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## Is thoracotomy better than median sternotomy in single vessel coronary bypass surgery?

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Heart disease incidence increases with advancing age. Patients with single vessel disease can undergo coronary bypass graft surgery (left internal mammary artery to left anterior descending coronary artery) with the approach of median sternotomy or left anterior thoracotomy. Left anterior Thoracotomy approach is used in the hope of achieving a less invasive operation. A total of 53 cases of single vessel coronary artery bypass graft (CABG) surgeries (left internal mammary artery to left anterior descending coronary artery) were performed at the National Heart Centre, Singapore between Oct 2009 and Nov 2011. We performed a retrospective study on all 53 patients to compare surgical and post-surgical outcomes for single vessel CABG using two surgical approaches: median sternotomy (MS) and left anterior thoracotomy (LAT). 25 cases were performed using the left anterior thoracotomy approach and 28 cases were performed using the median sternotomy approach. 2 cases (8%) were converted from left anterior thoracotomy approach to median sternotomy. The average Euroscore-2 among all cases was 1.43; left anterior thoracotomy, 1.04; and median sternotomy, 1.72. Extubation rates did not differ significantly between LAT and MS in the OT, or at 6 or 10 hours post surgery. The longest intubation was 22 hours among MS cases and 18 among LAT cases. One MS patient was re-intubated. Preoperative creatinine >110µmol/L occurred in 25.0% of MS cases compared to 20.0% for LAT (NS); 17.9% of MS cases had higher postoperative creatinine compared to 0.0% of LAT (p = 0.053). One of the MS case required Lasix infusion for acute renal failure and another required dopamine. No case in either group required dialysis. 1 LAT case experienced atrial fibrillation compared to 3MS cases (NS). At 6 months post-surgery 12.0% of LAT and 21.4% of MS cases had not fully recovered (NS). 72% of LAT cases were not home by POD6 compared to 50% of MS cases (p=0.013). Of 7 LAT cases, 4 were not discharged due to logistics or social reasons. No significant differences were found between LAT and MS for ventilation duration, ICU stay, or hospital stay. However, after adjustment for confounders, a significant difference (p=0.033) was exhibited between procedures for Blood loss (ml) (MS, 333; LAT, 230). The main finding of this report is that single coronary revascularization can be performed in a significant number of patients via the thoracotomy approach, giving similar results to that of the median sternotomy approach. In our single centre study, during a minimum period follow-up of 1 year, morbidity and mortality were comparable. In conclusion, left anterior thoracotomy approach for LIMA-LAD shortened both hospital and ICU stay. Benefits of less pain and earlier return to work cannot be understated from the left anterior thoracotomy approach.

### Biography

Sivaraj pillai Govindasamy has completed his MBChB at the age of 26 years from MBChB at University of Glasgow, UK and MRCS at Royal College of Surgeons Edinburgh, UK. He works as senior resident at the Department of Cardiothoracic Surgery, National Heart Centre Singapore. Dedicated professional working in multi disciplinary team to manage patients. He is in year 4 of Cardiothoracic Surgery Residency Training program, National Heart Centre Singapore.

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