

Peritonitis Risk Factors: A single unit review of peritonitis patient specific characteristics

Robyn Rogers*, Ken-Soon Tan Department of Renal Medicine, Logan Hospital, Brisbane

Introduction

Peritonitis is a known major cause of peritoneal dialysis (PD) technique failure, as well as a leading cause of hospitalisation (1). There are many reported risk factors, modifiable and non-modifiable. The purpose of our review was to compare demographics and physical factors of our overall peritoneal dialysis patient group with our peritonitis patient group.

Study Period: 1st January 2016 – 30th June 2019

Patient numbers: 134 patients

Episodes of Peritonitis: 47 patients/72 episodes

Demographical and physical factors observed:

- Ethnicity
- Dialysis type
- Age
- Gender
- Diabetic status
- BMI
- Serum albumin
- Serum potassium
- Mode of peritoneal dialysis

Results

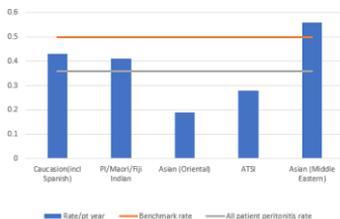
Ethnicity

Limitations:

Limited number of patients in some ethnic groups for sufficient significance of results.

Pacific Islander (PI) population included Fijian Indian, PNG and Maori.

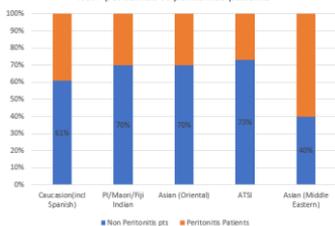
Peritonitis Rate per Ethnicity



Overall peritonitis rate for our unit for the study period was 0.36 per patient year (ISPD guidelines <0.5 per patient year)

When rates were calculated for various ethnic groups, our Asian (oriental) population showed the lowest peritonitis rate at 0.19 per patient year (total 20 patients) and our Asian (middle eastern) population had the highest peritonitis rate at 0.56 per patient year (limited relevance due to total of only 5 patients).

Non-peritonitis vs peritonitis patients



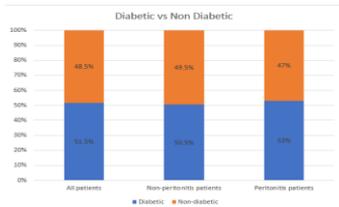
Looking at groups of non-peritonitis patients compared to peritonitis patients, a greater percentage of Arab and Caucasian patients had peritonitis.

Contact: robyn.rogers@health.qld.gov.au

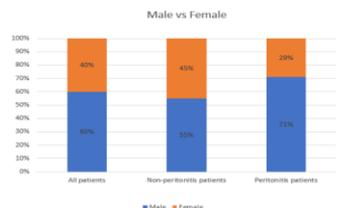
References:

1. Zhang L, Hawley C, Johnson D 2016, 'Focus on peritoneal dialysis training: working to decrease peritonitis rates', Nephrol.Dial.Transplant, vol. 31 pp. 214-222

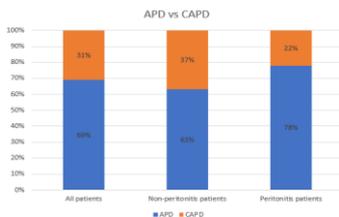
Diabetic Status: Episodes of peritonitis were only slightly higher in our diabetic population.



Gender: Comparing males versus females. 71% of peritonitis patients were male compared to only 55% in the non-peritonitis group



Mode of Peritoneal Dialysis (APD/CAPD) This showed a greater number of peritonitis episode occurred in patients on APD.



Cox proportional hazards regression (table)

Serum albumin was the only statistically significant predictor in the final multivariate model.

Ethnicity was not a statistically significant predictor on formal regression analysis. The small sample size may be relevant.

Covariate	Hazard Ratio	95% CI	P-value
Gender:			
Male	Ref		
Female	0.63	0.32-1.21	0.166
Serum Albumin	0.94	0.89-0.99	0.016
Ethnicity:			
Caucasian	Ref		
Asian (oriental)	0.64	0.26-1.57	0.329
ATSI	0.33	0.08-1.40	0.132
Pacific Islander/Maori	0.67	0.33-1.39	0.282
Asian (middle eastern)	0.94	0.28-3.20	0.926

Conclusion

Interventions can be made to improve modifiable risk factors; however, the non-modifiable risk factors present more of a challenge. Awareness of other demographical non-modifiable risk factors allows early identification of patients that may be at greater risk for peritonitis.