

Prevention is better than cure: Reducing peritoneal dialysis exit site infections

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Introduction:

Peritoneal dialysis (PD) catheter exit site infections are an important risk factor for peritonitis, which can have a significant impact on patient outcomes. Strategies to prevent infections include exit site care, topical antibiotic prophylaxis and prompt treatment of exit site infections. Renal Association guidelines also recommend regular audit of exit site infection rates, including the causative organism, treatment and outcomes.

We aimed to assess the impact of a new catheter care bundle on our rate of exit site infection.

Methods:

A baseline audit of prevalent PD patients in our unit was undertaken in 2016. We collected the number of exit site swabs sent, the results of these swabs and infection rates (including rates of relapses and catheter removal).

We then developed a catheter care bundle in 2017 which includes:

1. Exit site cleaning protocol changed from saline to chlorhexidine wipes
2. Nasal and exit site prophylaxis with mupirocin (or alternative) for all patients
3. Protocol for treatment of infections reviewed and standardised
4. Treatment length standardised to 2 weeks

Further rolling audits were undertaken in 2018/19 to assess the impact of these changes. We also introduced a monthly multidisciplinary 'mini RCA' review of all exit site infections.

Results:

116 prevalent PD patients were identified in the 2016 baseline audit. A total of 202 exit site swabs were sent and there were 58 confirmed exit site infections (28.7%). *Staphylococcus aureus* was grown in 48 swabs (23.8%). 27 patients had refractory, relapsing or repeated infections, and 14 patients went on to have their PD catheters removed. There were also 7 cases of *Pseudomonas* infection.

In the 12 month period from July 2018 to June 2019 following the implemented changes, 106 swabs were sent from 115 patients and there were only 33 confirmed exit site infections (43% overall reduction). There were 11 *Staphylococcus aureus* infections, a significant reduction (p 0.003). Only 3 catheters were removed. *Pseudomonas* infection rates remained unchanged.

Discussion:

Following the implementation of a care bundle to improve PD exit site care, we have seen a 43% overall reduction in exit site infection rates in our unit. There was a significant reduction in exit site infections (77%) and catheter removals (79%) due to *Staphylococcus aureus*. This improvement is likely to be due to the increased use of chlorhexidine wipes and topical mupirocin application. These are simple and

inexpensive treatments which appear to be highly effective, although the number of patients in our study was small.

Conclusion:

The introduction of a standardised catheter care bundle led to a significant reduction in *Staphylococcus aureus* PD exit site infections in our unit.