



Describe and assess the safety and efficacy of tunneled jugular central venous catheter placement performed under ultrasound (US) and fluoroscopic guidance in neonates and infants weighing <5 kg using the single-stick technique at three tertiary pediatric hospitals” Lindquister et al (2017).

Abstract:

**BACKGROUND:** Despite the demonstrated feasibility of the single-stick technique in the femoral vein, its use in neonates and infants for placing central lines in internal and external jugular veins has not been reported.

**OBJECTIVE:** Describe and assess the safety and efficacy of tunneled jugular central venous catheter placement performed under ultrasound (US) and fluoroscopic guidance in neonates and infants weighing <5 kg using the single-stick technique at three tertiary pediatric hospitals.

**MATERIALS AND METHODS:** Thirty-three children weighing less than 5 kg received tunneled central venous access in either internal or external jugular veins using the single-stick technique. Patient history, procedural records and clinical follow-up documents were retrospectively reviewed. Complication rates were compared to those of 41 patients receiving single-stick femoral central lines.

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**RESULTS:** Technical complications occurred during one (3.0%) jugular placement with the patient having a failed right-side attempt with subsequent successful left-side placement. The catheters did not last the entire course of treatment in three (9.1%) patients with jugular lines. One patient had the catheter removed due to concern for infection, one catheter was accidentally removed during dressing changes, and one catheter was displaced and subsequently exchanged. Of patients receiving femoral central lines, 1 (2.4%) had a technical complication and 5 catheters (12.2%) did not last the entire course of treatment.

**CONCLUSION:** The placement of tunneled central venous catheters in neonates/infants <5 kg is safe and technically feasible using the internal/external jugular vein via the single-stick technique. By theoretically reducing the risks of catheter infection by avoiding the diaper area and thrombosis by using larger veins, it may be preferable in certain patient populations.

Reference:

Lindquenter, W.S., Hawkins, C.M., Monroe, E.J., Gill, A.E., Shivaram, G.M., Seidel, F.G. and Lungren, M.P. (2017) Single-stick tunneled central venous access using the jugular veins in infants weighing less than 5 kg. *Pediatric Radiology*. July 18th. .

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