"Our study results suggest that ultrasound-guided central venous cannulation is a safe and effective technique in pediatric population weighing less than 5 kg" Altun et al (2019).

Abstract:
BACKGROUND: In this study, we aimed to investigate the effect of central venous catheterization under ultrasound guidance on the success and complication rates in low-weight infants (under 5 kg) undergoing surgery due to congenital heart disease. METHODS: A total of 70 infants (38 boys, 32 girls; mean age of patients <1 month was 16.4±9.5 days; 1-7.5 months was 126.3±47.8) who underwent ultrasound-guided internal jugular venous catheterization between October 2014 and October 2015 were retrospectively analyzed. All catheterizations were done under the guidance of ultrasound by two skilled anesthesiologists. Data including demographic characteristics of the patients, procedural success rate, catheter access time, number of attempts, and complications were recorded. RESULTS: The overall success rate of the procedure was 92.8% (n=65). In 82% of the patients (n=53), the insertion was successful at the first attempt. The mean catheter access time (time from the first puncture to the catheter insertion) was 214±0.48 sec. Complications were seen in five patients (7.14%), and the body weight of these patients was less than 2,500 g. There was no arterial puncture in any patients. One patient (1.42%) developed pneumothorax and four patients (5.7%) developed hematoma due to repeated attempts. CONCLUSION: Our study results suggest that ultrasound-guided central venous cannulation is a safe and effective technique in pediatric population weighing less than 5 kg undergoing congenital heart surgery. Full Text
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