Poor securement potentiates all complication types. This randomised controlled trial (RCT) aimed to examine the feasibility of a large RCT of four dressing and securement methods to prevent PICC failure" Chan et al (2017).

Abstract:

BACKGROUND: Peripherally inserted central catheters (PICCs) are commonly used for delivering intravenous therapy. PICC failure is unacceptably high (up to 40%) due to mechanical, infectious and thrombotic complications. Poor securement potentiates all complication types. This randomised controlled trial (RCT) aimed to examine the feasibility of a large RCT of four dressing and securement methods to prevent PICC failure.

METHODS: This single-centre pilot RCT included 124 admitted medical/surgical/cancer patients aged ≥ 16 years with a PICC. Interventions were: (i) standard polyurethane dressing and sutureless securement device (SPU + SSD, control); (ii) polyurethane with absorbent lattice pad dressing (PAL + Tape); (iii) combination securement-dressing (CSD); and (iv) tissue adhesive (TA + SPU). All groups except TA + SPU had a chlorhexidine-gluconate (CHG) impregnated disc. Feasibility outcomes were recruitment and safety/acceptability of the interventions. The primary outcome was PICC failure, a composite of PICC removal for local infection, catheter-associated bloodstream infection, dislodgement, occlusion, and/or catheter fracture. Secondary outcomes included individual complications, dressing failure and dwell time, PICC dwell time, skin complications/phlebitis indicators, product costs, and patient

and staff satisfaction. Qualitative feedback was also collected.

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RESULTS: PICC failure incidence was: PAL + CHG + Tape (1/5; 20%; 17.4/1000 days), SPU + SSD + CHG (control) (4/39; 10%; 9.0/1000 days), TA + SPU (3/35; 9%; 9.6/1000 days), and CSD + CHG (3/42; 7%; 9.4/1000 days). Recruitment to PAL + CHG + Tape was ceased after five participants due to concerns of PICC dislodgement when removing the dressing. CSD + CHG, TA + SPU (TA applied only at PICC insertion time), and control treatments were acceptable to patients and health professionals.

CONCLUSION: A large RCT of CSD + CHG and TA + SPU (but not PAL + CHG + Tape) versus standard care is feasible.

TRIAL REGISTRATION: Australian and New Zealand Clinical Trials Registry, ACTRN12616000027415 . Registered on 15 January 2016.

Full Text

Reference:

Chan, R.J., Northfield, S., Larsen, E., Mihala, G., Ullman, A., Hancock, P., Marsh, N., Gavin, N., Wyld, D., Allworth, A., Russell, E., Choudhury, M.A., Flynn, J. and Rickard, C.M. (2017) Central venous Access device SeCurement And Dressing Effectiveness for peripherally inserted central catheters in adult acute hospital patients (CASCADE): a pilot randomised controlled trial. Trials. 18(1), p.458.

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