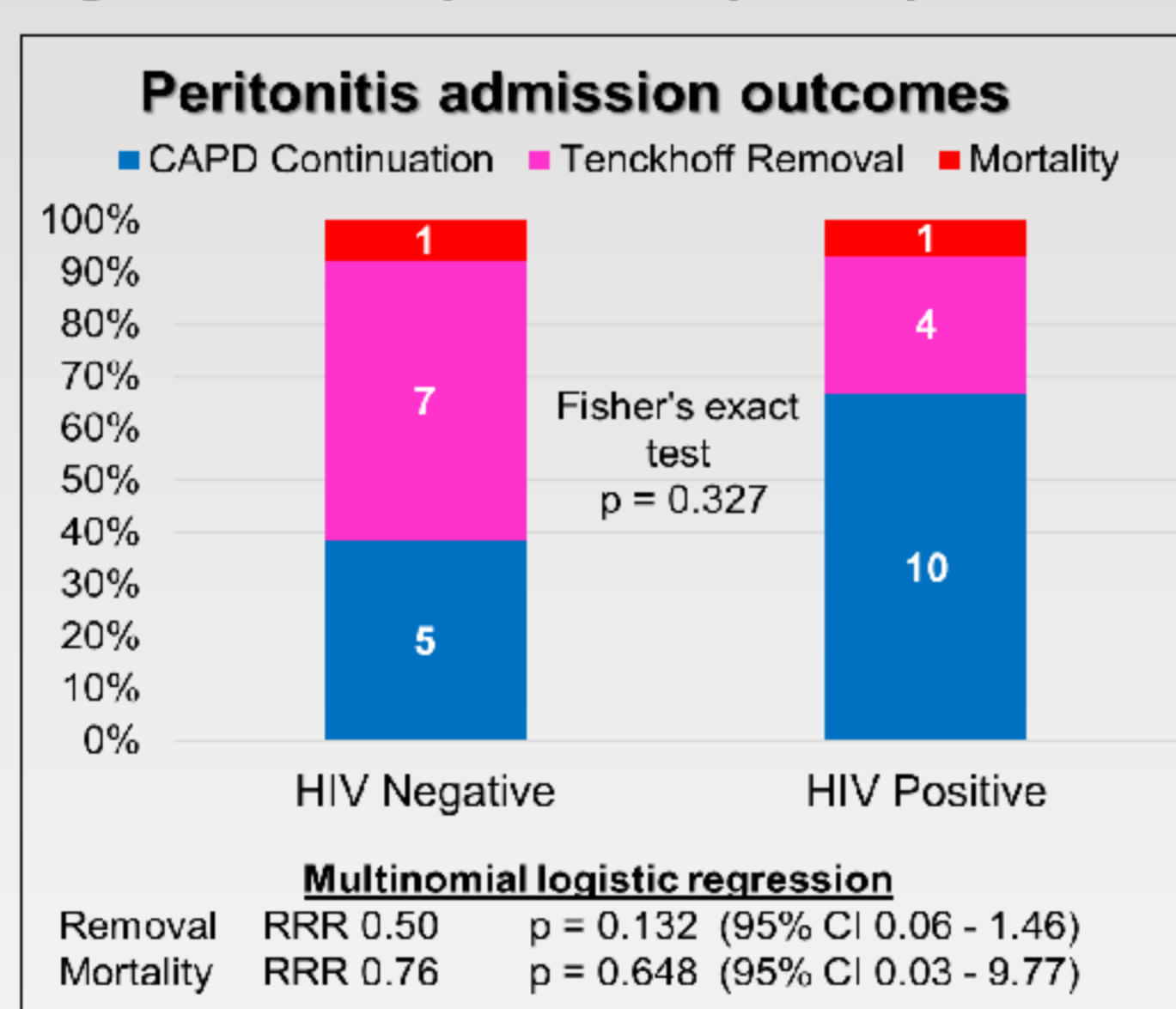


Figure 7: Patient peritonitis episode patterns

