BP-NR-04

COMPARING INCIDENCE OF PERITONEAL DIALYSIS RELATED INFECTION BETWEEN USERS OF CHLORHEXIDINE VERSUS NON-CHLORHEXIDINE BASED HAND WASH, A SINGLE CENTRE AUDIT

Kelly LIM[1], Shaowei WANG[1], Chitra MUTHAIYAN[1], Roslin Bte ROSLAN[1] & Yong Pey SEE[2]

[1]Renal Unit & [2]Department of Renal Medicine, Tan Tock Seng Hospital

BACKGROUND

Peritoneal dialysis (PD) related infection, such as peritonitis and exit site infection (ESI), remains the most common complication in PD and is a major cause of technique failure. Infection is common, despite the use of prophylactic antibiotics during catheter insertion and topical antibiotic prophylaxis over catheter exit site. Hand-hygiene plays an important role in preventing infections but few studies have looked at the impact of handwashing agent on incidence of infection[1,2,3].

AIM

We aim to evaluate the incidence of PD-related infections in patients using chlorhexidine-based (CH) *vs* non-chlorhexidine (NCH) based hand wash.

METHODOLOGY

We conducted a retrospective cohort study of prevalent PD patients at Tan Tock Seng Hospital between 1/1/2021 and 30/4/2021.

Baseline characteristics were obtained through review of medical records and the type of hand washing agent (CH vs NCH) was determined through phone interview. Primary outcomes on incidence of ESI and peritonitis, ESI and peritonitis rates (episodes/patient-year) were obtained.

Chi-squared test, Independent t test and Mann-Whitney U test were performed to evaluate difference in infections amongst users of CH and NCH based hand wash, as appropriate.

RESULTS

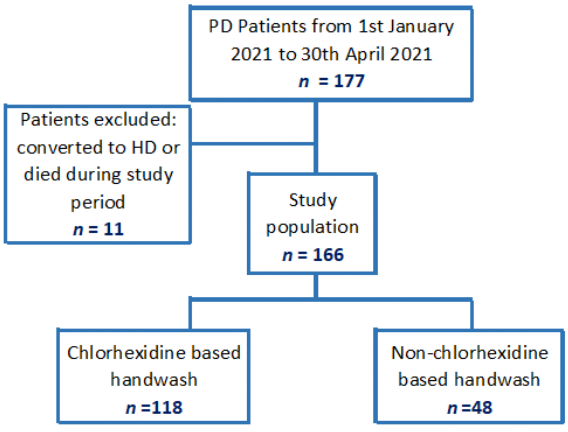

Figure 1: Study Population

A total of 166 patients were included in this study (Figure 1). The baseline characteristics between the two groups are similar (Table 1).

RESULTS

Characteristics	CH (n=118)	NCH (n=48)	P-value
Age, years (IQR)	66 (55-76)	65 (52-73)	0.52
Male Gender, n (%)	57 (48)	20 (52)	0.44
PD vintage, years (IQR)	2 (1-4)	2 (1-3)	0.53
Automated PD, n (%)	71 (60)	26 (54)	0.51
Diabetes mellitus, n (%)	77 (65)	35 (73)	0.34
Hypertension, n (%)	115 (97)	48 (100)	0.56

Table 1: Baseline Characteristics

The incidence of ESI were similar in both groups, 34% (40/118) in CH versus 27% (13/48) in NCH group, p=0.39. However, NCH had less peritonitis incidence, 8% (4/48) versus CH 27% (32/118), p=0.01. There is trend towards lower peritonitis rate amongst NCH, 0.05 ± 0.18 compared to 0.17 ± 0.36 peritonitis per patient-year, although not clinically significant (p=0.06) (Figure 2).

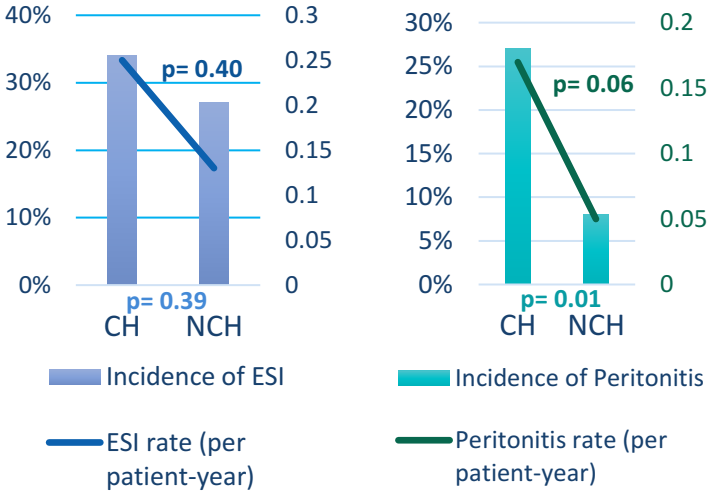

Figure 2: PD-related infections amongst CH and NCH

DISCUSSION AND CONCLUSION

This single centre observational study demonstrates that the use of NCH hand wash did not negatively impact on risk of ESI and was associated with lower incidence of PD peritonitis. We postulate that use of NCH hand wash causes less skin irritation, is better tolerated and complied with, and hence result in better outcomes.

This study is limited by being observational in nature as well as potential recall biases from type of hand wash used. Correlation with handwashing technique and compliance, dialysis and exit site care technique were not evaluated.

Hence, we propose a randomised controlled trial to further evaluate the impact of hand washing agent on incidence of PD related infection.

1. Figueiredo, A et al (2013). Hand hygiene in peritoneal dialysis patients: a comparison of two techniques. *Peritoneal Dialysis International*, *33*(6), 655-661.
2. Firanek C et al (2011). Hand hygiene in peritoneal dialysis. *Peritoneal Dialysis International*, *31*(4), 399-408.
3. Szeto et al (2017). ISPD catheter-related infection recommendations: 2017 update. *Peritoneal Dialysis International*, *37*(2), 141-154.