TCT-823
New Zealand’s ‘Approach’ To Invasive Coronary Angiography: A Nationwide Analysis Of Arterial Access Practices And Outcomes
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Background: Radial (RA) and femoral arterial access (FA) rates for invasive coronary angiography (ICA) vary widely internationally. RA may reduce bleeding and acute ST-segment elevation myocardial infarction (STEMI) mortality. European guidelines recommended default RA. We aim to compare access practices and outcomes across all hospitals and among all cardiologists within New Zealand’s (NZ) public sector.

Methods: Patient characteristics, procedural details, and inpatient outcome data was collected on consecutive patients undergoing ICAs over a 5 month period ending March 2014. The registry captured all 12 public hospitals that perform ICA in NZ. In this study, data collection was limited to patients who were followed for 2 months after the ICA. We analysed RA and FA rates and patient outcomes in hospital and patient subgroups.

Results: Of the 5949 ICAs (81.4%) were via RA. Hospitals operated 25 – 175.6 procedures/month, 46.5% – 96.4% via RA. Operators averaged 13.5 (SD=±10.2) RA and 3.5 (SD=±2.5) FA procedures/month. Those performing > 20 ICAs/month had RA rates between 61% – 99%. No FA predominant operator performed > 15 ICAs/month. Of the 75 operators, 69% met RA guidelines; a further 10.7% had suboptimal RA rates. RA patients were younger (64.5 v 65.8y, p< 0.0001); rates were higher in suspected non ST elevation acute coronary syndrome (83.7% v 81.4%, p< 0.0001), but not acute STEMI (79.3% v 81.4%). Ethnic differences in RA rate were identified; Maori 74.4% v Asian people 89.2% (p< 0.0001). RA was lower in outpatients, prior CABG, and those requiring intra-aortic balloon pump, or revascularisation. Allcause inpatient mortality was lower with RA (0.5% v 2.1%, p< 0.0001), as was bleeding (1% v 3.5%, p< 0.0001) including TIMI major (0.1% v 0.4%) and TIMI minor (0.0% v 0.8%) bleeding. Length of stay was lower in RA patients (p< 0.0001).

Conclusions: NZ has one of the worlds highest reported RA rates. Over 10% of operators could alter practices to meet RA recommendations. Despite the strongest evidence, RA rates were not increased in acute STEMI. There is an unexplained ethnic disparity in RA rates. Affirming previous reports, inpatient outcomes were better for RA than FA patients. These findings highlight an opportunity to modify current practices to reduce disparities and improve patient outcomes.

TCT-824
Patent Hemostasis Rapid Deflation Technique to Reduce Radial Artery Occlusion
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Background: Achieving patent hemostasis after transradial catheterization is the most important factor in reducing radial artery occlusion (RAO) and is limited by larger sheaths and antithrombogenic catheters. We sought to evaluate a novel deflation technique to achieve patent hemostasis and reduce RAO.

Methods: 115 patients undergoing transradial catheterization were evaluated in this retrospective study. Patency of the ulnopalmar arch was evaluated using a Barbeau test. A G6 French sheath was placed using a modified Seldinger technique. A combination of nitroglycerin 200mcg, verapamil 2.5mg, and unfractionated heparin 50units/kg (maximum 5,000 units) was administered into the radial artery. At the completion of the procedure, the radial artery sheath was withdrawn and a compression TR band (Terumo Medical, Tokyo, Japan) applied. The TR band was placed according to standard protocol, documenting hemostasis. Standard technique, as per the manufacturer’s instructions.

Results: Of the 115 patients, 75 (64.8%) were male, with an average age of 61.2±12.3 years. The QuickDASH at baseline was the same in both access groups (p = 0.69). There were no complications in either group. The QuickDASH at baseline was the same in both access groups (p = 0.69). There were no complications in either group.

Conclusions: Patent hemostasis can be achieved with a novel technique after transradial catheterization and may reduce RAO. This technique may be beneficial in reducing radial artery occlusion.

