Non-right coronary sinus origin right coronary artery intervention: Our experience over 3 years

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Non-right coronary sinus origin RCA interventions are technically demanding. Proper selection of hardware is the key to success. Over last 3 years we had total 16 such interventions (7 RCA from left coronary sinus and 9 from non-coronary sinus). RCA from Left-coronary cusp were more difficult to engage than non-coronary cusp. Mean fluoroscopic time (22.6 min [11.6-66.5] vs 16.5 min [13.4-38.6]) as well as mean volume of contrast used (206 ml [112-322] vs 168 ml [110-280]) were both higher in left coronary sinus origin RCA interventions. In our series, RCA from non-coronary cusp were most frequently engaged with AR guiding catheter whereas RCA from left-coronary cusp were most frequently engaged with JL guiding catheter.

Bioresorbable scaffolds for coronary artery in-stent restenosis

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Introduction: Management of coronary artery in-stent restenosis (ISR) is a challenging as well as debatable topic. Options include plain old balloon angioplasty (POBA), metallic stent, cutting or scoring balloon and drug-eluting balloon (DEB). All the techniques have their own advantages and drawbacks. Till date the optimum treatment strategy is undefined.

Methods and results: In the current series we implanted five bioresorbable vascular scaffolds (BVS) in ISR over a period of 1 year. Most of the procedures were guided by intravascular imaging (OCT in 2 cases and IVUS in 1 case). The patients were followed up subsequently for a mean period of 5 months. All the patients were symptom free till date. No repeat target vessel revascularization had to be performed.

Discussion: BVS is the latest advance in the armamentarium of interventional therapies for treating de novo significant coronary artery disease. Recent data from trials have suggested many advantages of BVS over DES. The rationale of using BVS in ISR is based on the concept of local drug delivery as achieved by DEB with the benefits of a scaffold to stabilize dissection flaps, and prevent acute recoil as provided by metallic stent, without the permanent bi-layer of metal, that in some vessels, may in and by itself create flow abnormality.

Conclusion: BVS based treatment strategy for ISR have appealing biologic advantage. Efficacy and outcomes of this new therapeutic option need to be evaluated in comparison to other established PCI based therapies, such as repeat metallic stent implantation, in a randomized setting.
(AMI). Survival to 1 month without intervention is 6%. Surgical patch repair has a high mortality of 47% in the first 30 days after closure. Due to the high mortality rate, the use of percutaneous occluders, have been investigated. There is very scant data on device closure of VSR post AMI from India and hence we are presenting our single center experience in 7 patients with percutaneous closure of post-MI VSR using the Amplatzer occluder device.

**Method**: Device closure for VSR after acute MI has been attempted at our center since December 2005. We analyzed the case records available from the first case in December 2005 until June 2015. Data were collected regarding patient demographics, clinical features, pre-procedural clinical condition, echocardiographic features, procedural characteristics, procedural complications, in-hospital outcomes, and vital status.

**Results**: Our series comprises of 7 cases (4 females and 3 males). The mean age was 58.29 ± 9.8 years. 5 patients had an anterior wall MI and 2 had an inferior wall MI. None of the patients received thrombolytic therapy. 4 patients had cardiogenic shock on presentation. IABP was placed in all patients; in addition 1 required CRRT and 1 required TPI. All patients underwent primary closure of the VSR. Device was successfully placed in 5 patients (71.4%) with minimal residual shunt in 2 patients (40%). All patients with anterior wall MI had a successful device placement and both patients with inferior wall MI did not survive. 2 patients of the 7 survived to discharge (29%), 3 patients with cardiogenic shock expired (75%). The 2 patients who survived are doing well on regular follow-up.

**Conclusion**: Device closure of a post MI VSR continues to be a lesson in learning. However, it is a promising method that when successful can offer patients who are at high risk for surgery a fresh lease of life.

