408

Effect of PD catheter length on mechanical complications in patients on peritoneal dialysis

Ms Jennifer Zheng[2], Ms Marie Melly[1], Dr Subash Somalanka[1], Dr Nicholas Cole[1], Dr Bhrigu Raj Sood[1]
[1]Epsom And St Helier Hospital NHS Trust, Carshalton, United Kingdom, [2]St George's University of London, London, UK

Introduction

Catheter malfunction and pain during fluid drainage contribute to significant morbidity in patients undergoing peritoneal dialysis (PD). Guidelines suggested that the location of the catheter tip and exit site has an impact on various PD complications including flow dysfunction, flow pain, and risk of infections. The recommendation is to have catheter tip ideally located in the pelvis for optimal hydraulic function, without being wedged between the rectum and the bladder or uterus, thus for coiled-tip catheters, the upper border of the coil should be aligned with the upper border of the pubic symphysis.

Aim

Our center uses single length coiled tip PD catheter for all patients, irrespective of the distance from the symphysis pubis to the insertion site, height or BMI of the patient. Distance between the proximal cuff and the upper end of the coil of PD catheter is 10cm. Aim of this single-center retrospective observational study was to analyse the effect of catheter length in comparison to the patient size on catheter-related outcomes of poor flow, pain, and excessive machine alarms or lost dwell time.

Results

- Number of patients observed - 27
- 14 males and 13 females.
- Average Age – 62.5 years (38 – 88)
- Average distance between the proximal cuff and symphysis pubis (D) – 12.2cm (9 – 20)
- 6 had a D ≤ 10cm.

Outcomes:

- 1 Failure
- 6 reported pain
- 4 had issues with repeated alarms
- 5 had significant lost dwell

Table 1. Mechanical complications by the difference in distance from the insertion site to symphysis pubis (D).

Conclusion

Guidelines for PD access recommend choosing catheter size according to the patient. Although this is a logical suggestion based on the anthropometric assumptions, there is no clinical data to validate this approach. This single-center study suggests that the variation in the length of the catheter in comparison to the patient anthropometric parameters does not contribute to increased mechanical complications. This observation would need to be evaluated further with a prospective randomised study to verify this conclusion.