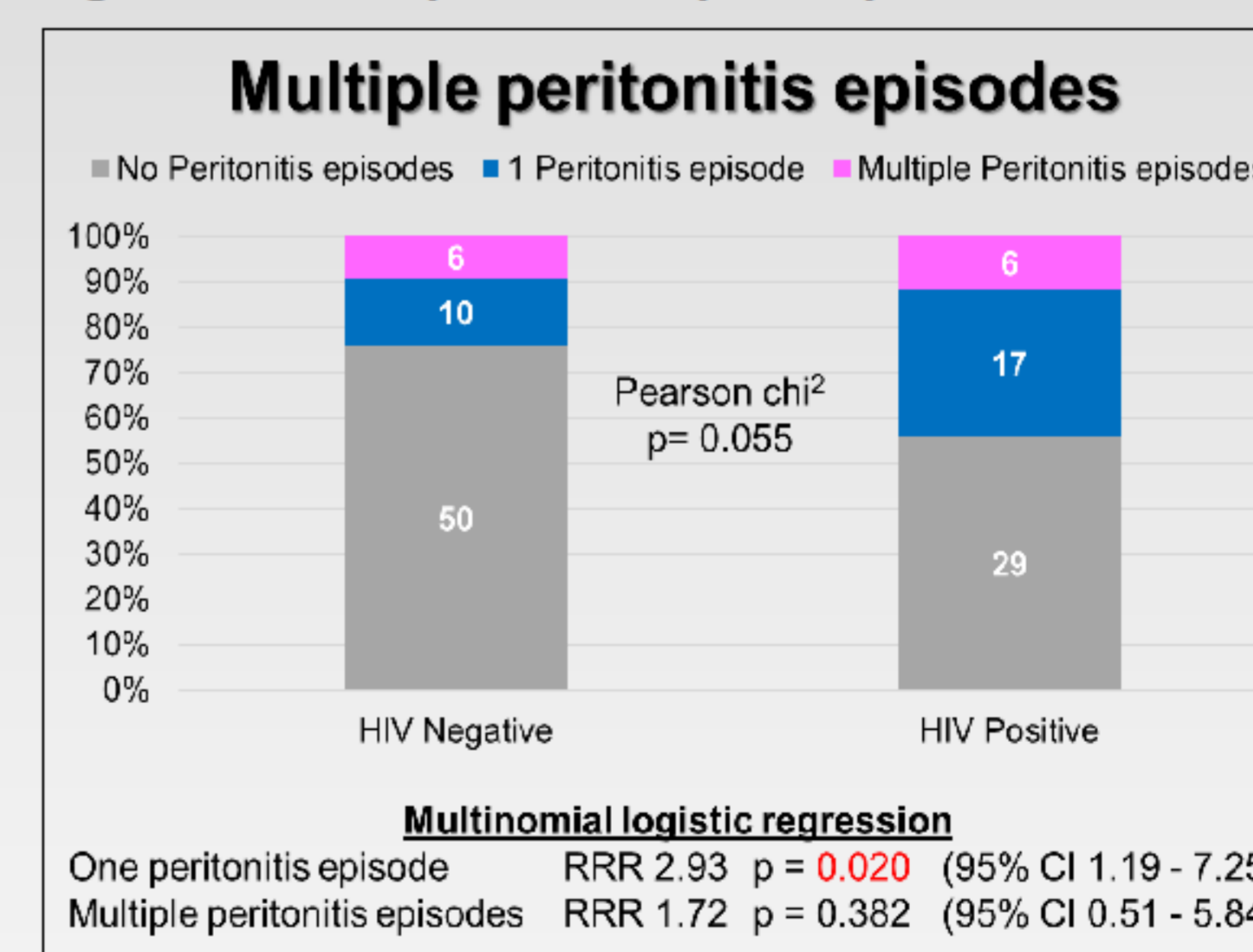
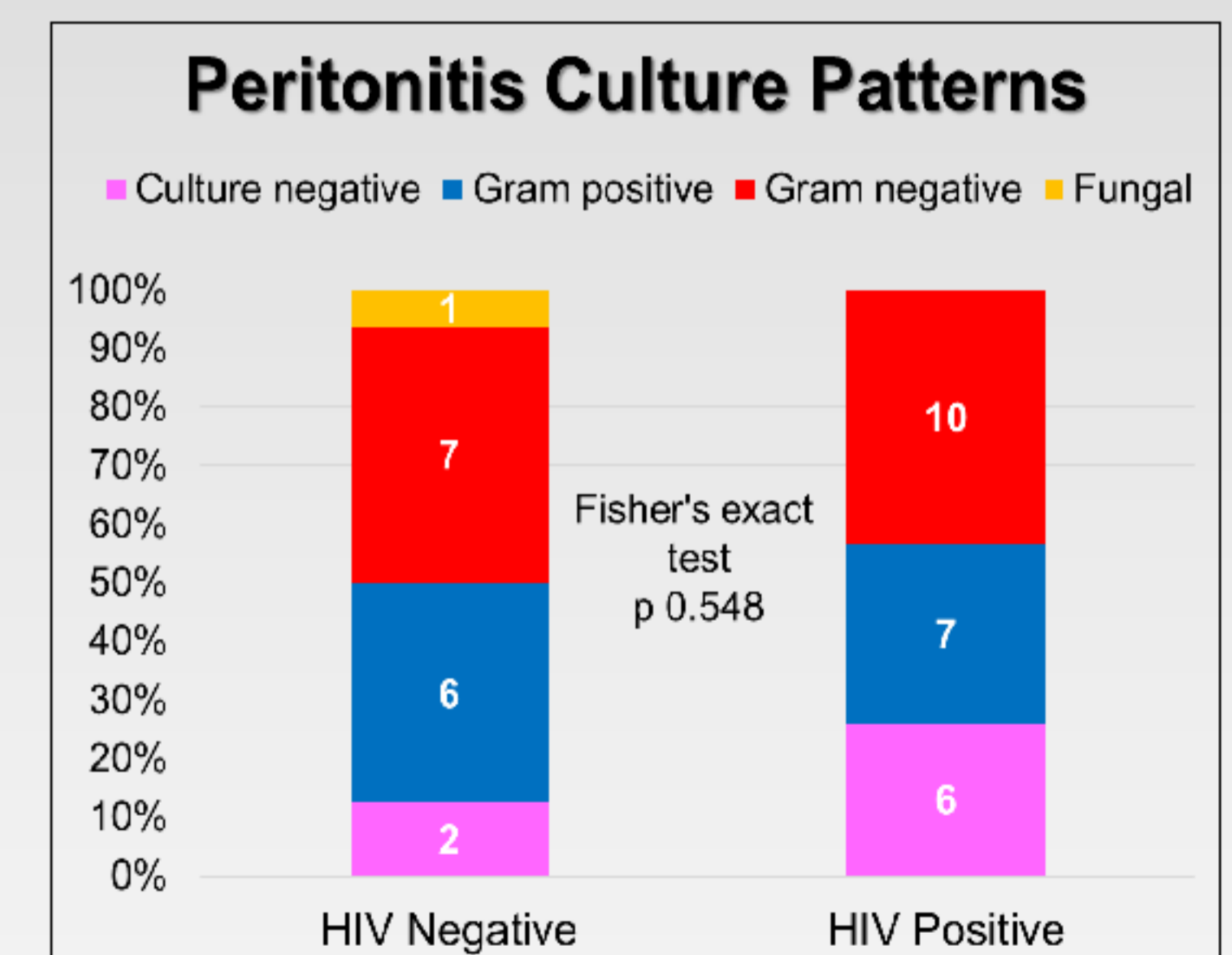


