

Abstract

Background:

There is now growing interest in the use of the ultrasound guidance for placement of CVCs in ICU patients. The ultrasound guidance for CVCs insertion can help the physician to identify unfavorable vessel anatomy and choose another catheterization site. This will clearly help avoiding the high risk of complications that could accompany blind attempts for CVCs catheterization.

Aims:

To compare the ultrasound-guided technique versus the landmark-guided technique in cannulation of the central venous line. This comparison included: success rate, time of cannulation, number of attempts, and incidence of complications.

Materials and Methods:

Four hundred patients admitted to the Critical Care Unit, They have been divided into two equal groups: **Group (A):** Internal Jugular Vein (IJV) catheterization was done using two different techniques: landmark technique and ultrasound guidance. **And Group (B)** Subclavian Vein (SV) catheterization was done using two different techniques: landmark technique and ultrasound guidance.

Results:

Group A (IJV group), the success rate was 99% when using ultrasound guidance in comparison to the landmark technique 92%. The incidence of overall complication rate was 6% when using the ultrasound guided technique in comparison to 27% in the landmark technique.

Group B (SV group), the success rate was 97% when using ultrasound guidance in comparison to the landmark technique 93%. The incidence of overall complication rate was 2% when using the ultrasound guided technique in comparison to 15% in the landmark technique.

Conclusion:

The use of ultrasound for CVCs insertion is time saving in IJV catheterization, and time consuming in SV catheterization.

Key Words:

internal jugular vein²- subclavian vein³- central venous catheter⁴- ultrasound^{imag}