
Abstract:

BACKGROUND: Central venous access is indispensable in caring for children with infections, malignancies and chronic illnesses, and image-guided placement of central venous access devices (CVAD) is increasingly used. A single-incision technique for placement of tunneled central venous access devices at the internal jugular vein has been described; however the technique has not been described exclusively in children.

OBJECTIVE: To describe our initial experience using the single-incision technique for tunneled central venous access at the internal jugular vein in children.

MATERIALS AND METHODS: We conducted a retrospective review of the interventional radiology database and electronic medical records of 15 children who received a tunneled central venous access device (CVAD) using a single incision between 2010 and 2012. Patients included eight boys and seven girls with an average age of 11 years (median 13.3 years, range 1-18.7 years) and average weight of 44.2 kg (median 38.3 kg, range 9.6-99.0 kg).

RESULTS: A total of 17 primary insertions were performed. Technical success was 100%. Total catheter life consisted of 1,416 catheter-days (mean 83.3 days, range 8-502 days).
There were no procedure-related or early complications. Seven late complications requiring intervention occurred in three catheters. Total mechanical and infectious complications occurred at rates of 0.28 and 0.21 per 100 catheter-days, respectively. The adjusted rate for infectious complications was 0.14 per 100 catheter-days. Medical salvage procedures (83%) and interventional radiology salvage procedures (17%) prolonged catheter life by an average of 94.5 days (range 10-329 days).

CONCLUSION: This study demonstrates safe use and technical feasibility of the image-guided single-incision technique for central venous access in children, particularly in children in whom the conventional technique is less desirable.

Other intravenous and vascular access resources that may be of interest (External links – IVTEAM has no responsibility for content).