Background Traditionally, cervical carotid artery stenting is done through transfemoral or transcervical approach. However, access site bleeding remains a significant challenge in both techniques, with a rate of about 4% in recent studies. In this study, we explore the feasibility of using transradial approach for cervical carotid stenting as a potential alternative.

Methods We collected data from the prospectively maintained registries of 6 centers in the United States to include consecutive patients who underwent carotid stenting for treatment of symptomatic carotid-artery stenosis using transradial approach from October 2018 until June 2019. Collected data included baseline characteristics, procedural variables, whether there was a crossover to transfemoral access, and complications. Our primary outcome was the complication rate related to the access site.

Results A total of 19 patients were included in this study. Mean age was 68.6 ± 8, and 5 (26.3%) were females. The right radial artery access was used in all cases. Stenting of the right cervical internal carotid artery was done in 15 (78.9%) of the cases. Regarding the antispasmodic regimen used, Verapamil was used in 2 cases, Nitroglycerin was used in 6 cases, and in 3 cases, the guide catheter was left intravenously or intravenously immediately after obtaining the access. A 6-French sheath was used in 13 cases, a 7-French sheath in 3 cases, and in 3 cases, the guide catheter (AXS Infinity, Stryker, USA) was exchanged over a 7-French sheath. Regarding guide catheters used, Benchmark (Penumbra, USA) was used in 14 cases, AXS Infinity in 3 cases, and Envoy (Codman Neuro, USA) in 2 cases. Mean contrast dose required was 93.3 ± 48.4 mL, radiation exposure was 14603 ± 26118 mGy, and procedure duration was 24.6 ± 14.2 minutes. None of the included patients had a complication related to access site, and only one patient required a crossover to transfemoral approach because of a device-related complication.

Conclusion Transradial approach is a feasible and safe option for cervical carotid stenting. The complication rate in our study is lower than previously reported numbers for transfemoral and transcervical carotid stenting, but larger-scale studies are needed to confirm our findings.

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