TCT-825
Bleeding outcomes are reduced and survival improved by use of radial access during primary percutaneous coronary intervention for patients receiving glycoprotein inhibitors
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Background: Use of glycoprotein IIb/IIIa inhibitors (GPI) during primary percutaneous coronary intervention (PPCI) for ST-segment elevation myocardial infarction (STEMI) is known to improve myocardial perfusion and reduce further ischemic events, but is associated with an increase in bleeding risk. Performing PPCI via radial access (ppPCI) is thought to reduce post-procedural bleeding complications and may improve overall survival. We sought to assess whether rPPCI is associated with improved outcomes in patients receiving GPI at our institution.

Methods: Consecutive patients undergoing PPCI for STEMI over a four-year period were included. All patients were preloaded with 600mg clopidogrel and 300mg aspirin en-route to PPCI. Interventional strategy and GPI use were left to operator discretion. Patient data and outcome measures were obtained by interrogation of notes and national databases. Bleeding complications were categorized using Bleeding Academic Research Consortium (BARC) definitions.

Results: 2,019 patients were included in the analysis (mean age 64.2±12.4yrs, 75.9% male), with 863 receiving GPI. Patients that received GPI were younger (62.7±11.8yrs vs. 64.8±12.6yrs, p< 0.001), more likely to be male (80.5% vs. 73.9%, p< 0.001) but had a higher incidence of cardiogenic shock (5.6% vs. 2.7%, p<0.002). Other baseline demographics were similar. Overall, BARC defined major bleeding was not increased in patients not receiving GPI (BARC ≥ 3.0% vs. 0.7%, p< 0.001; BARC ≥ 2.6% vs. 0.2%, p< 0.001). However, patients undergoing rPPCI with GPI had lower bleeding rates when compared with femoral access (0.8% vs. 3.7%, p<0.05). For patients receiving GPI, rPPCI resulted in a significant improvement in 1-year survival (99.2% vs. 93.5%, p=0.01; OR 0.12, 95%CI 0.02-0.87, p=0.04). However, in patients not receiving GPI no survival benefit for rPPCI was observed (94.4% vs. 93.7%, p=0.70; OR 0.87, 95%CI 0.44-1.71, p=0.69).

Conclusions: rPPCI results in lower rates of bleeding and improved survival in patients receiving GPI during PPCI. rPPCI should be considered in patient groups where subsequent use of GPI is likely.

TCT-826
The Consequence Of Transradial Coronary Catheterization On Upper Limb Function
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Background: It is currently unknown if upper limb function is affected by transradial (TR) catheterization. We aimed to study the change of upper limb function when performing coronary procedures were performed through the radial artery.

Methods: Between Jan. 2013 and Feb. 2014 upper limb function was assessed in a total of 338 all-comer patients undergoing catheterization in an ambulatory setting (85% radial,15% femoral). Upper limb function was assessed with the self-reported shortened version of the disabilities of arm, shoulder, and hand (QuickDASH) questionnaire, which has been validated in a normative population and a variety of conditions. It consists of 11 items to measure physical function, symptoms and its consequences on daily life. A high score indicates a worse upper limb function.

Results: Upper extremity cold intolerance was assessed with the self-reported CISS questionnaire. Cold intolerance is associated with functional impairment and reduced quality-of-life. It is a common consequence of upper extremity injuries, especially when neurovascular structures are involved. Both questionnaires were completed before the catheterization and at 30 days F-up. The non-parametric Wilcoxon signed-rank test was used to assess the change of upper limb function and symptoms over time.

Results: The QuickDASH at baseline was the same in both access groups (p=0.28) with significantly higher scores in females (p<0.001) and elderly (p=0.015). Upper extremity cold intolerance was not significantly over time when catheterization was performed through the radial artery (p=0.06). Though, a trend to a lower QuickDASH scores was observed at F-up, mainly driven by the symptom section of the questionnaire. Newly developed upper extremity complaints that persisted for 30 days F-up were equal between both access routes (TR 10.5%; TF 11.5%; p=0.92). Extremity pain was the most frequent persisting complaint after TR procedures (4.5%). The upper extremity was not affected by cold intolerance after TR catheterization (p=0.91). The scores for cold intolerance (p=0.06) and upper limb function (p=0.19) were not significantly different.

Conclusions: Upper limb function was not affected when coronary procedures were performed through the radial artery.