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Abstract:

PURPOSE: Central catheter placement is one of the most commonly performed procedures by pediatric surgeons. Here, we present a case series of patients where central access was obtained at our institution with the utilization of a novel ultrasound-guided technique. This series represents the first of its kind where the native, parent vessels were inaccessible, resulting in a challenging situation for providers.

METHODS: A retrospective chart review was performed in pediatric patients (0-17 years) at a tertiary care institution between July 2012 and November 2017 on all central line procedures where ultrasound was utilized to cannulate the brachiocephalic or superior vena cava in face of proximal occlusion. Our group has previous experience utilizing an image-guided in-plane approach to central line placement in the pediatric population. Demographics, operative characteristics, and postoperative complications were reviewed.

RESULTS: A total of 11 procedures were included in this case series where the BC (N = 9) or

SVC (N = 2) were cannulated for access. Internal jugular vein cannulation was attempted on each patient unless preoperative imaging demonstrated occlusion. The median operative time was 43 ± 23 min. Most procedures were performed on the right sided (63%), with catheters ranging from 4.2F single lumen to 14F double lumen. Since being placed, three (27%) catheters have been removed, with one due to non-use, one due to sepsis, and the final one due to malposition.

CONCLUSION: With the continued need for long-term central access in the pediatric population, distal vein occlusion or inaccessibility can prove challenging when attempting to obtain central access. Here, demonstrated a safe alternative technique that provides an additional option in the pediatric surgeon's armamentarium for patients with difficult central access.

Reference:

Criss, C.N., Claffin, J., Ralls, M.W., Gadepalli, S.K. and Jarboe, M.D. (2018) Obtaining central access in challenging pediatric patients. *Pediatric Surgery International*. March 26th. .

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