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Peripheral Vascular Complications following transcatheter aortic valve implantation: new challenges to the interventional cardiologist.

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Background: Percutaneous trans-catheter aortic valve implantation (TAVI) has emerged as a therapeutic alternative for high-risk surgical patients with severe aortic stenosis. TAVI requires the delivery of massive catheters and devices through the vascular system. The use of these high caliber devices in old and frail patients is often associated with vascular complications that may require immediate and urgent corrections. We studied the incidence and nature of major vascular complications in two medical centers that perform TAVI with the CoreValve self-expandable system.
Methods & Results: TAVI using the CoreValve system was performed in 46 patients. Mean patient age was 80„b6.8 years, 32 females and 14 males.
Significant peripheral vascular complication requiring intervention occurred in 11 patients (24%). Iliac or CFA perforation occurred in 6 patients (13%), five patients were treated with covered stents (11%), and one patient suffered a CFA rupture that required surgical repair. One patient with iliac perforation died. This was directly related to significant blood loss and subsequent multi-organ failure. Stenosis of the common femoral artery (CFA) at the puncture occurred in 5 patients (11%) iV all were successfully repaired by balloon dilatation.
Conclusions: TAVI using the CoreValve self-expandable system is associated with a significant rate of peripheral vascular complications. Interventional cardiologists that perform TAVI should perform comprehensive vascular work-up prior to procedure and be familiar with new devices and techniques for the diagnosis and emergency treatment of major vascular complications.