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Ulnar's VInTEC score as clinical predictor of successful ulnar cannulation: Subgroup analysis of AJULAR (AJmer ULnar Artery intervention) Cohort

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**Background**: Percutaneous cannulation of the radial and femoral artery has proven to be a useful approach to the performance of diagnostic and interventional coronary procedures. However, need of radial artery as graft vessel for coronary artery bypass surgery (CABG) in future and failure to access radial artery due to anatomical variation, prompts one to switch for femoral route. Ulnar artery cannulation for operators expert in radial intervention provides the opportunity to save radial artery for future and switch to ulnar rather than complication prove femoral route. Here we are providing simple bedside clinical score for prediction of success of ulnar artery cannulation.

**Methods**: Ulnar artery was cannulated for coronary angiography in 1187 patients from June 2011–April 2014 undergoing coronary angiography. Data collection included: number of attempts needed to cannulated ulnar artery (failure if >3 attempts), volume of pulse (good volume: pulse pressure > 40 mmHg), experience of the operator (>50 radial/ulnar cannulation versus <50 cannulation), palpability of ulnar artery with ease (when compared to radial artery), calcification of vessel present or not, tortuosity of vessel and sex category. Data was collected with intention to construct a model for predicting successful outcome for ulnar artery cannulation procedure.

**Results**: Outcomes were analyzed running fit model on JMP SAS software version 11.2.0. Results were displayed as regression plot, leverage plot (for better visualization of the influence of points on the test for including the effect in the model) and actual by predicted plot. Confidence curves for the line of fit suggested the test of interest is significant at the 5% level. Plot yielded Rsquare value of 0.919 (with Rsquare adjusted: 0.899). The PRESS (prediction error sum of squares) statistic was run to compare different model depending on inclusion of different parameters, the model containing five parameter (Volume, Inability to palpate with ease, Tortuosity, Experience of operator and Calcification with score 1 for each parameter: VInTEC model) resulted in least score, suggesting best-fit model. The lack of fit report showed Prob > F value, indicating non significant lack of fit error. On random sample of 100 patients intravariability and intervariability was tested was 0.21 and 0.27, respectively. Best C statistics value was achieved for cutoff of score 3.

**Conclusion**: Ulnar’s VInTEC score ≤3 is a simple and easy bedside score that can predict for the successful cannulation of ulnar artery.

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Transulnar versus transradial access as a default strategy for percutaneous coronary intervention: AJULAR cohort

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**Background**: Percutaneous coronary interventions (PCI) are undergoing a paradigm shift from femoral to forearm approach due to obvious advantages in terms of patient safety, comfort and faster ambulation. Transradial access (TRA) has been established as a primary forearm access site. Use of transulnar access (TUA) as an alternative to radial route can serve as a novel optional forearm access to the interventionists.

**Aim**: To evaluate TUA versus TRA access as a default strategy for PCI.

**Methods**: This was a prospective, single center randomized controlled trial involving 2300 patients, of whom 220 underwent PCI in 1:1 randomization to TUA (n = 110) or TRA (n = 110). Primary endpoint was composite of major adverse cardiac events (MACE) during hospital stay, cross-over to another arterial site, major vascular events of the arm during hospital stay (large hematoma with hemoglobin drop of ≥5 g%) and occlusion rate. Secondary endpoints were individual components of primary endpoint and spasm of the vessel.

**Results**: Two groups did not differ in baseline characteristics. On intention to treat (ITT) analysis, primary end point occurred in 10.91% of TUA and 12.73% of TRA arm (OR: 0.84; 95% confidence interval [CI], 0.37–1.91; p value = 0.68 at α = 0.05). Further on per protocol (PP) analysis, primary end point occurred in 9.21% of TUA and 11.11% of TRA arm (OR: 0.81; 95% confidence interval [CI], 0.29–2.30; p value = 0.68 at α = 0.05). Secondary endpoints also did not differ significantly between the two groups in ITT and PP analysis.

**Conclusions**: TUA is an excellent alternative to TRA, while performing PCI when performed by an experienced operator. When utilized as an option, TUA increases the chance of success with forearm access and reduces the need for cross over to femoral route.