

Average number of grafts per patient was 3.14 (range 1 to 5). All patients received at least one arterial graft. Total arterial revascularization was done in 46 patients. Sequential anastomosis was used in 48 patients. LIMA RIMA or LIMA Radial Y grafts were used in 11 patients.

**Results:** These was one in hospital mortality. Average ventilation time was 3.4 hour and ICU stay was less than 2 days. Blood product usage was 1.75 units per patients. Two patients developed superficial wound infection & one patient had surgical emphysemas.

**Conclusion:** In the era of OPCAB training of conventional CABG is lacking but young surgeons should not be disheartened about it. My experience has shown that we can also perform OPCAB with good results after initial experience of conventional CABG and performing at least 50 OPCAB under super vision of a trained surgeon.

### Minimally assisted direct coronary artery bypass grafting (MADCAB) in ischaemic ventricles – A malabar experience

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CS Sheen Peeceeyen, TT Abdul Vahab, AV Kannan, Murali P Vettath  
Department of Cardiac Surgery, Malabar Institute of Medical Sciences, Calicut, Kerala

**Introduction:** Cardioplegia does not avoid ischaemic damage in patients with reduced left ventricular function nor does OPCAB guarantee uncompromised haemodynamics and damage free myocardium always. We assessed the need for pump assistance in patients with low ejection fraction who underwent CABG on beating heart.

**Material and Methods:** 98 CABGs were performed since July 2002 in this new centre. 14 (14.2%) on warm blood Cardioplegia, 44 (44.8%) OPCAB and 40 (40.8%) MADCAB. Patients with LVEF <40% (56 no.s – 57.1%) were grouped into 4 as Group I (20 to 25%) – 7 (7.1%), Group II (26 to 30%) – 11 (11.2%), Group III (31 to 35%) – 15 (15.3%) & Group IV (36 to 40%) – 23 (23.4%). All Gr I patients, those with ischaemic ventricles, and buried diffusely diseased coronaries were primarily selected for MADCAB (20 cases- 20.4%). All others were planned for OPCAB, 20 (20.4%) of which had to be converted to MADCAB. We studied factors like time for anastomosis, postoperative bleeding, enzyme levels, multi-organ function, postoperative ventilation time, need for inotropes/IABP, onset of mobilization, ICU stay, and hospital stays.

**Results:** No operative mortality or stroke. None required IABP support. Anastomosis time, CPKMB rise & need for inotropes were relatively less on MADCAB compared to OPCAB. Bleeding, postoperative ventilation, time for mobilization and ICU stay were comparable. Temporary renal impairment occurred in 3 patients on OPCAB compared to 1 on MADCAB. No difference in the hospital stay.

**Conclusion:** In reduced LVEF, MADCAB is an alternative to ward off the effects of global ischemia in cardioplegia and ischaemic damage inducible during OPCAB.

### Histopathology and morphometry of the radial artery : A conduit for CABG

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Pankaj K Mishra, U Chowdhury, B Airan, AK Bisoi,  
Anil Bhan, SK Choudhary, A Sampath Kumar, R Ray, P Venugopal  
All India Institute of Medical Sciences, New Delhi

**Introduction:** Radial artery and internal mammary artery are frequently used conduits for CABG. The purpose of this study was to determine the histopathology, morphometry and risk factors for development of intimal hyperplasia and atherosclerosis in the radial

artery and to compare the morphometry of the distal and proximal radial arteries.

**Material and Methods:** 190 radial artery specimens (both proximal and distal radial artery segments left after use) from patients undergoing CABG at our centre were subjected to histopathological and morphometric analysis. The severity of the disease was evaluated by the percentage of luminal narrowing and the intimal thickness index. Risk factors were determined by stepwise linear and logistic regression. One hundred paired specimens of distal and proximal RA were compared morphometrically.

**Results:** The incidence of intimal hyperplasia, atherosclerosis and medial calcification in the distal radial arteries was 76.3% (145/190), 5.78% (11/190) and 6.3% (12/190) respectively. The majority of the radial arteries (166/190) 87.8% had less than 30% luminal narrowing. Factors found to be significant predictors of intimal hyperplasia ( $p < 0.05$ ) in radial arteries were peripheral vascular disease, smoking, age and diabetes. Medial calcification was only predicted by age, comparative morphometric analysis between distal and proximal segments ( $n=100$ ) showed that proximal radial arteries had a significantly smaller intimal area and percentage of luminal narrowing than distal radial arteries ( $p < 0.01$ ), Wilcoxon signed rank test).

**Conclusions:** We advocate caution in using RA as a conduit in coronary artery surgery, particularly in elderly patients, diabetics, smokers with peripheral vascular disease. The distal radial arteries are more likely to have more severe intimal hyperplasia. Therefore, in cases of longer diseased radial arteries, the discarded segments should be at the distal end.

### Endoscopic conduit harvesting – Initial experience

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Sunil Kumar Swain, Akshya Kumar Bisoi,  
Ganapathy Subramanian, Sandeep Chauhan, P Venugopal  
All India Institute of Medical Sciences, New Delhi

**Introduction:** Coronary Artery Bypass Grafting is commonest cardiac surgery performed all over the world. Wound related complications particularly in elderly, diabetic, obese and female patients add to the morbidity and cost.

Recently we at All India Institute of Medical Sciences started endoscopic (30° endoscope, Ultracission Endoloop) harvesting of great saphenous vein and radial artery. Out of 20 patients, 10 were males and 10 females. 18 patients were diabetic and 14 patients had moderate to severe obesity (body weight more by 20% expected). Full length radial artery was harvested in 9 cases. 2 length vein in 16 cases and 3 length in 4 cases. Average time for great saphenous vein was 45 min – 60 min and for radial artery 30–45 min. There was no damage to the conduits. None of the patients had any wound related complications.

Though the study group is small, the results are quite encouraging and in the long run with practise the harvest time is bound to decrease.

### Post-infarction mitral regurgitation: Early and late outcome following surgical intervention

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A Smartin, SK Choudhary, A Bhan, B Airan, UK Chowdhury,  
A Sampath Kumar, AK Bisoi, S Kale, P Venugopal  
All India Institute of Medical Sciences, New Delhi

**Background:** Ischemic mitral regurgitation is an important determinant of survival in patients with coronary artery disease. A retrospective analysis was performed to evaluate the overall outcome and its determinants.