

Abstract:

Background: Peripheral venous access has been promoted as the safest, quickest, and most easily achievable route for performing apheresis procedures by the American Society for Apheresis' Choosing Wisely campaign. The current literature regarding catheter size and selection for both draw and return access is limited. Furthermore, the Infusion Nurses Society recommends using the smallest gauge catheter possible for the prescribed therapy in order to limit vein trauma and phlebitis. Since there is a lack of evidence to guide selection of catheter size for return access during therapeutic apheresis procedures (TAPs) for patients with chronic conditions, this pilot study seeks to compare the performance of a 20-gauge fenestrated (20G) catheter to a standard 18-gauge (18G) intravenous catheter.

Methods: This non-inferiority pilot study randomized 26 subjects during 74 TAPs to either 20G fenestrated catheter or 18G standard catheter.

Results: There were no statistically significant differences for variables associated with the efficiency of the TAPs comparing 20G to 18G catheter for inlet rate ($P = .8666$), return pressure ($P = .9427$), blood processed ($P = .4318$), or total procedure time ($P = .3184$).

Conclusion: The results from this pilot study suggest that 20G fenestrated catheter is non-inferior to 18G standard catheters. Additional studies with increased power are warranted to confirm these findings.

Reference:

Armendariz T Jr, West J, Olson DM, Stutzman SE, De Simone N. Is a 20 gauge fenestrated intravenous catheter non-inferior to a 18 gauge standard catheter for apheresis procedures? A pilot study. *J Clin Apher.* 2021 Apr 12. doi: 10.1002/jca.21900. Epub ahead of print. PMID: 33843086.