A Sheathless Guiding System Allowing for Transradial Large Caliber Catheter Use

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Background: Transradial angioplasty has been demonstrated to have significant benefits over traditional transfemoral approach, particularly safety due to reduced access site bleeding and patient comfort. Due to the smaller diameter of radial artery, the use of large caliber guiding catheters is limited as it results in increased pain, spasm and radial artery attrition. The development of the Sheathless guiding catheter with hydrophilic coat, allows for the use of a 6 or 7F equivalent guiding catheter in the coronary artery with access site caliber equivalent to 4 and 5F sheaths.

Methods: In 50 consecutive cases the Sheathless guiding system was used. Following a diagnostic study using 4 sheath, either a 6.5 or 7.5 Sheathless catheter was used. If a 5F diagnostic sheath was used, a 7.5F system was deployed.

Results: PCI was performed to 23 LAD, 19 Cx, 16 RCA, 2 SVGs, 1 LM and 2 renal arteries in 36 male and 14 female patients. The range of stent lengths were 2.5-5.5mm with a diameter range of 12-30mm. There were 3 chronic total occlusions, 9 bifurcation lesions and 12 acute myocardial infarctions treated. GP2B3A inhibitors were administered in 13 cases. A range of additional hardware including protection devices, aspiration catheters, kissing balloons, snares, Cutting Balloons, Tornus, and Twinpass catheters were all used without limitation. In all cases the catheter was removed at the completion of the procedure without any resistance. Three mild and 1 moderate-sized hematoma were noted, all in patients treated with 2B3A inhibitors. No patients required an intervention, blood transfusion, or delayed discharge.

Conclusions: The Sheathless guiding catheter system is feasible and safe allows for the use of large caliber guiding catheter from the radial artery, providing almost unrestricted use of this approach even in the most complex lesions and smallest patients.