WALANT Versus Local Anesthesia in Central Venous Catheter Insertion

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This was a single-center, prospective, observational study conducted between November 1, 2023, and August 1, 2024. Sixty-four adult patients (≥18 years) requiring CVC placement were enrolled. Patients were excluded if they were pregnant, had a Glasgow Coma Scale score <15, were disoriented, had hemorrhagic shock stage >1, coagulopathy, local infection, or vascular obstruction. Eligible participants were randomized using a single-blind allocation method based on hospital file numbers: odd numbers received WALANT and even numbers received lidocaine. The WALANT solution was prepared according to the standard protocol and injected into a 3×3 cm target area 20 minutes before catheter insertion. CVCs were placed without ultrasound guidance in jugular, subclavian, or femoral veins by anatomical localization. Pain intensity was assessed using the Visual Analog Scale (VAS) before and after the procedure.

For the control group, patients requiring CVCs were selected in the emergency resuscitation room and, unless contraindicated, the procedure was performed without any guidance such as ultrasound, after selecting the catheter insertion site (either the femoral vein, subclavian vein, or jugular vein). After marking the anatomical location, the vein to be used was identified by using a 10cc syringe and applying negative pressure to the skin and subcutaneous tissues. While the needle was slowly withdrawn, local anesthesia was induced with an average of 2-10ml lidocaine (1.5-2 mg/kg) applied to the designated 3x3cm area. CVC insertion was then performed according to routine procedures. Patient assessments were recorded using a visual analog scale before and after the procedure.

Data from the case and control groups were statistically analyzed.