TRIACCESS study: Randomized comparison between radial, femoral and transpedal access for percutaneous superficial femoral artery angioplasty

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Background: Traditional access for the treatment of femoral artery lesions is the femoral artery (FA) approach, but radial (RA) and pedal access (PA) is an alternative access site. The aim of the study was to compare the success rate, complication rate of different access sites for the treatment of superficial artery stenosis in a randomized study

Methods: 180 consecutive patients were randomized in a prospective study to treat symptomatic superficial femoral stenosis, via RA, FA and PA. Primary endpoint: technical success, rate of major and minor access site complications. Secondary endpoints: major adverse events (MAE), procedural factors, cross-over rate, and duration of hospitalization.

Results Technical success was achieved in 96.6 %, 100 % and 100 % patients in RA, FA and PA group (p=ns). Secondary access site was used in 30 %, 3.3 % and 30 % in the RA, FA and PA access group (p<0.01). Stent implantation was done in the femoral artery in 26.6%, 58.3% and 71.6% cases in RA, FA and PA group (p<0.01). CTO recanalization was performed in 34/36 (100%), 30/30 (100%) and 45/45 (100%) cases successfully in RA, FA and PA group (p=ns). Contrast consumption, fluoroscopy and procedure time was not statistically different, but the X Ray dose was significantly lower in PA than in the RA and FA access group (63.1 vs 162 vs 153 Dyn). The cumulative rate of access site complications in the RA, FA and PA group was 3.3% (0 % major and 3.3% minor), 15% (3.3% major and 11.6% minor) and 3.3% ( 0% major and 3.3% minor) (p<0.01), respectively. The cumulative incidence of MAE’s at 6 months in the RA, FA and PA group was 8.3 % vs 13.3% and 18.3%. (p<0.05)

Conclusion: Femoral artery intervention can be safely and effectively performed using radial, femoral and pedal access, but radial and pedal access is associated with less access site complication rate. Pedal access is associated with less X Ray dose than radial and femoral access.