Left distal transradial access: up to snuff?

Punção transradial distal esquerda: satisfatória o suficiente?

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In the years since radial artery access for coronary angiography was first described in 1989,¹ a plethora of evidence has shown the superior safety, costs, and quality of life benefits of this approach compared with femoral artery access.²-⁶ Due to mostly ergonomic considerations, right radial access continues to be favored over left radial approach,⁷ although use of left radial artery may be advantageous in certain cases: presence of a left internal mammary artery graft, right radial artery occlusion, right radial or subclavian tortuosity, short stature, and patient preference. Several studies have also shown decreased fluoroscopic time and contrast use with routine left radial access compared to right radial access, potentially related to the increased prevalence of subclavian tortuosity and geometric disadvantages of the subclavian-innominate-aorta axis from the right radial approach.⁸,⁹

Left distal transradial access (ldTRA) is a new technique that seeks to combine the advantages of a left radial approach with an ergonomic comfort. Described initially in 2011 by Babunashvili and Dundua to retrogradely open occluded ipsilateral radial arteries,¹⁰ ldTRA has only recently been described as a potential alternative to traditional radial artery cannulation for coronary angiography and interventions.¹¹ ldTRA is performed by positioning the patient’s left arm towards the patient’s right groin, pronating and flexing the wrist to bring the radial artery to the surface of the anatomical snuffbox, and cannulating the radial artery in the snuffbox on the dorsum of the hand. This position – compared with traditional left radial access – allows the operator to comfortably obtain access from the usual right side of the patient, keeps the patient’s left arm at a close distance to the operator throughout the procedure avoiding the need for the operator to bend over the patient, and maintains the arm in a more natural position for the patient.¹¹,¹² Since ldTRA is a novel method, few studies have evaluated the safety, feasibility, and outcomes of the technique.

In this issue of Journal of Transcatheter Interventions, Andrade et al. explored the safety and feasibility of ldTRA in a prospective case series of selected patients requiring either diagnostic or therapeutic coronary catheterization.¹³ Over a period of 4 months, the authors screened 70 patients and attempted ldTRA in 61 patients (87%). The duration of the procedure was 24.8±15.2 minutes and fluoroscopy time was 9.6±11.3 minutes. The primary endpoints were (1) in-hospital access-site related complications assessed upon hospital discharge, and (2) access crossover rate; both occurred 1.7%. Thus, the authors concluded that ldTRA is a safe and feasible technique in selected cases.

The results of the study are an unsurprising yet important stepping stone to further determining the appropriateness of selected ldTRA use in clinical practice. Andrade et al. confirmed the findings from Kiemeneij’s initial 70 patient case series of ldTRA, which showed 1.5% access-site related complications and 11% access crossover rate.¹¹ While Kiemeneij’s access crossover rate initially appears to be much higher than the 1.7% by Andrade et al., the true ldTRA failure rate for the Andrade et al. cohort was 6.6% due to three left distal radial artery cannulation failures that were not included in the final sample of patients. Nevertheless, the reported access failure rate provides a context for ldTRA since the initial experience with traditional (proximal) radial artery access failed in 10% of patients.¹
While Andrade et al. provide further evidence that ldTRA is safe and feasible in selected patients, many questions remain unanswered. Long-term consequences, if any, of accessing the smaller radial artery at the snuffbox are unknown, and the more distal cannulation could potentially injure end-vessels of the fingers.2,3 The smaller radial artery at the snuffbox may also preclude the use of larger than a 6Fr sheath in certain patients. Andrade et al. only used 5 and 6Fr sheaths in this study, with the majority of patients receiving a 5Fr sheath (67.2%).13 Further evaluation is needed for the safety and feasibility of larger sheaths, which may be important for complex coronary interventions. In addition, the use of ultrasound may reduce the rate of access failure for ldTRA, which is currently a significant limitation to this approach. Traditional proximal radial artery access has proven safe with high procedural success rates in ST-elevation myocardial infarction and complex coronary anatomy,2,6 and ldTRA will need to be adequately vetted in these patient populations. Finally, major adverse cardiac events – not just access-site specific endpoints – must be evaluated.

While it may be unfair to compare traditional radial artery access that has had more than 25 years of data and evidence with the new ldTRA technique, we must remember that traditional radial access has had excellent reproducibility, safety, feasibility, and success in a wide range of clinical scenarios.2,6 ldTRA should remain an alternative to first-line traditional radial artery access in selected patients with indication for left radial access until rigorous randomized trials establish the same safety and procedural success that traditional radial access has achieved. Perhaps the greatest area of benefit for ldTRA is its potential to decrease radial artery occlusion at the wrist since cannulation is distal to the superficial palmar branch communicating with the superficial palmar arch. Thus, occlusion at the distal site theoretically maintains antegrade flow through the superficial palmar arch, reducing risk of retrograde thrombus formation in the proximal radial artery.11 TENDERa (Comparison between Traditional ENtry point and Distal punctuE of Radial Artery) is an ongoing randomized trial addressing traditional versus ldTRA access, with the primary endpoint of incidence of radial artery occlusion 12 months after the procedure.13 The results of TENDERa and other randomized trials assessing ldTRA are necessary to clarify the benefits of this promising new technique, and only then will we know whether ldTRA is “up to snuff” with traditional radial artery access.

REFERENCES