

Total Arterial Revascularization Based on LIMA Flow, the Impact of Composite Grafting on LIMA to LAD**Authors: Amirghofran A.A. MD, Hemmati R. MD, Badr J. MD**

Shiraz University of Medical Sciences

Introduction: Total arterial revascularization (TAR) with joining arteries together as a composite graft with the LIMA as the main source of blood inflow has proved to have advantage over the conventional technique at least in long term; we assessed the flow hemodynamics in this type of surgery with focus on changes in LIMA to LAD flow pattern.

Methods: The LIMA trunk and LIMA to LAD flow measured by Transit-time Doppler technique during total arterial revascularization in 10 patients. Different aspects of flow pattern evaluated with the aorta clamped, after de-clamping, and after coming off bypass with focus on the flow of distal LIMA to LAD anastomosis with or without side flow to other coronaries.

Results: The total LIMA flow increased 2.7 times with the side anastomosis open. However the LIMA to LAD itself mildly decreased. The total flow was also decreased after de-clamping and coming off bypass indicative of flow competition with the native coronaries.

Conclusion: Although as previous studies have shown, the total flow reserve in composite grafting is significantly increased, the LIMA to LAD flow may decrease. Clinical studies in short and long term are needed to evaluate the hemodynamic significance of this finding.

Ventricular Septation and Management of Straddled Valves**Authors: Amirghofran A.A., Peiravian F., Ajami G.H., Borzooee M., Amoozegar H.**

Shiraz University of Medical Sciences

Introduction: ventricular septation is an alternative for TCPC in certain patients with univentricular anatomy. Different results has been reported in literature and superiority of any of those procedures in cases with possible both options in not clear. We present our experience with two septation procedures in two patients who were not candidate for univentricular repair. The technique and the literature history will be reviewed.

Material and method: Patient A, a 1.5 year old girl with hypoplastic right ventricle. Straddled tricuspid valve and systemic PH. Late referral and high PA pressure excluded any univentricular approach. Septation of the left ventricle performed and straddling of the tricuspid valve managed by chordal transfer and artificial chordae. Patient B, A 3 year's old girl who had hypoplastic RV, DTGA and previous PA band with mean PA pressure of 25-40. Asymmetric closure of VSD (septation) performed to increase RV size and the straddled valve repaired followed by arterial switch operation. Glenn added to the procedure to insure the adequacy of RV capacity.

Results: Both patients survived the procedure. Permanent pacemaker needed for the second patient due to AV block. Both patients had delayed chest closure.

Conclusion: ventricular septation is a viable option at least for patients who are not ideal candidates for univentricular repair.

Minimally Invasive Aortic Valve Replacement, technique and results**Authors: Amirghofran A.A., Amirghofran S.**

Shiraz University of Medical Sciences

Introduction: Aortic valve surgery can be performed by various types of approaches including Sternotomy, upper mini-sternotomy and right anterior thoracotomy. We present our experience with the mini-sternotomy approach for AVR.

Material and method: 73 patients underwent minimally invasive AVR between 2012 and 2014. There was no selection in patients who needed AVR, neither regarding hemodynamic or the structural factors. All patients needed only AVR and patients with concomitant coronary disease, aortic aneurysm and other valvular disease were not included. The sternum opened down to the 3rd or 4th inter-costal space with right J extension, and femoro-femoral or rarely femoro-aortic bypass used.

Results: There was no mortality and no early morbidity related to the procedure. Conversion to standard sternotomy was not needed in any patient. No complication related to peripheral cannulation occurred. Dehiscence of the upper sternal segment occurred in two patients, one combined with infection.

Conclusion: Considering the advantages of minimally invasive approach such as less pain, less bleeding, and less trauma, and obvious cosmetic benefit, this approach can be used safely for patients who need AVR with excellent results. Revised technique of sternal closure can decrease the rate of sternal dehiscence.

Opened Chest after Cardiac Surgery, Is it Justified?**Authors: Hossein Ahmadi Z., Ansari Aval Z., Jahanghiri Fard AR., Behzadnia N., Naghashza F.**

Masih Daneshvari Medical Center, Darabad, Niavaran, Tehran, Iran

Closing the sternum causes 25% reduction in cardiac output. In critical patients closing the sternum may be enough for decreasing blood pressure and initiation a vicious cycle for subsequent adverse effects. In the new era ECMO and other mechanical circulatory supports are the best way to prevent this adverse effect. But in our country due to inavailability of ECMO at all times and high cost of it, the sternum was kept open for 24-48 hours and the results was compared with the patients undergone ECMO.

Since 1389 till 1393 28 patients was kept opened chest after weaning of CPB due to unstable blood pressure. The patients for whom Intra Aortic Balloon pump was applied (4) were excluded of the study. The No. of patients and the results of successful