the success of complex coronary, structural or peripheral percutaneous interventions.

**CATEGORIES OTHER:** Vascular Access: Transradial

**KEYWORDS** Complex lesion, TAVI, Transradial approach

**TCT-431**

Transradial Approach for Accessing Left Internal Mammary Artery Grafts

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**BACKGROUND** Transradial approach (TRA) has now been established as the routine method for coronary angiography and percutaneous coronary intervention (PCI) in many centers around the world. However, many operators still consider TRA as technically difficult, especially when trying to access the left internal mammary artery (LIMA) in patients with a history of coronary artery bypass grafting (CABG). Our aim was to examine the feasibility and safety of the TRA in this group of patients and evaluate any potential benefits when performing the procedure through the Left Radial (LR) versus the Right radial (RR) artery.

**METHODS** We performed 5,479 transradial catheterizations between Jan 2008 and Dec 2013. In our center, we established TRA as the routine method for elective, urgent and emergency procedures (primary or rescue PCI). Baseline characteristics, procedural success rates and major complications were recorded.

**RESULTS** A total of 247 transradial catheterizations were performed on patients with previous history of CABG involving the LIMA. Among these catheterizations, the initial approach was through the LR artery (209 cases, 84.6%), the RR artery (33 cases, 13.4%) and the Right Femoral (RF) artery (5 patients, 2%). The LIMA graft was successfully accessed in all 209 cases performed through the LR artery (100% success rate), in 32 out of 33 cases performed through the RR artery (97% success rate) and in all 5 RF artery cases (100% success rate). In 1 case, it was not possible to access the LIMA graft through a RR approach but this was possible after crossing over to a LR approach. No major complications were noted in any of the procedures involving access to the LIMA graft.

**CONCLUSIONS** Our findings indicate 100% procedural success rate when attempting access to the LIMA graft through the LR artery as compared to 97% success rate through the RR artery. Although, both approaches are associated with a high success rate, we identified a preference of our operators to perform such procedures through the LR artery instead of the RR artery (13.4%). Our study, provides evidence regarding the feasibility, efficacy and safety of the TRA in patients with history of CABG where LIMA was used. Presence of LIMA grafts should not prevent operators from using transradial access.

**CATEGORIES OTHER:** Vascular Access: Transradial

**KEYWORDS** Coronary artery bypass grafting, Left radial approach, Transradial

**TCT-432**

Predictors Of Upper Extremity Arterial Tortuosity Encountered During Transradial Access: Results From A Large National Registry

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**BACKGROUND** Anatomic variations affecting radial, brachial and subclavian arteries increase procedural complexity and duration. Preprocedural identification of these patients may improve procedural metrics.

**METHODS** Data from the ‘Cela Stara Databaza’ were prospectively collected for patients undergoing coronary procedures using transradial access (TRA) were included in the analysis. Radial, brachial and subclavian artery anomalies were systematically studied and radial angiography was performed on all patients. Patients with radial artery (RA), brachial artery (BA) or subclavian artery (SA) anomaly were categorized into “Hostile anatomy” (HA) group. Demographic and procedural variables were collected on all patients. Univariate analyses were performed to identify association between collected variables and HA. Multivariable analysis was performed using forward selection to identify independent predictors of HA.

**RESULTS** 21266 patients undergoing coronary procedures using TRA were included in the analysis. 68 patients had incomplete data and were excluded. HA was detected in 1934 (9.1%) patients. HA was significantly more frequent in women compared to men (10.6% vs 8.4%, P = 0.0001), hypertensive patients (9.9% vs 8%, P = 0.0001), smokers (10.1% vs 8.8%, P = 0.0002), older patients (≥ 70 vs ≤ 69, P = 0.004), shorter patients (169 ± 8 vs 170 ± 8, P = 0.014) and leaner patients (78 ± 12 vs 79 ± 12, P = 0.013). Logistic regression analysis using forward selection identified Age (O.R 1.1 [1.02-1.1], P = 0.007), Gender (O.R 1.3 [1.1-1.4], P = 0.0001), HTN (O.R 1.2 [1.1-1.4], P = 0.0001) and Smoking (O.R ¼ 1.2 [1.1-1.4], P = 0.0001) to be independent predictors of HA. The model had adequate fit (Hosmer-Lemeshow goodness of fit P = 0.57).

**CONCLUSIONS** Hostile arterial anatomy can be predicted in patients presenting for TRA using demographic variables. Preprocedural knowledge of expected complexity may allow the operator to modify equipment choices and procedural approach to lower procedural complexity, and choose alternative access in time-sensitive circumstances.

**CATEGORIES OTHER:** Vascular Access: Transradial

**KEYWORDS** Transradial, Transradial approach

**TCT-433**

Expansion of Iliofemoral Access to <5 mm with Recollapsible Sheath in High Risk TAVR Patients is Feasible with Zero Complication

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**BACKGROUND** Recommended iliofemoral diameter for transfemoral (TF) TAVR with Medtronic CoreValve is ≥6 mm, but the lowest limit has not been determined. Our study evaluates the feasibility of TF TAVR in patients with small iliofemoral access (<5 mm).

**METHODS** Retrospective analysis of the STS/ACC Transcatheter Valve Therapy (TVT) Registry at 2 institutions was performed on 227 consecutive patients who underwent TAVR from 1/2014 to 5/2015. 44 patients underwent TAVR with Medtronic CoreValve using the 11/19-French recollapsible Terumo Solopath sheath, which has a 4.45 mm outer diameter (OD) arterial entry expanding to 7.67 mm OD, then recollapses to approximately 4.45 mm at sheath removal. Valve sizing and vascular access were determined by computed tomography. Outcomes were determined using Valve Academic Research Consortium 2 (VARC-2) definitions.

**RESULTS** Eight of 44 Solopath patients had minimal luminal diameter (MLD) of iliofemoral artery <5.0 mm (mean 4.3±0.7 mm, range 3.1-5.0 mm), with eccentricity ratio (maximum/minimum diameter-1) at MLD ranging 2-67%. Vessel calcification ranged <90° to 360° and tortuosity ranged <45° to >90°. At the MLD, sheath-to-artery (SAR) ratios, based on the fully expanded 7.67 mm OD, ranged 1.53-2.47, higher than previously reported ratios that risk vascular complications. Major comorbidities included severe COPD on home oxygen, extreme thrombocytopenia, cirrhosis, prior malignancy, prior cardiac surgery, poor ventricular function, diabetes mellitus, chronic renal failure, frailty. All, deemed unsuitable for TAVR using alternative access, had TF TAVR with IV sedation and local anesthesia, with 100% success, 0% vascular complications, and 0% bleeding in-hospital and at 30 days (Table 1).

**CONCLUSIONS** TF TAVR using the 11/19-French recollapsible Terumo Solopath sheath is safe in selected small iliofemoral access, even in diameter <5 mm without any complications. A more aggressive TF approach may be considered in select patients who are frail and high risk for alternative access.