



To describe the characteristics of ultrasound-guided vascular cannulation in critically-ill pediatric patients” López Álvarez et al (2018).

Abstract:

**INTRODUCTION:** Central vascular cannulation in children is a highly complex technique and poses many difficulties. Vascular ultrasound can make this procedure easier.

**OBJECTIVE:** To describe the characteristics of ultrasound-guided vascular cannulation in critically-ill pediatric patients.

**POPULATION AND METHODS:** Outcome measures prospectively recorded were vessels most frequently cannulated, their localization, the measurement of their diameter/depth, the success rate and complications developed, among others.

**RESULTS:** One hundred and twenty four vascular punctures were performed in 86 pediatric patients. Vascular accesses were the femoral vein (39.7%), followed by the femoral artery (27.2%) and the internal jugular vein (14.7%). Femoral vessels were localized at a depth of  $0.75 \pm 0.25$  mm, with a mean diameter of  $0.31 \pm 0.16$  mm. The depth of jugular vein vessels was smaller ( $0.64 \pm 0.24$  mm) and their overall diameter, larger ( $0.44 \pm 0.19$  mm). The mean number of attempts in ultrasound-guided cannulations was  $2.2 \pm 1.3$ . The success rate was 79% and was associated to a larger vessel diameter ( $0.39 \pm 0.20$  mm vs.  $0.28 \pm 0.13$  mm,

p= 0.01) and a lower number of attempts ( $1.90 \pm 1.16$  vs.  $3.45 \pm 1.77$ , p= 0.001). Complications were accidental puncture of another vessel (5.3%) and hematoma formation during puncture (2.3%).

**CONCLUSIONS:** In the pediatric patients studied, ultrasound-guided vascular cannulation allowed vessel visualization and measurement of their depth and diameter; the success rate was high and it was associated to a low complication rate.

**Full Text**

Reference:

López Álvarez, J.M., Pérez Quevedo, O., Ramírez Lorenzo, T., Limiñana Cañal, J.M. and Loro Ferrer, J.F. (2018) Ultrasound-guided vascular cannulation. Experience in critically-ill pediatric patients. Archivos Argentinos de Pediatría. 116(3), p.204-209. .

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