

The aim of this study was to compare an ultrasound-guided method (UGM) versus the landmark method (LM) for the placement of a PIVC in ICU patients who no longer require a central intravenous catheter (CIVC)” Bridey et al (2018).

Abstract:

OBJECTIVE: Establishing a peripheral intravenous catheter (PIVC) after a long intensive care unit (ICU) stay can be a challenge for nurses, as these patients may present vascular access issues. The aim of this study was to compare an ultrasound-guided method (UGM) versus the landmark method (LM) for the placement of a PIVC in ICU patients who no longer require a central intravenous catheter (CIVC).

DESIGN: Randomised, controlled, prospective, open-label, single-centre study.

SETTING: Tertiary teaching hospital.

PARTICIPANTS: 114 awake patients hospitalised in ICU fulfilling the following criteria: (1) with a central venous catheter that was no longer required, (2) needing a PIVC to replace the central venous catheter and (3) with no apparent or palpable veins on upper limbs after tourniquet placement.

INTERVENTION: Placement of a PIVC using an UGM.

PRIMARY OUTCOME: Number of attempts for the establishment of a PIVC in the upper limbs.

RESULTS: 57 patients were respectively included in both the UGM group and LM group. Stasis oedema in the upper limbs was the main cause of poor venous access identified in 80% of patients. Both the number of attempts (2 (1-4), $p=0.911$) and catheter lifespan ((3 (1-3) days and 3 (2-3) days, $p=0.719$) were similar between the two groups. Catheters in the UGM group tended to be larger ($p=0.059$) and be associated with increased extravasation ($p=0.094$).

CONCLUSION: In ICU patients who no longer require a CIVC, use of an UGM for the establishment of a PIVC is not associated with a reduction in the number of attempts

compared with LM.

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Full Text

Reference:

Bridey, C., Thilly, N., Lefevre, T., Maire-Richard, A., Morel, M., Levy, B., Girerd, N. and Kimmoun, A. (2018) Ultrasound-guided versus landmark approach for peripheral intravenous access by critical care nurses: a randomised controlled study. *BMJ Open*. 8(6), p.e020220.

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