

Title: Vasant Kunj Left Distal Transradial Artery Approach Study

Category: Interventional Cardiology

Abstract

Background: Left distal radial artery (IdTRA) access is a new route for coronary intervention that spares right radial artery (RRA) for future use in hemodialysis and as conduit for coronary artery bypass surgery. This approach reduces patient discomfort and is associated with a lower risk of stroke.

Methods: In VKLITE study (CTRI/2019/07/020002) between April 2018 and March 2019, 97 consecutive patients were enrolled for Coronary angiography (CAG)/Percutaneous coronary intervention (PCI). Under ultrasonographic guidance, IdTRA was punctured at or beyond anatomical snuff box using a 20-gauge needle ($\geq 5F$ sheath introduced using Seldinger technique) by 2 independent expert radial operators followed by CAG/PCI.

Results: Rates of successful arterial puncture, CAG and PCI were 94.85% (92/97), 93.48% (86/92), 100% (28/28). Mean puncture time, procedure duration, hemostasis duration and fluoroscopic time (minutes) were 7.24 ± 7.01 , 55.48 ± 28.8 , 24.59 ± 12.93 and 11.70 ± 11.66 respectively. Puncture site complications occurred in 11 patients (12.79%) - Minor hematoma in 9 patients (9.28%), 2 patients (2.06%) developed major hematoma (non limb threatening) which resolved within 3 weeks' time. Mean pain score and satisfaction score was 2.4 ± 2.3 and 9.0 ± 1.3 . There was no radial artery loss, dissection, pseudoaneurysm, arteriovenous fistula formation or nerve injury.

In a comparative study with 82 patients simultaneously undergoing CAG/PCI via the RRA access there was no significant difference in mean radiation dose 75.78 ± 79.91 versus 62.01 ± 53.47 Gray-cm², $p=0.20$ and fluoroscopic time during CAG 6.07 ± 3.91 versus 4.84 ± 3.02 minutes, $p=0.07$ with a trend towards increased fluoroscopic time during PCI in IdTRA patients. Mean procedure duration 55.48 ± 28.81 versus 35.33 ± 16.82 minutes, $p=0.003$ was significantly more in IdTRA patients driven by increased puncture time in first 22 cases.

Conclusion: IdTRA access is feasible and safe with low incidence of complications during CAG/PCI with conventional hardware. Less patient discomfort and high level of patient satisfaction makes this approach an attractive option for coronary intervention.

Clinical implications: IdTRA approach has comparable results to right radial approach in coronary intervention, however further modifications in coronary hardware specific for IdTRA are needed to further enhance the feasibility and reduce procedure time of this patient friendly vascular access.

