The aim of this study was to explore appropriate technique to maintain the safety of pediatric patients during CVC” Kaji et al (2016).

Abstract:

BACKGROUND: The ability to safely insert a central venous catheter (CVC) is critical to avoid associated complications. The aim of this study was to explore appropriate technique to maintain the safety of pediatric patients during CVC.

METHODS: We reviewed the surgical records of CVC insertion techniques and associated complications of 503 tunneled CVC insertions performed from 2000 to 2015.

RESULTS: Two hundred thirty CVCs (45.7%) were inserted into the subclavian vein using the landmark technique for 10 years (first period). Only two pneumothoraces (0.9%) were experienced. In 2009, we adopted ultrasound-guided venous catheterization from the internal jugular vein, and 103 CVCs (20.5%) were inserted (second period). This procedure led to penetration into the innominate vein (1.0%) by dilater sheath. Patient underwent repair of the penetrated vessel. After this serious complication, 170 CVCs (33.8%) were inserted using the venous cutdown procedure except two catheters. We had two cases whose accessible veins were occluded because of frequent catheterization using venous cutdown technique. No mechanical complications were experienced.

CONCLUSIONS: The venous cutdown method is the safest technique for inserting a tunneled CVC in pediatric patients. However, multiple vein occlusions because of repeated catheterization by venous cutdown lead to the exhaustion of accessible vessels.

LEVEL OF EVIDENCE: Treatment Study – Level IV.

Reference:

Thank you to our partners for supporting IVTEAM