We report the results of ultrasound guided percutaneous venous access in newborn patients in the neonatal intensive care unit (NICU)" Oh et al (2015).

Abstract:

BACKGROUND/PURPOSE: Internal jugular vein (IJV) access is commonly performed in neonates and infants with open cut-down method. We report the results of ultrasound guided percutaneous venous access in newborn patients in the neonatal intensive care unit (NICU).

METHODS: We retrospectively examined the medical records of NICU patients who underwent therapeutic percutaneous IJV access under ultrasound guidance from October 2015 to May 2015. Under general anesthesia, IJV was punctured with a 21 gauge needle after identification by ultrasound. Catheter was inserted with Seldinger’s technique.

RESULTS: Twelve ultrasound-guided percutaneous IJV accesses were performed in eight patients and eleven cases were successful (91.6%). Procedure was performed at the median age of 4.5 days (range 2 days-47 days). Median body weight was 3030g (range 1760g-4100g) and median operative time was 19 minutes (range 8 minutes-80 minutes). Indications for central venous access were hyperammonemia caused by urea cycle defect (four patients) and mitochondrial disease (one patient), acute kidney injury (two patients), and congenital...
renal dysgenesis (one patient). Catheters were inserted in the right IJV in nine cases while two cases were done on the left IJV. All catheters functioned normally. Seven out of seven cases that were examined for venous patency by ultrasonography after catheter removal showed patent IJV. Among these seven cases, four reinsertions were attempted and successfully performed. There was one complication of hemopericardium with cardiac tamponade which is thought to be caused by direct injury from the guidewire. The patient underwent pericardiocentesis.

CONCLUSION: Ultrasound guided IJV access in NICU patients can be performed safely and is associated with preserved venous patency after catheter removal.

Reference:
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