

Early and Mid-Term Results of Anesthetic Management of Minimal Invasive Coronary Artery Bypass Grafting Using One Lung Ventilation

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Abstract : Introduction: Minimally invasive coronary artery bypass grafting (MICABG) is a less invasive method of performing surgical revascularization. Minimally invasive direct coronary artery bypass (MIDCAB) provides many anesthetic challenges including one lung ventilation (OLV), managing myocardial ischemia, and pain. We present an early and midterm result of the use of this technique with OLV. Method: We enrolled 62 patients for analysis operated between 2008 and 2012. Patients were anesthetized and left endobronchial tube was placed. During the procedure left lung was isolated and one lung ventilation was maintained through right lung. Operation was performed utilizing off pump technique of coronary artery bypass grafting through a minimal invasive incision. Left internal mammary artery graft was done for single vessel disease and radial artery was utilized for other grafts if required. Postoperative ventilation was done with single lumen endotracheal tube. Median follow-up is 2.5 years (6 months to 4 years). Results: Median age was 58.5 years (41-77) and all were male. Single vessel disease was present in 36, double vessel in 24 and triple vessel disease in 2 patients. All the patients had normal left ventricular size and function. In 2 cases difficulty were encounter in placement of endobronchial tube. In 1 case cuff of endobronchial tube was ruptured during intubation. High airway pressure was developed on OLV in 1 case and surgery was accomplished with two lung anesthesia with low tidal volume. Mean postoperative ventilation time was 14.4 hour (11-22). There was no perioperative and 30 day mortality. Conversion to median sternotomy to complete the operation was done in 3.23% (2 out of 62 patients). One patient had acute myocardial infarction postoperatively and there were no deaths during follow-up. Conclusion: MICABG is a safe and effective method of revascularization with OLV in low risk candidates for coronary artery bypass grafting.

Keywords : MIDCABG, one lung ventilation, coronary artery bypass grafting, endobronchial tube

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