Waste reduction during haemodialysis access procedures

Background

Patients dependent on a central venous line for haemodialysis undergo two access procedures every time they dialyse; to connect to and then to disconnect from the dialysis machine. Access procedures are commonly completed using a standard dressing pack containing multiple single-use items. Several items in the dressing pack may not even be required for the procedure.

Micro-critical aseptic fields of supplies required to commence dialysis.

The technique to access central lines has transitioned from using large aseptic fields and sterile gloves to using micro-critical aseptic fields and standard gloves with aseptic non-touch technique.[1] Micro-critical aseptic fields include the inside of sterile packaging and sterile sheaths and caps, with sterility maintained by avoiding touch of key sterile parts.

Case

A renal service caring for approximately 40 patients dependent on central venous lines for haemodialysis access at any one time switched to using micro-critical aseptic fields and standard gloves with aseptic non-touch technique when accessing lines for dialysis.

Intervention and results

Work-place instructions were developed, staff were trained in the procedure, and technique assessment of every staff member was completed to ensure competency prior to widespread adoption of the technique across the service.

This change in technique reduced the number of single-use plastic items going to landfill by 96,000 per year. The cost fell by 62% from $7.58 to $2.92 for each dialysis treatment, saving $28,000 per year. Early data revealed a small drop in bloodstream infection rates, and this has been maintained twelve months on, achieving a central line associated bloodstream infection rate of 0.25/1000 catheter days. This is well below the target of 1.5/1000 catheter days recommended in the KDOQI Clinical Practice Guideline for Vascular Access.[2]

Conclusion

It is important to reassess everyday practises in the dialysis unit to determine if there is another technique that will reduce cost and/or waste without negatively impacting patient care.

References

1. Rowley S, Clare S, “Standardizing the critical clinical competency of aseptic, sterile, and clean techniques with a single international standard: aseptic non touch technique (ANTT)”, *Journal of the Association for Vascular Access*, 2019;24(4):12-7.
2. Lok CE, Huber TS, Lee T, Shenoy S, Yevzlin AS, Abreo K, “KDOQI clinical practice guidelines for vascular access: 2019 update”, *Americal Journal of Kidney Disease*, 2020;75(4)(suppl 2):S1-S164.

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