

Minimally Invasive Multivessel Coronary Revascularization Via Left Anterior Minithoracotomy: Our Experience In 418 Consecutive Patients

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Background

Minimally invasive surgical techniques are increasingly important in cardiac surgery to reduce patient recovery time and improve outcomes. This study aims to evaluate the feasibility and safety of minimally invasive on-pump multivessel coronary artery bypass grafting (CABG) performed via left anterior mini-thoracotomy.

Methods

Study Period: July 2019 - December 2023

Sample Size: 412 consecutive patients

Procedure:

•Grafts:

- Mean number of grafts per patient: 3.3 ± 0.6
- Left internal mammary artery (LIMA) used in 406 patients
- Saphenous vein grafts used for other anastomoses

•Technique:

- Cardiopulmonary bypass (CPB)
- Aortic cross-clamping
- Blood cardioplegia

•Data Analysis: Retrospective review of postoperative outcomes

Results

- Cardiopulmonary Bypass Time: 139.6 ± 22.4 minutes
- Aortic Cross-Clamp Time: 76.6 ± 17.5 minutes
- Intensive Care Unit (ICU) Stay: 1.3 ± 0.5 days
- Total Hospital Stay: 5.4 ± 1.4 days
- Perioperative Mortality Rate: 0.97% (4 patients)
- Myocardial infarction was observed in 1 case in the postoperative period.
- 21 patients underwent revision due to bleeding in the early postoperative period.
- There was no patient who underwent stroke or developed renal failure requiring hemodialysis in the postoperative period.

Conclusions

Minimally invasive on-pump multivessel CABG via left anterior mini-thoracotomy is a viable and safe surgical option. This technique provides satisfactory clinical outcomes, with low perioperative mortality and reasonable operative and postoperative times.