

Purpose

Exhaustion of conventional central venous access sites, while not uncommon, presents with its own challenges to treating physicians. Non-traditional alternative approaches for central venous access have been well described in the literature and are critical for Interventional Radiologists to be informed about so that long-term reliable, complication-free access can be delivered to patients in need of their use. Here, we examine alternative approaches for central venous access, used by our institution, since 2015.

Results

After reviewing 13 cases (7 male, 6 female; mean age 59.4 years) of non-traditional venous access, it was found that the most common approaches utilized at our institution since 2015 were (1) Translumbar: 6; (2) Transhepatic: 4; (3) Transrenal: 2; and (4) Brachiocephalic: 1. Indication for using these varied approaches was determined after it was confirmed by ultrasound that conventional access sites were exhausted, including: failure of arteriovenous grafts and/or fistulas, occlusion of bilateral internal jugular veins and occlusion of bilateral femoral veins. The reason for hospital admission ranged between the need for dialysis (6), sepsis (3), COVID Pneumonia (2), cardiac arrest (1) and nutritional support (1). Length of time requiring venous access was: >5 years (6), 6 months to 5 years (4) and <6 months (3). Technical success rate was 100%, overall. The average time to first exchange was 27.4 days.

Conclusion

Non-traditional central venous access via these approaches, while technically more difficult, provide patients with alternative means to achieve desired goals in their medical management, whether for renal replacement therapy or intravenous administration for medical treatment. While risk of complication needs to be considered, these approaches may allow for prompt care to take place. Upon our review, our outlook remains steady in that patients who have exhausted all conventional access sites, may benefit from alternative approaches. Ultimately, these approaches should be a consideration when Interventional Radiologists are called upon.

Material and Methods

We conducted a retrospective analysis of 13 patients who required non-traditional venous access at our institution from 2015-2021. Data abstracted included: Sex, age, reason for hospital admission, indication, length of time previously requiring access, catheter insertion procedure, technical success rate and time to first exchange.

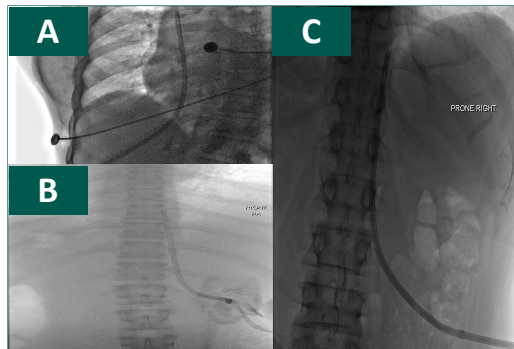


Figure Captions

Figure Captions

- A: Tunneled Transhepatic Central Venous Catheter
- B: Tunneled Transrenal Central Venous Catheter
- C: Tunneled Translumbar Central Venous Catheter