The US-Seldinger technique was found to be more cost-effective than the non-US conventional method” Tan et al (2016).

Abstract:

BACKGROUND: Ultrasound-guided cannulation of deep mid-arm veins by a modified Seldinger (US-Seldinger) technique has been demonstrated to yield better puncture success rates and lower postoperative complication rates than direct cannulation of superficial veins near the elbow with a short peripheral cannula and peripherally inserted central catheter (PICC) insertion through the cannula (non-US conventional method). Economic factors have been evaluated across different operators (i.e. nurses, radiologists, and general practitioners) and different venous catheter types (i.e. PICCs vs. central venous catheters). However, to our knowledge, data describing the economic evaluation on the aforementioned modified Seldinger technique are lacking. Hence, the aim of this study was to evaluate the cost-effectiveness of US-Seldinger technique (experimental group) compared with that of the non-US conventional method based on direct vein visualization (control group).

RESULTS: A cohort of 360 subjects were assigned randomly to the experimental and control groups. Cost-effectiveness ratio (CER) analyses indicated that the effectiveness index (EI) for
the experimental group was 89.29% (final CER = 3732.75), whereas that for the control group was 59.18% (final CER = 2492.98).

CONCLUSION: The US-Seldinger technique was found to be more cost-effective than the non-US conventional method. These findings support the use of the former in place of the traditional latter technique as a routine puncture technique and suggest that the update would improve intravenous therapy treatment for patients needing PICCs. This study should serve as a reference for national healthcare policy. Trial registration ChiCTR-TRC-14004993.

Reference:


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