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Efficacy and Safety of Total Percutaneous Femoral Closure Following Stent Graft Implantation Using Preclose Technique

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**Background:** The preclose technique with the 6 F Progline for complete percutaneous endovascular aortic repair have not been sufficiently evaluated. We investigated the efficacy and safety of the preclose technique in a sufficient and large cases.

**Methods:** The medical records of 367 patients with 599 preclose techniques for various aortic repairs were reviewed. Procedural success was defined as hemostasis achieved by the preclose technique, without the need for surgical or endovascular procedures. Access related major adverse event (ARMAEs) were considered as those event, such as infection, bleeding, new onset ischemia of the lower leg, hematoma, pseudoaneurysm, arteriovenous fistula, embolization, laceration, femoral artery thrombosis, nerve injury, or death by access site injury.

**Results:** Procedural success was achieved in 359 of 367 patients (97.8%) and 591 of 599 left or right femoral sites (98.7%). All cases of procedural failure were treated by immediate surgical repair of femoral arteries. The preclose technique was more successful in the smaller sheath. ARMAEs developed in 25 of 367 patients (6.8%) and 26 of 599 sites (4.3%). Access site hematoma was the most frequent adverse events (16 of 367 patients (4.4%) and 17 of 599 sites (2.8%)), followed by puncture site pseudoaneurysm (7 of 367 patients (1.9%) and 7 of 599 sites (1.2%). Bleeding after arterial closure occurred in 6 of 367 patients (1.6%) and 6 of 599 sites (1.0%). In 2 of 367 patients (0.5%), there was an infection at the puncture site. There were two cases of distal embolization, one case of acute femoral thrombosis, and one case of a vascular laceration at the puncture site. There were no access site related nerve injury, arteriovenous fistula or death complicated by access site.

**Conclusions:** The preclose technique can be used to achieve hemostasis for stent graft procedure successfully, with a high rate of procedural success and an acceptable rate of adverse event, the most common being puncture site hematoma formation.

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Transradial approach decreases in-hospital mortality in patients with cardiogenic shock. A single-center experience

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**Background:** Transradial approach (TRA) in percutaneous coronary intervention (PCI) has increased over the past few years. Its use has been shown to decrease mortality compared with the transfemoral approach (TFA) in patients with acute coronary syndrome (ACS). Comparative studies have systemically excluded patients with cardiogenic shock (CS).

**Methods:** We carried out a prospective, observational registry study of consecutive patients undergoing emergent recanalization between February 2007 and January 2012. An analysis of the clinical evolution of patients with CS during hospitalization was performed according to the approach used in the PCI.

**Results:** Of 1,400 emergency procedures, 122 had CS, 80 underwent PCI by TFA (65.6%) and 42 by TPA (34.5%). The main reason for choosing TPA was the absence of radial pulse (54.9%). Mortality (64.3% vs. 32.5%, p<0.001), serious access site complications (11.9% vs. 2.5%, p<0.003), and MACE (combination of death, infarction, stroke, serious bleeding, and postanoxic encephalopathy) (73.8% vs. 43.8%, p=0.001) were greater in TFA patients. In the multivariate analysis, TRA was a predictor of mortality (OR 0.39 [0.15-0.97]); other predictive factors were age≥75 (3.47 [1.35-8.92]), previous treatment with diuretics (3.67 [1.21-11.12]) and the success of the procedure (0.08 [0.02-0.24]).

**Conclusions:** In centers with experience, TRA approach for PCI is possible and safe in patients with CS in up to two thirds of the patients. The main cause that prevented the use of TRA was the absence of radial pulse. In the multivariate analysis, TRA was associated with a lower risk of mortality.

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Trans-radial balloon aortic valvuloplasty

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**Background:** Balloon aortic valvuloplasty can be useful for palliation of symptoms in pts not eligible for surgical or transcatheter aortic valve replacement, or a bridge to AVR. Occasionally transfemoral access is impossible or challenging, due to vascular disease or morbid obesity. We present our experience with transradial access for balloon aortic valvuloplasty in pts not candidates for transfemoral approach.

**Methods:** 5 pts presented with critical aortic stenosis without femoral access. Transradial access was successfully obtained in all pts. In 1 pt a vascular loop prompted a change from the right to the left radial approach - the others were done via right radial access. Internal jugular venous access was used for PA catheter and pacing. After crossing the aortic valve using 6F amplatz 1 catheter with straight wire, and changing out for a dual lumen pigtail. Over an exchange length wire, the 6 Fr sheath was exchanged for an 8 Fr, and a 22 mm Tysshack balloon was advanced across the aortic valve and dilated during rapid pacing. Due to inadequate hemodynamics, in 1 case the 8 Fr sheath was exchanged for a 9 Fr, and a 25 mm Tysshack balloon used.

**Results:** Of the 5 pts aortic valvuloplasty was attempted and successfully performed. In 1 pt with morbid obesity vigorous diuresis was instead successful in treating his CHF and one year later he underwent successful surgical AVR. 1 of the pts with successful balloon valvuloplasty had exclusive lower extremity arterial disease and need for warfarin for a mechanical mitral valve. the other had morbid obesity (mean weight 168 kg). All pts had hemodynamic improvement, mean AV gradient decreased from 47 to 36 (23%), and AVA increased from 0.85 to 1.1 (29% increase). The pt with 9 Fr sheath had small amount of tissue removed with removal of the 9 Fr sheath, but no clinical complications in any pt.

**Conclusions:** Radial artery access is a feasible option for the performance of balloon aortic valvuloplasty in patients with poor femoral artery access.