Abstract:

To provide a simplified, standardized methodology for a successful transfemoral transcatheter aortic valve replacement (TAVR) procedure with the Sapien XT valve in patients with severe aortic stenosis (AS). TAVR is currently reserved for patients with severe, symptomatic AS who are inoperable or at high operative risk. In many institutions, TAVR is performed under general anesthesia with intubation or with conscious sedation. In addition, many institutions still use transesophageal echo (TEE) during the procedure for aortic root angulations and positioning of the valve prior to implantation. Methods. We enrolled 100 consecutive patients (mean age, 80 ± 7 years; range, 50-94 years; female n=59) with severe symptomatic AS. Annulus measurements were based on computed tomography angiograms. All patients underwent fluoroscopy-guided transfemoral TAVR with little to no sedation and without simultaneous TEE. TAVR was predominantly performed with the use of local and central analgesics; only 36% of our cohort received conscious sedation. Procedural success of TAVR was 99%. Transthoracic echocardiography before discharge excluded aortic regurgitation (AR)>2 in all patients (AR>1; n=6). In-hospital stroke rate was 6%. The vessel
closure system was successfully employed in 96%. Major vascular complication rate was 1%. The 30-day mortality was 2%. Fluoroscopy-guided TAVR with the use of just analgesics with or without conscious sedation is safe and effective, and this potentially enables a more time-effective and cost-effective procedure. This paper provides simplified, stepwise guidance on how to perform transfemoral TAVR with the Sapien XT valve.