First-of-its-kind study confirms safety of distal radial artery access for cardiac catheterization

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One-year findings from the Distal versus Proximal Radial Artery Access

for Cardiac Catheterization and Intervention (DIPRA) study were presented as late-breaking clinical research at the Society for Cardiovascular Angiography & Interventions (SCAI) 2023 Scientific Sessions. The single-center, randomized-controlled trial evaluated outcomes of hand function and effectiveness of conventional proximal radial artery (PRA) access compared to distal radial artery (DRA) access for cardiac catheterization.

Current guidelines for patients undergoing percutaneous intervention recommend PRA access. A complication of PRA is radial artery occlusion, or a blocking of the vessel, which can compromise the access of the artery for future coronary bypass surgery, dialysis or other cardiovascular procedures.

The DIPRA study randomized 300 patients 1:1 to cardiac catheterization through either DRA or PRA. The primary endpoint was change in hand function from baseline to one year. Hand function was a composite of the QuickDASH questionnaire, hand grip test, and thumb-forefinger pinch test. Secondary endpoints included access feasibility, radial artery patency, and complications.

Of 216 patients who completed one-year follow-up, 112 were randomized to DRA and 104 to PRA. Both groups had similar access site bleeding rates (DRA 0% vs. PRA 1.4%; p=0.25). Six DRA patients failed access compared to 2 PRA patients. Radial artery occlusion occurred in 1 PRA patient vs. 2 in DRA. At 1 year, there was no significant difference in the change of hand function, in hand grip (DRA 0.7 [-3, 4.5] vs. PRA 1.3 [-2, 4.3] kg; P=0.57), pinch grip (DRA -0.1 [-1.1, 1] vs. PRA -0.3 [-1, 0.7] kg; P=0.66), and QuickDASH (DRA 0 [-6.6, 2.3] vs. PRA 0 [-4.6, 2.9] points, P= 0.58). The composite of hand function was comparable between PRA and DRA at one year.

"We know that radial artery occlusion is a potential complication of

repeated heart catheterizations through the wrist. We also know that distal radial artery access in the base of the thumb carries a lower risk for this complication," said Karim Al-Azizi, MD, FSCAI, Interventional Cardiologist at Baylor Scott & White Health in Plano, Texas and lead author of the study. "The one-year safety results presented at SCAI are reassuring and offer physicians an alternative approach for patients who need radial access, such as patients with chronic kidney disease for dialysis access or coronary artery disease patients who need bypass grafting."

Provided by Society for Cardiovascular Angiography and Interventions