Figure 8: Peritonitis episodes culture results patterns



CONCLUSIONS

This study suggests that uncontrolled HIV infection in patients managed by CAPD may be associated with a higher peritonitis risk, however, with similar presenting features. Although

REFERENCES:

- Rivera Gorin M, Merino Rivas JL, Alarcon Garcelan MC, Galeano Alvarez C, Manuel O, Teruel Briones JL, et al. [Outcome of HIV-infected patients of peritoneal dialysis: experience in a center and literature review]. *Nefrologia*. 2008; 28(5): 505-10.
- Tebben JA, Rigsby MO, Selwyn PA, Brennan N, Klinger A, Finkelstein FO. Outcome of HIV infected patients on continuous ambulatory peritoneal dialysis. *Kidney Int*. 1993; 44(1): 191-8.
- Khanna R, Tachopoulou OA, Fein PA, Chattopadhyay J, Avram MM. Survival experience of peritoneal dialysis patients with human immunodeficiency virus: a 17-year retrospective study. *Advances in peritoneal dialysis Conference on Peritoneal Dialysis*. 2005; 21: 159-63.
- Troitle L, Gorban-Brennan N, Klinger A, Finkelstein FO. Continuous Peritoneal Dialysis-Associated Peritonitis: A Review and Current Concepts. *Seminars in Dialysis*. 2003; 16(6): 428-37.
- Li PK, Szeto CC, Piraino B, Bernardini J, Figueiredo AE, Gupta A, et al. Peritoneal dialysis-related infections recommendations: 2010 update. *Peritoneal Dialysis International*. 2010; 30: 393-423.



UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

