

Vascular Complications in Percutaneous Trans-Femoral Transcatheter Aortic Valve Implantation A Single Center Experience

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Background:

Vascular complications (VC) during transcatheter aortic valve implantation (TAVI) are reported using various access sites, transcatheter approaches and criteria. Our aim was to describe the prevalence and clinical risk factors of VC associated with percutaneous trans-femoral approach TAVI using the recently updated Valve Academic Research Consortium-2 (VARC-2) criteria.

Methods:

Between March 2009 and September 2012, 293 consecutive patients underwent percutaneous trans-femoral TAVI in our medical center. All procedures were performed by a team of 3 interventional cardiologists only, using an 18/19-Fr access sheath. The VC risk was calculated for clinical and procedural parameters.

Results:

Vascular complications occurred in 39 (13%) of patients. Major VC occurred in 9 patients (3%) and minor in 30 (10%). A similar rate of VC occurred in the early and late experience groups. Small femoral artery perforations and bleeding were the most prevalent complications observed. Female gender, lower body mass, smaller prosthesis size, higher Euro score, higher baseline mean and peak pressure gradients across the aortic valve and a smaller aortic valve area were all risk predictors of VC. Mortality rates did not differ between patients with and without VC at 30 days (1/39 [2.5%] vs 6/254 [2.4%], respectively; p=0.939) or at 6 months (4/31 [12.9%] vs 14/208 [6.7%], respectively; p=0.224).

Conclusions:

Female gender and low body mass among other procedural parameters were associated with increased risk of VC. Compared to previous reports, a relatively lower rate of VC is reported, and these were not associated with increased mortality.