



## Case Report: Cardiovascular and Thoracic Surgery

### Successful Coronary Artery Bypass Surgery in Extremely Poor Heart function (Low EF 13%) Patient

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Mr. L.G., aged 53 years was admitted on Dec 24<sup>th</sup>, 2016 in the ICU of our hospital with congestive cardiac failure and pulmonary edema. Past history suggested two myocardial infarctions in last 3 years and chronic airway obstructive disease due to heavy smoking. Pre-admission echocardiography done elsewhere suggested 15% LVEF. Patient was treated with aggressive decongestive therapy with pleural aspiration of 1000 cc transudate collection. After optimal medical management, coronary angiography was carried out on 28/12/2016 by Dr. Sanzgiri. Angiography revealed 100% occlusion of LAD & RCA & 90% stenosis of non-dominant circumflex coronary artery. In view of this finding PET CT scan was done on 30/12/2016 to know the viable myocardium. PET CT Scan showed viable anterolateral & infero lateral & entire ventricular septum, suggesting beneficial myocardial revascularisation surgery to patient. PET CT Scan showed LVEF to be 13% only.

This high risk CABG was carried out on 3/1/2017 by Dr. Pavan Kumar & team. Pre-operative Pulmonary Artery pressures were 82/46 mmHg & L.A (Left Atrium) pressures were 20/12 mmHg suggesting minimal MR. Patient was prepared by vasodilators & inotropes supports before anesthesia induction. Patient underwent ON PUMP CABG X 3 where left internal mammary artery was used for LAD & reversed saphenous vein graft used for PDA & PLV branches of right coronary artery. Intra-aortic balloon pump was used to wean off from cardiopulmonary bypass successfully.

Inotrope support & IABP support was gradually weaned off during post-operative care in ICU. Ventilatory support was also weaned off in 3 days & patient was transferred to wards on 08/01/2017 with intermittent BIPAP oxygen support. Post-operative Echo done on 10/01/2017 suggested improvement in heart function to LVEF 25%.

#### **Discussion:**

Coronary Bypass surgery in extremely poor heart function of EF 13% comes in very high risk category heart surgery. Risk being 10-15%. Normally these patients are candidate for heart transplantation or left ventricular assist device support as bridge to transplant. Due to fact shown by PET-CT scan done on this patient showing viable myocardium, surgical revascularization was advocated.

This high risk CABG involves proper pre surgical preparation of lowering grade III high pulmonary artery pressures while maintaining good systemic blood pressure & short cardio-pulmonary bypass with myocardial protection to carry out full coronary revascularization. Supported IABP for quick wean off from cardio pulmonary bypass helps in completion of surgical procedure. Adequacy and benefits of surgical coronary revascularization can be seen from satisfactory post-operative recovery & improvement of heart function after surgery.